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Time and Personal Action: Tenses and Aspects of Project Pursuit

By

Neil Colin Chambers

A thesis submitted to
the Faculty of Graduate Studies and Research
in partial fulfilment of the requirements
for the degree of
Doctor of Philosophy

Department of Psychology
Carleton University
Ottawa, Ontario
August 22, 2000

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Time and Personal Action: Tenses and Aspects of Project Pursuit

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In Partial fulfillment of the requirements for

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August, 2000

Dedication

To my parents: the one telic, chronocentric and future-focussed who provided me with the ability to set goals and follow through and to understand the world as something to be mastered and controlled, and to the other, atelic, parachronic and present-focussed who provided me for the short span during which our times overlapped with the latent ability to find meaning and joy in being part of the world.

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Although I hope I have been able to strike a balance between academic and interpersonal project pursuit, my heartfelt thanks to my wife, Anna, who has been very supportive of my career shift despite the demands on my time and financial limitations it imposed. Yes, Anna, I really am finished.... (well, sort of).

They've a temper, some of them -- particularly verbs:
they're the proudest -- adjectives you can do anything
with, but not verbs...

Lewis Carroll
(Through the Looking Glass)

Abstract

In addition to identifying empirically the value of using grammaticalized meaning as a guide to research in personality, this dissertation attempts to answer the question: ‘Which dimensions of time, broadly construed, appear most central to our actions and our well-being and the links between the two?’ As the quintessential carrier of meaning relating to action and time, the verbal phrase is argued to be the key unit of analysis in conative psychology and three grammatical categories associated with the verbal phrase are explored in the context of well being: action character (*Aktionsart*), tense, and aspect.

Action character differences explored in study 1 were evident at the level of single personal action constructs (enjoyment/stress) and at the individual level (subjective well-being). Personal projects (Little, 1983) phrased as activities (non-goal oriented, durative action) are generally experienced as more enjoyable and less stressful, although the domain of action (e.g. academic, social) was found to interact with this association. At the level of the individual, non goal-oriented individuals show highest well-being when enjoying their projects, while goal-oriented individuals show highest well-being when their projects are not overly stressful.

In study 2, tense was explored in two age-defined samples. Temporal attitude, orientation and integration emerge as the strongest predictors of well-being and depression, while those temporal variables that focus solely on future time perspective were less central. Particularly powerful in predicting well-being is the attitude one has toward self in the now, while those with a tendency to think more about the past and a

desire to 'forget' about the future tend more towards depression. Overall, it is argued that all tenses must be considered in the context of action and well-being, particularly the present, which serves as a final common pathway for past experience to guide future planning which, in turn, directs current action.

Study 3 linked the imperfective and perfective aspects of the verb with a fundamental dichotomy in the way in which we experience action, that is, both in time and outside of time. Self-reported cognitive and affective correlates of phenomenologically timeless projects were compared with Csikszentmihalyi's theory of flow and found to be more reflective of a much more common albeit not necessarily as 'optimal' an experience, parachronicity. Although evidence emerged at a project level that timeless action is experienced more positively, a tendency towards parachronicity at the individual level is associated with self-reported meaning in life. Methodological problems and future research directions are discussed.

Although the tense (past, present and future) variables account for the greatest variability in well being, both action character and aspectual perspectives offer a much more nuanced understanding of the interaction of time and action, an understanding which does appear to be enhanced by considering the two together along grammatical parameters. Future directions for research are also outlined.

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CHAPTER ONE

A Language-based approach to time, action and well-being

**La plupart des troubles du monde sont grammairiens
- Montaigne**

Action, Time and Well-Being

Action in Personality Psychology

In 1990 Bruner made a compelling call for a return to meaning in psychological research to offset not only the 'mind'-less black-box behaviourist views of the mid century, but also the information processing oriented 'man-as-computer' perspective engendered by the cognitive revolution. In personality psychology, this call had been anticipated nearly a decade earlier by a reconstruction of the field as multilayered, with the traditional focus on personality traits but the first floor of a comprehensive edifice that allows for both meaningful normative comparison and detailed personally salient individual-level analysis (McAdams, 1996; Little, 1996; in press). Specifically, trait psychology is now being complemented by conative research, which focuses on individual action (not behaviour) from the idiosyncratic to the typical and the trivial to the sublime (Little, 1989), as well as by a return to the narrative and the recognition that we have much to learn from individuals' construction of their own life stories (McAdams, 1996; Sarbin, 1986; 1996) (see Figure 1.1).

There are many points of convergence among these approaches. Bruner (1990) characterizes human action, that is, "action directed toward goals controlled by agents" (p. 77) as the first of four crucial constituents of narrative, while McAdams (1993) notes the life story is made up of, among other things, nuclear episodes and turning

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points, often involving key personal actions either taken or not. Research has shown a consistent relationship between goal pursuit and the so-called 'Big Five' personality traits: neuroticism, extraversion, openness to new experience, agreeableness, and conscientiousness (e.g., Little, Lecci & Watkinson, 1992), which interact with the affordances of an individual's environment in unique ways that are instantiated in specific actions (Little, 2000a). Yet both the trait and conative approaches are distinct, not the least in emphasizing different units of analysis.

Personal action constructs (PACs, Little, 1989), including personal projects, strivings, possible selves and life tasks (Little, 1983; Emmons, 1986; Markus & Nurius, 1986; Cantor, Norem, Niedenthal, Langston, & Brower, 1986) all provide a window onto the individual and sometimes collective meaning of personal action. This level of analysis permits us to better understand individuals through understanding their actions and intentions within a daily context: not what they *have* in common with others (traits), not even who they *are* as unique individuals (narrative) but how they negotiate daily life as motivated (White, 1959; Little, in press), volitional (Kuhl, 1994a) individuals who ultimately are doers and actors on their own stages. Actions are 'carrier units' of meaning for the individual, shaped by intentional states, that is, individual cognitive-motivational structures in the original sense of the word 'cognitive' as meaning-making rather than the oft implied meaning-free information processing. This return to meaning through an examination of intentions and goals, termed by Little (1990; 1999) a conative revolution, opens several avenues of exploration in both

motivation and personality for this century.

Figure 1.1

The 'House' of Personality: Complementary Perspectives in Theory and Research

Time in Personality

The present work expands empirically and conceptually our understanding of a crucial component of our ability to act purposefully, the role our perception of *time* plays in how we perceive our actions and, ultimately how we enjoy life. The study of time and action in personality is not the study of how our actions fit into clock time¹, which is viewed as an external commodity to be “spent”, “saved”, “found” and “wasted”, but rather the more subtle impact that our construal of time has on how we navigate our daily lives. Jaques (1982) points out the clear distinction made by the Greeks between χρόνος (*chronos*), the objectively measurable succession of set units of time (however they may be defined) and καιρός (*kairos*) which he defines as “... the time of episodes with a beginning, a middle, and an end, the human and living time of intentions and goals” (p. 14). Robinson describes *kairos* as “time considered in relation to personal action, in reference to ends to be achieved in it.” (cited in Jaques, 1982, p. 15). It is primarily, although not exclusively *kairos* then that is conative time and the focus of this dissertation. Not exclusively, however, because the fact that most ‘modern’ cultures now have only a single word for time and that all the many Greek derivations in Western European languages, Russian and now even Japanese (*kuronosukopu*; *kuronometa*) stem from *chronos*, attest to the overwhelming importance we place on the former view of time and the blurring of our understanding of the second. Even the term ‘subjective time’ has been used predominately in psychology as an indication of wrong or distorted real (objective time) (Orme, 1962; see Melges, 1982). This unrelenting

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chronos has likely affected our ability to recognize and relate to the much more human time of *kairos* and cannot but have obscured what is possibly a valuable and liberating construal of time as human, not inhuman.

Only recently has research begun to examine the importance of time within the context of goal pursuit (Nuttin, 1985; Nurmi, 1989a, Zaleski, 1994) and this very much with an emphasis on the future's impact on today's action. Karniol and Ross (1996) conclude in a recent review of temporal research and motivational processes that a temporal focus on action provides a promising research agenda for the future, but they take as given the concept of temporality as a distinction among past, present and future. Certainly this division of time is very widely accepted and cannot be ignored in any inquiry into the relationship of time and personal action, but is it the *only* relevant dimension of time, or, in other words, is it not possible that the scope of this promising research agenda has been short-changed by limiting it to this one axis?

Understanding time and action through language

Language as meaning

In seeking to identify common or even universal constructs related to time (or any other domain of interest), we might simply ask representatives of a given society what distinctions they draw with regard to that domain and then investigate views along the emergent salient dimensions. While useful in understanding dimensions that are intellectually understood and those that may even be contentious (and hence salient),

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such an approach may miss entirely dimensions that are so universal and so fundamental as to be automatic and unconscious. To ensure such bedrock conceptualizations are not overlooked, we have chosen in this work to look at the symbolic system developed within society over centuries which reflects meaningful yet often subtle distinctions to the constituent peoples, that is, *language*.

In recent years social psychologists have begun to look at discourse as the key level of analysis that links thought with action (Harré & Gillet, 1994; Kroger, 1998). This stance, known as relativism², is not new (Sapir, 1921; Whorf, 1956; Lakoff, 1987) but is only now becoming widely accepted as a viable alternative to standard cognitive views of language as a simple representation of our world. Relativism suggests that "talk is constitutive of the realities within which we live, rather than expressive of ... discourse-independent reality" (Sampson, 1993, p. 1221). If a given language has no word, metaphor or periphrasis for a construct, it is logical to assume that the construct is not extant in the cosmology of the society (Levy, 1973; Briggs, 1970) and that reality for that society is inexorably different than that of a culture with that construct. Language then *is* our reality, not simply a way of communicating about some external reality³.

If, as Bruner (1990) argues, "psychology is so immersed in culture, it must be organized around those meaning-making and meaning-using processes that connect man to culture" (p. 12), it is not only convenient but arguably indispensable to explore how meaning is managed both within a culture and across cultures through the structure of

Theoretical Underpinnings: Action, Time and Well-Being

language. This does not refer to the structural analyses of transformational grammar (Chomsky, 1965), tagmemics (Pike, 1982) or Systemic Grammar (Halliday, 1976), but a more direct analysis of natural language such as Harré and Gillet (1994) suggest must become the focus for "defining what are the phenomena for a scientific psychology" (p. 27-8). In short, language can provide us with a window onto the most central dimensions of meaning in any given culture and, in instances where common meaning can be found across cultures, into core human constructs that transcend culture. These common core constructs are the "midpoint around which all languages revolve." (Humboldt, 1903, v. 4, p. 21).

Core universal meanings: Semantic Primes

Language has developed to allow us to communicate about a vast array of matters, but some matters are inevitably more essential than others within a given society. Examples of culture-specific lexical differentiation are legion; take, for instance, colour-names, which reflect greater degrees of specificity depending on the geographical location associated with the language in question (Goddard, 1998).

However, where there are commonalities *across most or all languages* we may be fairly certain that the distinctions drawn are central to human construing.⁴ Hence, if we take the total number of ways in which time dimensions may be expressed in any language as elements and compare the way they are the same or different, we should emerge with a number of important bipolar distinctions that reflect the way in which time is represented in that culture, while similarities across languages point to even

more universal construal. This is, in fact, what many comparative linguists have been doing over the past two decades as they have begun questioning the value of meaning-independent language analysis in the tradition of Bloomfield (1933) and most recently Chomsky (1965) and have turned towards the systematic study of cross-cultural semantics both lexically and grammatically.

At the heart of this promising semantic renaissance is the work of Wierzbicka (1972; 1988; 1996) and her colleagues on semantic primes, that is, rigorously analysed core meanings that can be found in all languages and which cannot be defined without recourse to more complex constructs. Based on Aristotle's view that definition must be in terms that are "prior and more intelligible" (cited in Wierzbicka, 1996 p. 141), these semantic primes are viewed as *indefinibilia*, that is the set of basic meanings from which all other meaning is derived. The idea has a long-standing history in the West: Pascal (1667/1954) points out "it is clear that there are words that cannot be defined; and if nature hadn't provided for this by giving all people the same idea, all our expressions would be obscure... (p. 580); while Descartes is equally clear "...there are certain things which we render more obscure by trying to define them, because, since they are very simple and clear, we cannot know and perceive them better than by themselves." (cited in Wierzbicka, 1996, p. 324). Wierzbicka argues that if we do not accept at least a small core of common constructs across humanity, "speakers of different languages would be imprisoned in different and incommensurable conceptual systems, without any possibility of ever reaching anyone outside one's [sic] own

prison." (1996, p. 14), i.e., total relativism (see endnote 2). While language reflects culture and any two languages are dissimilar in many ways, it is logical to assume that there are semantic convergences that provide a common basis of understanding.

From lexicon to grammar as meaningful

At a lexical level, Wierzbicka's Natural Semantic Metalanguage (NSM) has grown from its original 14 primitives (Wierzbicka, 1972) to 55 (Wierzbicka, 1996) and is still not complete. In the context of this work it is instructive to note that among the earliest primitives are DO reflecting intentional action, as well as three time expressions reflecting localization and succession in time: WHEN, BEFORE and AFTER. In her later elaboration Wierzbicka notes, however, that while these time expressions suffice to provide a reference in time (with reference to the deixis⁵) they do not allow for the communication of time expressions regarding *duration*. To remedy this she introduces the complementary expressions A LONG TIME and A SHORT TIME, along with NOW as the irreducible temporal deixis ⁶. It seems then that personal action and time, both in its sequencing and duration are fundamental human concepts that can be found in every language: strong evidence for an exploration of the interrelationship of both.

Returning to the original question of what dimensions of time are pan-culturally relevant, it may be posited on the basis of these lexical primitives that both sequencing (past-present-future) and duration (length of time an action (sequence) takes) are two. Both are represented in the psychological literature as time orientation and time

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estimation, although the latter has generally been explored in the context of microacts rather than longer term action sequences. However, temporal semantic primes may not all be represented at a lexical level. Whorf argued half a century ago that meaning which has become a part of the grammar is so fundamental as to be inherent in thinking rather than serving as the object of thought and that such meaning is used "...spontaneously, automatically, unconsciously, and effortlessly" (Lakoff, 1987, p. 335). Wierzbicka (1988; 1996) herself has argued that all grammatical constructions exist to express meaning and that very few grammatical variations are truly arbitrary. Indeed, she emphasizes the preeminent role of grammar in languages as a vehicle that highlights key distinctions:

"...grammar constitutes in fact concentrated semantics: it embodies a system of meanings which are treated in a given language as particularly important, indeed essential, in the interpretation and conceptualization of reality and of human life in that reality." (1996; p. 402).

This suggests that grammatically defined meaning differentiation is in some way even more fundamental than its lexical counterpart. The nature of the distinctions drawn at a grammatical level enter our construct system with the language as we learn it. Children "enter into meaning" as they start to use language (Bruner, 1990, p. 68-69). Frequently, however, this early structuring of meaning is never consciously encoded, that is, the focus is on the content as meaning rather than the form as meaning, yet the parameters inherent in the latter delimit, albeit unconsciously, the

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former. Ask a native English speaker about why she cannot say “I am knowing French” when it is perfectly correct to say “I am speaking French” to reflect present tense and few will be able to explain the stative nature of knowing as distinct from the activity oriented speaking, unless they have subsequently studied grammar (the exception rather than the rule these days). Franz Boas (1911; in Wierzbicka, 1996, p. 399) recognized the important insight language gives into the unconscious distinctions drawn by different cultures in his studies of American Indian Languages:

“...the very fact of linguistic processes helps us to gain a clearer understanding of the ethnological phenomena...It would seem that the essential difference between linguistic phenomena and other ethnological phenomena is that linguistic classifications never rise into consciousness, while in other ethnological phenomena, although the same unconscious origin prevails, these often rise into consciousness, and thus give rise to secondary reasoning and to re-interpretations... if we adopt this point of view, language seems to be one of the fundamental ethnic ideas... Judging the importance of linguistic studies from this point of view, it seems worth while to subject the whole range of linguistic concepts to a searching analysis.”

One might add that the more ubiquitous the construct, the less likely it will ever rise into consciousness since it will be taken for granted by both the native speaker, his society (and the psychologist-researcher). Lakoff (1987) points out that “Philosophers and sociologists [and many psychologists, we might add] tend towards the study of those aspects [of action] where there seems to be a measure of conscious control, that is, where you have some say over what your conceptual system is... Linguists tend to

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study those aspects of conceptual systems that are beyond any conscious control." (p. 325 - 326). Since both conscious and unconscious perceptions of action are of interest to personality psychologists in that they are key to understanding the person, it is the appropriate field in which to bring these views together.

Most recently, social psychologists interested in discourse have also begun to recognize the importance of grammar in conveying meaning, not only to the individual addressed, but the researcher. Kroger (1998) notes examples in his study of the statements made by date rape victims where the use of modal forms, active-passive distinctions, etc., convey vital meaning about the perceptions of the individual. In the latter case, the statements: "I was raped" vs. "He raped me" (p. 275) conveys a very different sense even though lexically identical. In the former the agent is elided, implicit, unrecognized; in the latter there is a clear assignment of responsibility for the action in the identification of "he" as the rapist, the doer, and "me" as the victim. Discourse, though, need not be between two (or more) individuals, but can be in the form of self-report and self talk (Vygotsky, 1962). While social psychologists focus on (social) meaning transmission among individuals, personality psychologists are well placed to examine the (personal) meaning of self talk. How we phrase our doings to ourselves is our reality.

Grammar and Time

On this basis, it seems appropriate to examine whether grammar and syntax can elucidate key temporal distinctions across the majority of languages. We do indeed find

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temporal encoding at a grammatical (syntactic or morphologic) level in virtually all languages (Comrie, 1976) and may distinguish particularly what grammarians refer to as tense, the grammatical counterpart to the lexical past, present and future, as well as aspect, a verbal form that relates in part to the construct of duration, but not, as Wierzbicka's semantic primes suggest, in terms of length of time, rather in terms of the presence or absence of duration relevance (or indeed time relevance)⁷. We also find at the syntactic level (within the verbal phrase) a key differentiation of distinct types of action (*Aktionsart* or action character) that appear to interact systematically with both tense and aspect. Unfortunately progress in linguistics into the exploration of grammatical semantics is in its infancy (Wierzbicka, 1988, p. 19). It would certainly be beyond the scope of a psychological dissertation (and likely the patience of a psychologically oriented dissertation committee) to develop an empirically based case for aspectual distinctions as prime using Wierzbicka's methodology. The major underlying distinctions that emerge in comparative linguistics for action character, tense and aspect (summarized in the relevant chapters) suggest that these would seem to provide a very strong basis for future linguistic research as grammatically based primes. This asks the reader to make the not unrealistic conceptual leap to take these, until proven otherwise, as core constructs of time, encoded grammatically in a variety of forms, across most, if not all, human languages.

This author thus echoes Sarbin's (1968) contention that "a person's construction of what is real [and therefore meaningful] is guided to a great extent by the words

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available to him" (p. 411), expanding, however, the view to include not only the words (lexicon) but the structures of language (grammar) and by expanding the context to include the language not only of individuals, but of societies and ultimately the commonalities of language among members of the human race. As a single example of this, at the universal level, the study of how humans act in time (and as we will see, out of time) along the dimensions that appear repeatedly across languages and cultures can broaden the framework within which we see both constructs and allow for meaningful comparisons of individuals on common, personally salient constructs.

The Verbal Phrase as Quintessentially Conative

That language can provide insight into personality has been shown repeatedly; indeed among the earliest classics in personality is the work of Allport and Odbert (1936), who derived a core list of human traits based on the English lexicon. The lexical approach to personality they inaugurated is still a vital part of the field, central to trait psychology (John & Srivastava, 1990; Costa & MacCrae, 1999) and is now being replicated in languages other than English (De Raad, 1992; Hřebíčková, 1993; Angleitner, Ostendorf & John, 1990). If the lexicon (primarily adjectives) are the gold standard of trait psychology, integrated discourse is the language of narrative psychology which views the construction of the life *story* as a central task in post-modernist societies (McAdams, 1996) and frequently draws on metaphor and myth as explanatory constructs (Sarbin, 1968; 1982; 1996). At a more specific level narrative

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psychology might also be thought of as the psychology of the first person singular and there has been much focus on the meaning of that pronoun in its various cases (Sarbin, 1981; Mancuso & Sarbin, 1983; McAdams, 1996).

As conative psychology emerges to take its place as a unique and valuable perspective on personality (Pervin, 1989; Little, 1999), it too appears to have its quintessential linguistic unit of analysis, the verbal phrase. Looking at examples in the literature of personal projects, personal strivings, the majority of current concerns, and certainly life tasks, we find the vast majority of elicited action phrases are in the form "Verb + complement". A sample list is provided below.

Table 1.1

Personal Action Constructs
Examples from the Literature⁸

Goal/Action Phrase	Striving	Project	Task	Concern
trying to seek new and exciting experiences	x			
establishing an identity			x	
being on my own			x	
overcoming my shyness		x		
dress warmly to prevent a chill				x
be a fun person to be around	x			
look attentive and not bored in class	x			
get jealous too easy				x
want to move				x

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Goal/Action Phrase	Striving	Project	Task	Concern
cutting the grass		x		
trying to help Gary get along better with others		x		
treat others with dignity	x			
be totally honest	x			

Although we have lexical and periphrastic possibilities of describing time and nominal forms indicating action, there is no doubt that the single element of speech that distills action and time in a myriad of nuanced ways is the verb⁹. Therefore this dissertation will take a first cautious step into the world of language and action by exploring three key dimensions of the verbal phrase: action character, tense and aspect in the context of well-being.

Operationalizing Action and Well-Being: The Common Metrics of Studies 1 through 3

Introduction

Because the language-based integrative framework set out above brings together several different areas of psychological research, both those traditionally conceptualized as time-focussed (study 2) and those that are not (studies 1, 3), the scope of this dissertation is somewhat broader than the norm. To ease the task of the reader, the three grammatical axes of the verb are dealt with each in separate studies that include the relevant linguistic and psychological background, study-specific methods and results and construct-specific

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conclusions. A general discussion completes the work, highlighting the implications of the studies for a reconceptualization of time on the basis of language and implications of the finding for understanding the time- well-being link. However to provide continuity across these studies the operationalization of personal action is the same in each, Personal Projects Analysis (Little, 1983), as are the principal well-being (affective) outcome measures. Only the operationalization of time, in each of its three different iterations varies from study to study.

Operationalizing Personal Action

Personal projects (Little, 1983), personal strivings (Emmons, 1986), life tasks (Cantor et al., 1987), possible selves (Markus & Nurius, 1986) and current concerns (Klinger, 1975) all fall under the rubric of goal concepts (Pervin, 1989) or personal action constructs (Little, 1989) (see Table 1.2), but little work has been done to tease them apart and the choice of one over the other in various studies appears to be more a function of researcher preference than based on any firm methodological criteria. Indeed, it has been suggested that it is not yet clear at all if the field needs these variations on a theme or would be better off with a single common unit of analysis (Krahe, 1992).

Most researchers and students agree that these units of analysis are not the same but few distinguish them in the same way. Little (1996) differentiates them in terms of molarity, with strivings and possible selves more molar (longer term, higher order goals) and concerns and projects more variable, as well as juxtaposing them on an internal-

external spectrum, with strivings reflecting the most internal self-defining aspects of human action and tasks the externally mandated, socially constructed aspects of action.

Table 1.2

Personal Action Constructs and Definitions

PAC	Definition
<i>personal project</i>	"...extended sets of personally salient action..." (Little, 1999)
<i>personal striving</i>	"... a class or cluster of related goals, not limited to a specific time frame, that an individual seeks to obtain through typical behaviour and activities." (Emmons & King, 1989)
<i>life task</i>	"...problem(s) that the person sees himself or herself working on in a particular life period or life transition..." (Cantor & Zirkel, 1990)
<i>current concern</i>	"...the state of an [individual] between the time [he/she] becomes committed to pursuing a particular goal and the time that [he/she] either consummates the goal or abandons its pursuit and disengages from the goal." (Klinger, Barta & Maxeiner, 1981)
<i>possible self</i>	"represent individuals' ideas of what they might become, what they would like to become, and what they are afraid of becoming..." (Markus & Nurius, 1986)

Personal projects, in his view, are less abstract than strivings, more context neutral than tasks, and situated on the centre of that internal-external spectrum, tapping both internally and externally motivated action, and thus provide the more panoramic window onto the vagaries of individual personality. Beck (1996) links personal strivings with current concerns as bridges between broad motivational concepts and single idiosyncratic goals, while suggesting that life tasks tend to be more like roles or scripts, emphasizing the social

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normative aspect of the task and noting that the definition of life tasks implies an imposed task as opposed to a chosen project -- imposed by cultural and developmental exigencies. He chooses to define personal projects as time-delimited goals, restricting somewhat the range of this construct compared to Little (1983). Emmons (1989) also emphasizes the more molar nature of strivings, which he places at level two of his motivational hierarchy, lumping concerns, projects and tasks into a common level three. McAdams (1996) labels all these and other middle-level units "personal concerns" and places them at the second level in his three-tiered model of current personality research (see figure 1.1, page 3).

In the fall of 1998, I asked 22 senior undergraduate and graduate students in personality to categorize 40 personal action statements (some of which are given in Table 1.1) drawn from the literature as reflecting one or more of personal projects, personal strivings, life tasks or current concerns and even provided them with two definitions by the primary researcher for each construct. In brief everyone had a difficult time distinguishing among them, with the exception of the most senior Ph.D. student. Most considered that the phrases fit more than one category, as indeed was the case. Several suggested that a temporal focus seemed to distinguish the units; however the specific time-frames adduced were not consistent with the definitions of the constructs. Therefore, both for the purpose of choosing a fitting unit of analysis for this investigation *and* to offer a clearly defined taxonomy of these PAC units for other researchers, I have chosen to differentiate them in temporal terms and offer linguistic evidence that the distinction is sound.

While it is true that possible selves and personal strivings appear more molar than

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concerns or projects, they need not be. All of the strivings Emmons lists (1989, p. 92) appear regularly in the Social Ecology Laboratory research as self-generated personal projects. Given the variable molarity associated with projects and concerns, both constructs may be equally as molar as strivings and possible selves. Similarly there appears to be no hierarchical relationship between personal strivings and possible selves as suggested by Sheldon and Emmons (1995). Little, Goodine and Sourani (1994) asked participants for both personal strivings and possible (future) selves. A brief perusal of the responses provides evidence of the lack of a hierarchical relationship between these two constructs. For example, one subject lists as a possible self "myself as a normal eater", while at the same time lists as a striving "trying to be more attractive", where the striving appears as superordinate; a second subject lists "myself as experiencing life" as a possible self and "be more loving with people" as a striving, where the level of goal construal would appear to be similar. A third subject lists "myself with an MSW" as a possible self and "trying to get my BSW" as a striving, where the possible self is clearly superordinate. Any combination appears possible.

While Little's (1996) differentiation between tasks and strivings as internal-external is sound theoretically, it may not be that useful in practice, given that individuals with a high external locus of control, high self-monitors and individuals who are more other-focussed may not perceive their strivings as internal, just as their inwardly focussed counterparts may not perceive their tasks as external. Kuhl, for instance has found that individuals high in state orientation confuse which goals are their own and which have

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been externally generated (Kuhl, 1994a). In other words, the axis of differentiation is one that may vary considerably from subject to subject and hence not provide a common standard for distinguishing among constructs.

What does differentiate these constructs is their temporal focus, including particularly the associated action character. Possible selves are *states* that are expected, anticipated or feared to occur as a result of implied action (not always personal), while strivings reflect ongoing or habitual action, that is, non-telic *activities* or repeated telic *accomplishments* which by virtue of their repetition are perceived as states¹⁰. Emmons (1989, p. 94) notes that "strivings are not normally terminated by successful or unsuccessful experiences", the very definition of both activity and habitual telic action (see study 1). Given the atelic, durative nature of strivings, not surprisingly they may also be rendered as states, as in the example above: "be more loving with people", an indication of the way in which end-states may be used to represent ongoing action. In such formulations, however, it may be more accurate to assume an elided modal: "trying to". Strivings, as their name suggests are perhaps the most modally conative of the units and indeed are elicited using prompts that all begin with the phrase "trying to", although not all strivings elicited necessarily include the modal verb, it may often be implied.

The very fact that strivings can be easily rendered as states (with or without the conative trying, which implies simply the movement towards a desired state) highlights the very close relationship between a striving and a possible self. Indeed these two units of analysis are distinguished primarily by their different associations with two action

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character types: states and activities. "*Become financially independent from others*" is the active striving towards the stative possible self "*be(ing) financially independent*"; "*avoid maliciously gossiping about others*" is the active striving to avoid the stative feared self "*me as gossip*".¹¹ Possible selves are, however, a somewhat broader concept than personal strivings, since they can also be used to describe states that result from accomplishments or achievements, that is, telic activity: "*become a doctor*" is not a striving in that it is "limited to a specific time frame" (Emmons & King, 1989) and is telic. One can easily distinguish between successful completion or lack thereof in relation to this goal. "*Me as doctor*" or "*be a doctor*" is a possible self, however, as are most career goals (Oyserman & Markus, 1990). Thus the ambit of possible selves encompasses both states reflecting habitual action and states resulting from goal-directed activity.¹²

Personal projects are the most comprehensive of the action constructs in that they may be states: "be a good mother", activities: "read more", inchoative: "start exercising every day", terminal: "quit smoking", accomplishment: "learn French" or achievement: "get an A in psychology". Current concerns are most similar to projects in scope but differ in terms of the focus on a motivational *state* rather than ensuing *action* (Klinger, 1975). Since the two may be used to characterize each other, there would be little practical difference except for the added key distinction along the dimension of agency. Personal projects reflect *personal* action or an intention to engage in personal action; however current concerns simply reflect a state of concern without necessarily any specific reference to ensuing action, personal or otherwise. For this reason, current concerns which

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may include such statements as "grandmother is sick/dying" "noisy people downstairs" (Klinger, Barta & Maxeiner, 1981) should not be considered *personal* action constructs and should be differentiated from the remaining units of analysis. Arguably current concerns are not even necessarily goal concepts (despite the definition on page 17) in that one may have a concern about something without any explicit goal: the brutal murder-suicide of next door neighbours is certainly cause for concern, but does not involve a goal, nor likely any personal action intention.

Life tasks may be distinguished from projects and concerns, in turn, on a temporal rather than action character basis, that is, a life task is defined as such with reference to a hypothetical social clock (Helson, Mitchell & Moane, 1984), so that the very same project ("go to college") may be a life task if undertaken at age 19, but merely a project at age 41 (albeit a highly self-defining one). In all other respects life tasks are personal projects and may encompass any action type, although are more likely to be achievement goals, emerging as they do in periods of transition (Cantor et al., 1987). Table 1.3 below summarizes the various units along the dimensions used to differentiate them.

Having differentiated these units with regard to the type of action they reflect, it is much easier for a researcher to decide which is most suitable to the research question. If interested primarily in externally mandated, age-graded achievements, then life tasks are clearly the appropriate unit of analysis, similarly, if interested only in habitual action as a reflection of personality, then strivings are appropriate. Where such specific research interests do not exist, however, it is important to afford the respondent maximum latitude

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to characterize action as he/she sees fit.

Table 1.3

Linguistic Differentiation of Personal Action Constructs

PAC	Stative	Event	(Habitual) Activity	Social Clock	Personal Agency
project	x	x	x		x
striving	x		x		x
task	x	x	x	x	x
concern	x	x	x		
possible self	x				(x)

Vallecher and Wegner (1985) have argued cogently that action may be identified at many different levels and, indeed demonstrated that certain individuals tend toward lower or higher levels of action identification. Similarly, Pennebaker, Czajka, Cropanzano, Richards et al. (1992) has found that individuals are prone to think *in general* at different levels and it is likely that they therefore think about action at different levels. While we have not differentiated these units specifically with regard to molarity (in terms of levels), the idea that individuals may wish to construe their action along certain parameters and not others is still relevant. By restricting the elicitation of action to, for example, higher-order habitual action, a researcher using the strivings methodology may inadvertently lead subjects to exclude many types of action that do not fit this definition. Perhaps Maria thinks of her goal as "get my Ph.D." and not as "try to be a more educated person" unless

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prompted to do so by the methodology. Although many respondents seem to provide projects even when strivings are elicited (Emmons, 1989), a researcher cannot be sure that some individuals may be curtailing the characterization of action to fit the description of the unit.

In the context of personal action, personal projects analysis offers the least restrictive set, allowing the individual maximum freedom in phrasing goals as envisaged. On this basis, I have argued elsewhere (Chambers, 1997a) that personal projects are the superordinate construct among the various personal action constructs, not because any given project is necessarily superordinate to any task, striving or concern, indeed the contrary is often true, but that the elicitation procedure for projects does not in any way limit the action type with which an individual may choose to construe his specific intention. Since it is precisely the difference among these action types (characters) that is one of the principal emphases of this dissertation, personal projects was used to operationalize personal action constructs in the studies that follow.

What is Personal Projects Analysis (PPA)?

PPA (Little, 1983) in the form adopted in this dissertation consists of two modules, the first that elicits currently salient projects of the individual, usually between 20 - 30 in a take-home format (Little & Chambers, in press) and the second, which asks the respondent to reflect on the projects she has provided and rate them on a series of standard dimensions that have been shown to be relevant to how we view our planned and ongoing actions, as well as a series of dimensions germane to the topic of research (*ad hoc*

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dimensions). Standard dimensions elicit ratings related to structure/efficacy (likelihood of success, progress, control), community (support, visibility of project), meaning (importance, self identity, value congruency) and, finally, affective appraisals (such as project enjoyment, anxiety, stress and hope.) Examples of *ad hoc* dimensions included in the studies to follow are: time relevance (to what extent do you become so engrossed, absorbed or involved in your project that you are no longer aware of time?); project clarity (How clear is the purpose of your project to you, i.e. where the project is going and how it is supposed to turn out?); and past relevance (How much do you see this project as a logical continuation of your past and who you have been in your life up until now?).

One benefit of such finely grained measurement is that it permits the analysis of projects, individual personal action units, as well as individuals, for whom project ratings can be aggregated. Thus variability associated with project phrasing (e.g. try to pass psychology vs. pass psychology) or ipsatized project ratings (high vs low difficulty; medium vs high self-identity) can be compared at the project level, regardless of the individual, while tendencies to phrase or rate projects in given ways can be investigated at the individual level¹³. Both approaches are adopted here, allowing for conclusions to be drawn about commonalities in perceived action-time relations, as well as individual differences and their association with well-being.

As well as the ability to capture the interactions of the individual with his/her context through idiosyncratic and often highly scripted but always personally salient project systems, personal projects as a methodological tool provides for highly evocative

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assessment, which often prompts respondents to comment on the positive nature of the experience. Several examples of such comments forthcoming in this work appear in Chapter 2 (method section) and serve as an indicator of commitment, interest and involvement in the measurement process, something that is crucial in the study of what is meaningful to individuals.

A methodology that maintains this fine balance between a highly personally salient elicitation of items that allows respondents to convey in their own words “what they are up to” and the rating of these elements both along both cognitive and affective quantitative dimensions, provides an invaluable tool for the study of language and personality through the link between the expression and perception of personal action. This dissertation takes only the first few steps along a path that may provide an agenda for research into language and personality for decades to come (Pennebaker & King, 1999).

Operationalizing Well-Being

Considerable interest has been emerging as the last century wanes and a new one begins on what constitutes a life well lived and how we, particularly those of us lucky to be living in a relatively stable, materially wealthy society, can be ‘happy’ (Csikszentmihalyi, 1999; Diener, 2000; Myers, 2000; Myers & Diener, 1995). In their recent comprehensive review, Diener, Suh, Lucas & Smith (1999) define subjective well-being (SWB) as ‘a general area of scientific interest rather than a specific construct’, but note there is general consensus on the major components of the field:

positive affect (PA), negative affect (NA) and life satisfaction, both general and domain-specific (see figure 1.2). Discriminant validity coefficients for each of these three constructs have been shown to be acceptable (Lucas, Diener & Suh, 1996).

Figure 1.2

Components of Subjective Well-Being

In all three studies, SWB has been operationalized as PA + Global Life Satisfaction - NA, to provide a single score that captures key variability on both the two affective dimensions and the more cognitive global life satisfaction. While domain specific life satisfactions were measured, they are used in more fine-grained follow-up analyses,

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usually relating domain specific project appraisal to domain specific well-being. In general the correlations between domain specific well-being and the global measure are only moderate ($r = .23$ to $.58$), with academic/ occupational and global life satisfaction correlating most weakly.

Throughout this dissertation, personality assessment has been undertaken from a Kellian (1955) perspective, which assumes that individuals will respond to personally meaningful and evocative questions about themselves and their thoughts and feelings to the best of their ability. Hence no effort has been made to elicit information in any way other than in a very open fashion through questions and measures which have not only good construct validity but good face validity. To this end, PA and NA were operationalized using the Diener and Emmons (1985) affect scale which asks subjects to rate how they have been feeling on nine emotion adjectives. The four positive and five negative emotions are summed to provide two valence scores. The scale has good convergent validity with other measures that take longer to complete (e.g., Watson, Clark & Tellegen, 1988) and is simple to administer and easily understood. Life satisfaction, both global and domain specific, was operationalized using a simple question asking the respondent "In general, how satisfied are you with your life now? For each of five domains, academic/ occupational, social, physical, recreational and emotional, as well as global, they were asked to circle a number along an eleven-point Likert scale ranging from 0 (completely dissatisfied) through 5 (neutral) to 10 (completely satisfied). This scale, developed by the Social Ecology Laboratory nearly two decades ago (see Palys, 1979 for

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reliability and validity data) has been used frequently in research during that period (Gordon, 1994, Pychyl, 1995; Goodine, 1999) and shows good convergent validity with other life satisfaction measures (Lecci, 1990).

As well as these standard well-being measures, depressive affect was measured also, using the Centre for Epidemiologic Studies Depression Scale (CES-D; Radloff, 1977; 1991). The psychometric properties of this scale have been validated across a wide range of samples, and it has been found to be particularly suitable for a non clinical population of the sort under investigation here. Depression was measured since we have adopted the now prevalent view that positive and negatively valenced affect are orthogonal (Diener et al., 1999). While measuring PA and NA separately as we have done addresses this at one level of analysis (within SWB), depression was seen as a higher order condition, *malaise*, or way of being in the world that was better contrasted with SWB than considered a part of it. Correlations between NA and the CES-D in these data sets ranged from .61 - .63 suggesting high convergence but not isomorphism. Similarly the CES-D correlated with SWB at $r = -.62$.

Although these measures are suitable for individual level outcome assessment, project level affective indicators were also required. Within the PPA methodology the two standard affect dimensions 'stress' and 'enjoyment' have been traditionally used to represent negative and positive feelings towards one's projects and that practice was adopted here. In study 3 where several additional affective dimensions were used and a positive and negative factor structure derived, enjoyment (happiness) was the highest

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loading dimension on the positive factor and stress on the negative, suggesting this practice is well founded. The additional affective project dimensions were included in non archival work based on evidence that emotional reaction to project pursuit is often more finely grained than simply positive or negative and that the unique character of discrete emotions provides valuable insight into the individual's relation to their actions, over and above cognitive appraisal (Goodine, 1999; Chambers, Goodine & Little, 1999; Little & Chambers, 2000).

Trait and Project System Measures

Because of the advanced state of the art in trait psychology which has managed to group the hundreds, if not thousands, of folk and formal traits into a manageable “Big Five” (John & Srivastava, 1999; Costa & MacCrae, 1985), a self-report measure of neuroticism, extraversion, openness to new experience, agreeableness and conscientiousness, constructed from a Kellian (1955) philosophical stand point and a Burisch (1984) methodological approach was included as a point of reference between the findings in these studies relating to the second storey of the personality edifice alluded to in the introduction and the ground floor, that is, the relationship between conative and trait measurement. The Big Five self-report measure (see Appendix A for the measure) was recently validated against the BFFI (John & Srivastava, 1999) and found to have good convergent validity (rs from .6 to .7) and acceptable discriminant validity.

Although each of the studies in this work included a full PPA elicitation and rating module, the methodology which requires that they be modified to suit the sample studied

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mitigates or at least complicates cross-sample comparison, given that different dimensions are used, therefore not all the traditional factors that are discussed in relation to project system structure are necessarily available for analysis. To complement the sample-specific, fine-grained personal project elicitation and rating, a brief measure was also included that allows the subject to rate quickly how meaningful, structured, supported, stressful and successful to date he/she perceives his/her project to be. The PPSRS (Lecci, 1990) has been used frequently in the Social Ecology Laboratory and has consistently shown system-level associations with well-being and traits that are distinct, although not contradictory, with those found using the full PPA. We might postulate a middle level between traits and projects, which combines the ‘havings’ of the former with the systemic action of the latter: we “have” projects systems, but “do” projects.

Other individual difference measures as well as the many ways in which time was operationalized in each context differ from study to study and hence are discussed in the relevant sections of each.

Dissertation organization

Chapter 1 has attempted to provide a general overview of the various lines of thinking that converge on the primary thesis of this dissertation, which is that dimensions in language, whether lexical or grammatical, can provide useful and revealing access points on the meaning that individuals ascribe to their action. In particular we are examining the case of time and action and the insight provided by three axes of variation in

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the latter: action character, tense and aspect. Methodological issues and assumptions were also clarified with regard to measuring action and well-being.

Chapter 2 first examines the association between action character (Aktionsart) and project appraisal, both affective and cognitive. Based on the coding of the action constructs of 229 university students, four well recognized differentiated action character types: states, achievements, accomplishments and activities are examined to determine if these relate systematically to the enjoyment (and/or stress) of project pursuit or whether they may interact with the context in which the project is unfolding. Other grammatical (modal) forms of the verb phrase are explored and contrasted.

Chapter 3, building on the insight gained in chapter 2 at the project level, examines how individuals who may have a tendency to phrase their projects consistently along one or more dimensions may feel in general and whether certain action orientations are more conducive to a “good life”. These two chapters offer the most comprehensive test of the usefulness of language as the carrier of meaning in personal action, given that the dimensions along which projects are coded are derived from grammatical theory while the coding is done directly based on the idiosyncratic phrasing of the individual.

Chapters 4 and 5 examine the myriad of tense-related psychological variables and their relative ability to predict well-being and depression in a university-age and senior sample ($n = 209$). In these chapters the influence of language is more subtle, with the dimensions of interest dictated by verbal form: past, present and future, but the variables examined are more finely differentiated based on a century of psychological research into

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time as tense.

Chapter 6 postulates a core differentiation in the phenomenology of action along the lines of verbal aspect, conceptualized as timeless action and action within time (Verkuyl, 1993; Thelin, 1990c) and attempts to validate the distinction as useful and salient to respondents, while exploring implications for well-being among a smaller sample of university students ($n = 96$). A general discussion in chapter 7 on the value of a linguistic based approach to time and action and the charting of several lines of future inquiry complete this dissertation.

Endnotes

1. A venerable and useful approach to time, but one more associated with social psychology and sociology (Zerubavel, 1987; Pentland, Harvey & McColl, 1999)
2. It is important to distinguish conceptual relativism as meant here from total relativism, which suggests that any and all communication between individuals of different languages is fundamentally impossible given the incommensurability of their languages. Lakoff (1987) makes the point that we may still understand different conceptualizations, indeed may be enriched by learning different ways of conceptualizing the world from other cultures, but that it is fundamentally misguided to attempt to determine which conceptualizations are right or more true than others. Since I make the link between language at a cultural/societal level and language at the individual level, it is clear that I am not an absolute relativist, since this would, in fact be suggesting that individuals can never truly communicate given that their set of constructs (conceptual categories) and manner of conceptualizing is unique. Although we do, at times, have our difficulties, the latter is clearly absurd.
3. George Kelly (1955) in focusing on what are the meaningful constructs of an individual also emphasized the role of language indirectly, by using language (construct labels) in his Repertory grid to represent underlying constructs. Note that rather than representing constructs, construct labels themselves are the focus of discourse analysis. Instead of mathematically distilling construct labels into an essential construct, discourse analysis might view the factor analytic process as one of grouping essential labels into higher order clusters, but with the attendant loss of meaning that accompanies any factor analysis. In this work we use the term 'construct' frequently, but do not imply that it is something distinct from the language in which it is expressed.
4. This might be viewed as an extension of the distinction Kelly (1955) makes between construct labels and underlying constructs: the history of a culture which has given rise to a language may be considered as the life experience of the individual within a given environment which has given rise to the stock of labels he may choose from to compare and contrast any elements provided (i.e., in Repertory Grid methodology). Such a comparison for both the culture and the individual can highlight underlying core concepts/constructs.
5. Deixis refers to the temporal (and spatial) reference point of speech, usually considered to be here and now unless other wise specified, e.g., in the phrase "he had left before I came", the moment of coming serves as the deixis for the sentence.
6. The universality of linear time implied by 'before' and 'after' was for many years not accepted based on the existence of a small number of languages without a clear tense system (e.g., Hopi, Whorf, 1956). Subsequent analysis has shown that even in Hopi time is not construed that differently than in other languages (Malotki, 1983) and all languages

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seem to distinguish before and after and duration.

7. I have purposely excluded mood, another major grammatical category associated with verbs (action), although modal perspectives on personal action offer a fascinating area for future inquiry. Mood in and of itself is not specifically time related, although often interacts and overlaps with time elements, as noted below in the discussion of future tense. As such, it is left for future research.

8. PACs are from: Emmons, 1989; Klinger, Barta & Maxeiner, 1981; and The Social Ecology Assessment databank (SEABANK).

9. As Classical Arabic scholars were aware, calling the verb ما دل على حدث وزمن (Maa dalla ghala hadithin wazamanin: the indicator of time and action). In German the common word for the verb (now often Das Verb) is "Das Zeitwort": the timeword.

10. For detailed definitions of these differences and examples, see chapter 2.

11. Striving examples are from Emmons, 1989, p. 92

12. Like current concerns, possible selves may reflect a state that is not construed to be the result of personal action, but given the futurity of the state, it arguably remains a personal action (motivation) construct in that it may lead to personal action to offset impersonal forces that may lead to such a state, e.g., "*Myself as alcoholic*": may lead to personal action in AA.

13. Both these approaches are nomothetic. Although not used in this study, the format also allows for the detailed analysis of the single idiographic case, in which the interrelationship of project appraisals is examined to derive a nuanced picture of a single complex project system (Little 1987a, Little & Chambers, 2000).

CHAPTER TWO

Action character and project-level enjoyment and stress

...it is clear that there is a difference
in the ends at which they [all things]
aim: in some cases the activity is the
end, in others the end is some
product beyond the activity.

-Aristotle
(Nicomachean Ethics)

Introduction

Using the first of the three linguistic parameters relevant to time set out in chapter 1, action character, this study investigates a) whether personal actions as described in personality self-reports can be systematically classified according to linguistic parameters; b) whether, once classified, the different action characterizations are associated with specific affective and cognitive patterns of appraisal of those actions (operationalized using Personal Projects Analysis [PPA], Little, 1983); and, c) whether individuals who have a tendency to construe their actions predominantly in different action character categories differ systematically in their well-being according to the hypotheses developed below. Evidence that there are systematic differences in appraisal will be taken to support the contention elaborated in chapter 1 that language phrasing is not arbitrary and that closer examination of language at the individual and normative levels can reveal meaningful information about personality (Pennebaker & King, 1999). The specific nature of the appraisal - action character associations will be used to elaborate a more finely detailed understanding of structurally different actions according to various tenets of

cybernetic and action control theory. Since action character is not a widely understood grammatical parameter outside of linguistics, the four categories are described in some detail below.

Linguistic Perspectives on Action Character

State vs. Action

All languages appear to differentiate dynamic (action) and stative verbs through clearly divergent syntax associated with each, reflecting the semantic difference between a change of state, either an activity (to draw) or an event (to find), and the maintenance of a state (to be). Maslov (1985) points to evidence that in the early development of Indo-European languages, states may not have been represented by verbs, but by a distinct class of words that has since been subsumed, providing further weight to the view that the two categories are perceived as fundamentally distinct. While conceptually distinct, in practice states and action are mutually interdependent. As Thelin (1990b) points out, a state is merely the interval between two actions (changes of state) and hence is defined by action. In turn a state represents the outcome of an action and may be used to characterize that action, particularly in the mental representation of goals¹.

In addition to the gross distinction between dynamic and stative verbs, the former classification is further subdivided into two or more subclasses. Vendler (1957) for instance distinguishes activities, accomplishments and achievements; Dowty (1979) performance and activity; Kučera (1983) activity and event; Comrie (1976) event and

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process; and, most recently, Smith (1997) differentiates activities, accomplishments, achievements and semelfactives (one-time instantaneous occurrences). While each classification has its merits, the latter appears to be the most comprehensive and systematic in that each of the categories is differentiated along the same three underlying bipolar dimensions (see Table 2.1).

Table 2.1

Three-dimensional Action Characterization

Action Characterizations	Stative (-) vs. Dynamic (+)	Atelic (-) vs. Telic (+) ²	Instantaneous (-) vs. Durative (+)	Sample projects
States	-	-	+	be a psychologist
Activities	+	-	+	work towards my Ph.D.
Accomplishments	+	+	+	write my dissertation
Achievements	+	+	-	graduate by the year 2000
Semelfactiveness	+	-	-	n/a (e.g. sneeze)

Telic-Atelic

Dowty (1979) defines an activity as an action which need not reach any particular stage for it to be true that the action took place, that is, if I begin to swim and I stop, I may thereupon truthfully say "I swam". Such constructions are atelic, that is, without a predetermined end. It is not entirely true to say that such action is without a goal, but

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rather that the goal is fulfilled in the undertaking of the activity. In action control terms, the goal-outcome is inherent in the goal-action (Heckhausen & Kuhl, 1986).³

In the case of events, both achievements and accomplishments, some particular point must be reached for the action to be said to have taken place, that is, if I swim to shore, I may only truthfully say that I “swam to shore” if I reached a particular point (the shore). Any break in the action prior to reaching that point entails unsuccessful completion of the action. These categories are therefore telic. In action control terms, there is a specific outcome that must occur for the action to be deemed to have taken place *successfully*. Another example. “I looked for my keys” (activity) implies no particular endpoint. I may have looked for two minutes or two days, but it is still true that I looked. “I found my keys” (achievement) is only true if the outcome of my looking was successful. In many languages (e.g. Chinese) “look for” and “find” are expressed by the same verb, but using a different action character marker: *Wo zhao wo de shu, dan shi bu zhao dao*. I looked for my book, but didn’t find it (or more literally: I tracked my book but didn’t track it down). This illustrates an important point also true of English. Action character is not expressed solely at a lexical level, but includes syntactic features. The same verb may be both (for example) an accomplishment and an activity verb, depending on the verbal complement: “write my English essay” (accomplishment) vs. “write in my journal” (activity). Even stative verbs can occasionally be used as activities: “I am understanding you better every day”. This emphasizes that classification of action character must be on the basis of the verbal phrase, which has been argued earlier to be the fundamental

linguistic unit of analysis in conative psychology. Just as we cannot ignore the context of the individual in evaluating personality, nor can we ignore the context of the verb in understanding its unique character.

In summary, states and activities are atelic (disengagement from the action does not imply lack of completion), while accomplishments and achievements are telic.

Durative - Instantaneous

Linguistic representation of everyday conceptions of action developed over centuries during which time it appears there was a widely shared conceptual differentiation between durative action and instantaneous action. 'He blinked; she found her keys' are examples of instantaneous action, that action, which in general understanding is seen not to "take up" any time at all.⁴ Two categories of instantaneous actions exist. The first, semelfactive, like activities and states above, is atelic, in that the outcome is inherent in the action (flash, blink are examples). The second category, achievements, refers to instantaneous telic action: "reach the summit; break the egg". In action control terms, the action *is* the outcome and the two are inseparable. I cannot be breaking the egg and not break the egg. In contrast, accomplishments imply telicity but also duration. "Lose 20 pounds", as so many of us know, is not an instantaneous action, but one which has a clear endpoint. Thus there are separable action and outcome elements inherent in the phrasing. I may diet and lose several pounds (action), but for the action to be deemed successful I must reach a specified point (outcome). For the purposes of this dissertation, which looks at intentional personal action, we shall ignore the semelfactive category, which by its very

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atelic nature is only relevant to molecular intention-action links (such as blink, cough), not planned personal action of the sort under investigation. Thus we have a two by two telic distinction: activity/state (atelic) vs. accomplishment/ achievement (telic) and a three by one durative distinction: state/activity/accomplishment (durative) vs. achievement (instantaneous).

Other “Characterizations” of Verbal Phrases

Al-Khawalda (1997) notes that not all action character is, in fact, expressed solely through the lexical and syntactic patterns described above. There are as well several verbs or periphrases which serve as aspectualizers (Freed, 1979); aspectual verbs (Huddleston, 1979) or auxiliaries of aspect (Krusinga, 1931)⁵, such as start, finish, continue, maintain, be about to, etc. These verbs modify the action character of the principal verb rather than indicate action themselves. While in English we may use additional verbs as such action character modifiers (ACMs), in many languages these are expressed as prefixes or particles: Chinese: Ta bing (he is sick) Ta bing le (he became ill). Russian: Он молчал (on molchal: he was silent) Он замолчал (on zamolchal: he fell silent), making the action character distinction morphological. Although expressed differently within grammar, the intent of these forms is all the same, that is, to differentiate distinct perspectives on the action. Very common in project elicitation, several are examined in this study. Among these are what I will term: quantification-modification projects (doing more of or doing less of an action) which involve a change in quantity rather than in quality of action;

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inchoative and terminal action which focus on the initial or terminal phase of a project as a separate action unit; explicitly conative action refers to those projects in which the conative modal “try” or “attempt” or “strive to” is included in the phrase; habitual vs. one-time action; and, “maintenance” projects which involve a continuation of action (keep on ‘X’ing). Specific hypotheses (because of their number) are set out prior to the relevant results.

Psychological Perspectives on Action Types

Control Theory

One of the most useful theoretical frameworks for goal-based research in motivation, personality, social psychology and cognitive psychology has been that of cybernetics, often referred to as systems theory or control theory (Miller, Galanter & Pribram, 1960; Carver & Scheier, 1981; Powers, 1973; Carver & Scheier, 1982; Hyland, 1988). Although roundly criticized for its inability to explain the setting or choice of goals (Bandura, 1986; Locke & Latham, 1990), control theory provides a useful framework for examining, among other things, affective responses to feedback during goal engagement (Carver & Scheier, 1990), the focus of this study. Based on the Greek word for steersman, it views a potential end-state (goal) as an action regulator by providing a reference criterion against which the actor can measure discrepancies from his/her desired relationship to that state. Although original formulations stressed the extent of the *discrepancy* between current and desired end state as impetus to action maintenance and

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correction, the level of goal construal was generally fairly low (Miller et al., 1960). Carver & Scheier (1996) have since shown that for longer term goals of the sort under consideration here, the rate of progress to the desired end state is often more important in terms of emotional feedback. That is, positive affect ensues from making progress toward a goal at or above the desired rate and negative affect from falling short of that expected rate. Hyland (1988) points out the nature of the reference point may differ: end-state, rate of progress, ensuing emotional state can all serve as the reference point, but the negative feedback loop still functions in the same way.

German action theorists (Kuhl, 1983; Heckhausen & Kuhl, 1986) distinguish three types of hierarchically organized goals: actions, outcomes and consequences, which may be differentiated in terms of their role as reference criteria: goal actions they characterize as autotelic (Csikszentmihalyi, 1975), that is the action itself suffices for the goal to provide positive affect, or in short the activity is the end-state reference criterion (but see endnote 3). As long as one is doing the action the goal is being met (see also Murray's activity needs, Murray, 1952). Outcomes, on the other hand use the result of the action as the reference criterion, that is, it is the immediate result of the action that is the motivator. Finally consequences are those higher-order, longer term benefits or positive states that may or are likely to result from the achievement of the outcomes. Mapping this goal taxonomy onto action character types, we can see clear convergences, primarily with the telic- atelic distinction. In activities, action is the focus just as in the lowest order of Kuhl's hierarchy. In achievements, the focus is on the outcome or result of the action, just as in

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their middle level. Accomplishments are a hybrid, in this terminology with both action (activity) and outcome (achievement) components, although linguistically the telic (achievement) component is central to successful action completion. States are by definition consequences of action (Thelin, 1990b) and therefore often may result from achievements, accomplishments and activities: “be a good father” through “finding time to talk to him”, “finishing that playhouse” and “seeing him often”.

The major difference between action control categories (in what Kuhl terms the valence-potency-activation (VPA) model) and action character types, apart from the lack of accomplishments and semelfactives in the former is the explicit hierarchy of the action control model, which is not apparent in action phrasing. A brief perusal of SEABANK (a database with over 13,000 personal projects at Carleton University) shows action characterizations at all levels of molarity, with the possible exception of states, which do frequently appear to be higher order. Activities may be long term and higher order “express my true feelings” (activity) while achievements more mundane “choose Valentine’s day gift”. The opposite is also true: “sleep more” (activity) vs. “Get my Ph.D. in psychology” (achievement). While states seem to be regularly more molar “be a hockey coach”, many activities are equally so “stand up for my beliefs”, thus even this hierarchical distinction is blurred. This is true both at a normative and an idiographic level, that is, even within the single case, scope or molarity does not appear to be systematically related to action character phrasing⁶.

Control theory does not specify a particular affective -goal *level* link, but rather

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focuses on the valence of the affect associated with goal content. Kuhl (1994a) does, however, differentiate state orientation from an action orientation, with the former reflecting the inability to translate intention into action (see also Gollwitzer, Heckhausen & Steller, 1990) and showing consistent positive correlations with negative affect and depression. (Kuhl & Beckmann, 1994). As such, state orientation reflects more “being stuck” in the early stages of project pursuit (Little, 1983) and thus assumes an unconsummated intent to act, unlike a state action character in which the state is seen as resulting from successful action.

Levels of Action Identification

As noted in chapter one, Vallacher and Wegner (1985;1987) postulated and subsequently demonstrated that individuals construe their actions at different levels of molarity. The same broadly construed action (e.g. studying) may be represented at a low level (go to the library, sit at my desk, open my book) at a middle level (finish reading my textbook, complete my course) or at a high level (broaden my education). Unlike the VPA model, no distinction is made with regard to the structural nature of action (outcome vs. activity), only its molarity. Vallacher and Wegner found that individuals tend to prefer to construe their actions at higher rather lower levels and that stress tends to lead to a reconstrual of action at a lower level (Wegner, Vallacher, Kiersted & Dizadji, 1986). Since action character is not associated with level of molarity, it must be clearly distinguished from action identification.

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Performance vs. Mastery Learning

Telic and atelic action should not be confused with performance and mastery goals, in which agents seek to, in the first instance, “increase their ability or master new tasks” and in the second “to prove, validate, or document their ability and not discredit it” (Elliott & Dweck, 1988, p. 5), although the emphasis on the outcome is more pronounced in the former in that it is clearly separate from the action. In fact, performance goals are still goals (telic), that is, they may be judged to have succeeded or failed, and simply by engaging in the activity, the performance goal is not necessarily reached. The very definition above suggests clear criteria for judging whether a performance goal was reached: “if I did not prove, validate or document my ability, then I have failed.” Whereas action character is embedded in the syntax of the verbal phrase, performance vs. mastery orientation is a distinction in the nature of the reference criterion (goal) that is motivating action⁷ and need not be reflected in the phrasing of the goal.

Specific vs. Vague Goals

Murray (1952) distinguished need states that are satisfied habitually from those that are to be satisfied in the future (diffuse vs. focal needs). The satisfaction of focal needs is, in Murray’s view, more likely to be valued than that of diffuse needs and hence success or failure in the former case is liable to result in greater intensity of affect. Locke and Latham (1990) present a strong case based on frequently replicated findings that specificity in goal setting leads to better performance, although the type of action they deal with may be better thought of as isolated acts (plant a tree) than as extended sets of acts.

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Specificity refers to a clear well defined reference criterion (get an A in math) vs. a more generalized goal (be a good student). Control theorists would agree in that the specificity allows for clarity of feedback and a clear sense of goal attainment. However two issues are relevant to this study. The studies reported by Locke and Latham use performance as their dependent variable, not affective response and the dependent variable is measured after the task is complete. In this study we are looking at affective response to project pursuit as an ongoing process (action), so that most, if not all telic projects listed by respondents in this study are rated *as they are being pursued*. Finally telicity may often imply specificity, but need not: “work out three times a week” is a very specific goal, but is an activity (by virtue of the repetition), while “become a better person” is telic in that a clear change of state is defined, but is not particularly specific.

Distal vs. Proximal goals

The literature on the benefits of distal vs. proximal goals is not clear. Nuttin (1984) and Kirschenbaum (1985) argue that the more distal the goal setting the more beneficial for the individual. Palys and Little (1983) have shown, though, that short-term projects are more likely to be associated with positive affect than longer-term pursuits. In this study the key point is that action character does not address differences between proximal or distal goal pursuit. “Get an A on my exam tomorrow” and “become a neurosurgeon in 10 years” are both telic (achievement), yet differ widely on the proximal-distal continuum, in the same way that the activities (atelic action) “paint for a while this afternoon” and “take care of my handicapped son” do. The impact of proximal and distal goals on general well

being is explored in study 2 with reference to tense and future extension.

Approach and Avoidance goals^a

Klinger et al.(1981) point out that goals always stand in some relationship to change, that is, for a goal to be considered as such, the individual must desire something to happen with respect to that goal, even if only its maintenance as a state (avoidance of change). It is this desire that often is translated into personal action. The primary characteristic of the goal that largely determines the direction of action (toward or away) is its valence. Approach goals tend to elicit action toward the goal, avoidance goals away. In classifying 1302 current concerns, Klinger et al. found only five per cent approach goals to elicit ratings of negative valence and four per cent of avoidance goals positive valence, hence there is a very close association between this axis of meaning and the valence of the action construct. The two classifications of goals have been clearly distinguished in the literature (Lewin, 1935; Murray, 1952; McClelland, 1985; Markus & Nurius, 1986; Emmons & Kaiser, 1996) and evidence is strong that a surfeit of avoidance goals can have a negative impact on well being (e.g., Klinger et al., 1981; Roberson, 1989; Elliott, Sheldon & Church, 1997).

Within the context of control theory, avoidance goals are seen to lead to lower well being because of the diffuse goal-action relationship inherent in avoiding a negatively valenced state (Carver & Scheier, 1996). There are usually a limited number of plausible action alternatives that will lead to a desired state, but an almost unlimited number of actions that can be taken to avoid such a state, especially if broadly construed. In this

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sense the negativity associated with avoidance goal pursuit may be seen as one instance of lack of specificity (see above). Furthermore it may not always be that clear if a negative state has been successfully avoided, hence the positive affect associated with efficacy through the attainment of a goal is attenuated (Elliott et al., 1997). The approach-avoidance distinction is seen as relevant to action character and well-being, thus has been coded in this study.

Other Action Taxonomies

Murray (1952) was one of the first to attempt a classification of actions into higher order groupings that included but was not limited to the approach avoidance distinction: renunciation , rejection , acquisition, construction, maintenance, expression, bestowal, retention, elimination, aggression, defence and avoidance. Klinger et al. (1981) offer a similar list "get, keep, restore, do, get rid of, avoid, prevent, escape, attack and find out more about" as a means of classifying action related to current concerns, although neither Murray nor Klinger specify why these verbs rather than others.⁹ Other classifications of action include Plutchik (1982), Ogilvie and Rose (1995) and Frijda's (1986;1987) extensive list of action tendencies. It should be clear to the reader from Murray's list that the classifications of action refer not to the underlying dynamic structure of action (as conveyed syntactically in action character) but to a higher order commonality of nature in action (as reflected lexically). The relative merit of one classification over another is a matter for future empirical inquiry and is beyond the scope of this dissertation, but clearly the interaction of action character and action content categories is of interest.

The Hypothesized Relationship between Action Character and Affective Response

Action character has been clearly distinguished as a unique, grammatical classification of action which shares conceptual ground with some psychological action classifications and categorizations, but should not be confused or identified with any of these. Although specific hypotheses are set out below, it should be noted that an examination of action character in the context of personal action is a new undertaking, so that significant results in any direction can be viewed as guiding future inquiry. Klinger et al. (1981) note that “it is quite possible that differences of this kind [referring to restoring a former state or taking action to negate a current state] are more than purely expressive differences and convey some psychologically and clinically meaningful differences in definition of and orientation toward the goal.” (p. 166) but admit evidence is lacking. Within the context of control theory which is posited to be most relevant to predicting affective responses to ongoing action, it is hoped that action character may further clarify the relationship of affect to positively and negatively valenced goals.

In general, we might postulate that in the case of *avoidance-based* actions, those with a telic component (achievement and accomplishment) may engender less negative affect than those without a clear telic component, given that the action away from the goal can be distinguished as successful or not: for example, *avoid failing my exam* is a clear achievement-type action in that one can state definitively at a given point in time whether the state was avoided or not. Although failure may be unpleasant, the nature of an achievement/accomplishment goal is such that success or failure should lead to

disengagement¹⁰ and a refocusing on other goals. While this study is measuring the appraisal of action before goal consummation (in the case of telic action) it is hypothesized that, nonetheless, an awareness of the approaching end-state should attenuate the negative affect associated with avoidance goals. Action without a telic component (activity, habitual or iterative action and states) may be more likely to engender lasting negative affect, since no amount of success frees the individual to pursue other goals: “avoid procrastinating” is unlikely to engender positive affect at any point, given that the very next task at hand is always subject to possible procrastination¹¹. Small successes are quickly overshadowed by recurring demands.

Overall, though, avoidance goals generally make up a small proportion of an individual’s goals and many individuals have none (Elliott et al., 1997). In the case of the far more prevalent approach orientation, we hypothesize the opposite association: action leading to achievement/accomplishment may result in positive affect, but it will likely be short lived as disengagement sets in (Frijda, 1986); ongoing success in non-telic projects should be more durable, although potentially of lower intensity. Since it is the frequency (duration) of positive affect rather than the intensity that appears to relate to overall well-being (Diener, Sandvik & Pavot, 1991), the latter may ultimately be more conducive to life satisfaction. Both inchoative approach and avoidance-based action may attenuate the associated affect given the emphasis on one-time initiation rather than ongoing activity.

In the context of personal projects we would hypothesize therefore, that non-telic action (states, activities) will be more positively valenced than telic actions

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(achievements, accomplishments) if the phrasing is approach oriented. When avoidantly phrased, however, the association will likely be in the opposite direction, with telic projects associated with less negative affect and atelic activity greater negative affect.

In terms of the interaction of action character and the classification of action, this study will examine the former in the context of project domains as classified by Little (1988) given that one of the overarching theoretical frameworks of the dissertation, the social ecological model of personality (Little, 2000a), states explicitly that the context in which an action (project) is pursued is a critical element in the expression of personality and the prediction of subjective well-being. Little has found over the course of three decades of research into personal projects, that actions may be usefully and reliably divided into academic (or occupational), health/body, interpersonal, intrapersonal (self-focussed), leisure and maintenance/ administrative pursuits. Assuming once again a valence-action character interaction, ***we would expect to find that those categories that tend to be associated with more negative valence (academic among students and intrapersonal [Salmela-Aro & Nurmi, 1992]), to show more enjoyment and less stress if phrased as telic (accomplishment, achievement) projects given the inherent end to the project. Those categories associated with more positive valence, interpersonal and leisure projects, we would expect to show the opposite.*** No hypotheses for health/body or maintenance projects are made.

Method

To examine whether action character specifically (and differences in verbal phrasing broadly construed) reflect systematic differences in action appraisal, a sizeable sample of personal projects was extracted from the Carleton University Social Ecology Assessment Databank (SEABANK) for analysis. In all, the personal projects of English speaking subjects from three datasets were concatenated to provide a single sample of 226 respondents (2503 projects). The size of the sample drawn was deemed necessary given the many variables that impinge on project appraisal which might occlude less powerful associations between action character and project appraisal dimensions and the fact that subsets of the data (by project domain) were to be analyzed. The two criteria used in selecting subjects were a) recency of the sample and b) native fluency in English. The former was to provide as much comparability in project appraisal as possible, given that earlier samples generally include fewer appraisal dimensions and hence less comprehensive data on how personal action is viewed by the respondent. Furthermore, recent samples have all used the same outcome measures, allowing for comparability in the measurement of global well-being. English speakers were required because of the linguistic-based nature of this study which assumes a native “feel” for action character usage. The often ungrammatical nature of non-native English speaking respondents would make any systematic linguistic coding of their project phrasing meaningless¹².

Forty-eight subjects who were self-identified as English speakers both natively and in the current home were drawn from Chambers, Hotson, Mears and Little (1998); 110

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subjects who identified themselves as born in Canada or the US were drawn from Goodine, Makinen and Little (1995)¹³; and 68 subjects who were self-identified as native English speakers and using English in the current home were drawn from Chambers and Little (1999). All subjects were undergraduates at Carleton University at the time of assessment, with those from the first two datasets in first-year psychology and those from the third, students in a third year psychology course on motivation and emotion. Data were collected using take-home packages in the first and third datasets and by means of group administration in a classroom setting in the second. Mode of administration has not been shown to affect the nature of the appraisal (Dowden, Chambers, Richardson, Hunt, Hargrave & Little, in preparation). Demographics are discussed below in the context of the single concatenated sample.

Demographics

As noted above, all subjects were either native English speakers or self-identified as Canadian/U.S. born, creating a relatively homogenous ethnic sample. 44.7% were men ($n = 101$) and 55.3% women ($n = 125$). 85.4% ($n = 193$) were single, 11.95% ($n = 27$) married and 2.65% ($n = 6$) divorced, separated or widowed. While ages spanned 38 years (18 - 56, $M = 23.19$, $SD = 6.02$) over 75% were under the age of 25. All respondents were undergraduate students and represented all four years of an honours undergraduate degree: first year ($n = 83$, 39.71%), second year ($n = 33$, 15.79%), third year ($n = 65$, 31.1%) and fourth year ($n = 17$, 11%). Five were “other”, referring to a qualifying year or

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registration as a special student with no intention of completing a degree; another 15 did not indicate year of study. 165 (73.33%) were full time students, 37 (16.44%) part time and 23 “special students” (continuing education, summer school etc.); one did not indicate academic status. In all, then, these 226 respondents were a good representative sample of a Canadian undergraduate population, with the exception of the requirement that they have native or near native fluency in English.

Coding Action Character

Of all three time-related constructs of interest in this dissertation, perhaps action character is the most easily measured, given the precision of the linguistic categorization scheme. While it is true that some forms can be vague and in certain cases may allow two interpretations, most often such instances involve basic and derived meanings, of which the former is by far the most likely interpretation barring additional information. Since Smith's (1997) classification for action character has been adopted¹⁴ given its thorough treatment and comprehensive nature, her guidelines for parsing action character were followed.

Without any additional information (complements) any given verb has "an intrinsic aspectual [action character] value, based on its aspectual [ditto] contribution to a 'maximally simple sentence'" (Smith, 1997 p. 54). Smith outlines clear rules that allow for modification of the intrinsic action character of a verb and provides linguistic tests to differentiate varying pairs. Coding the verbs for each of these dimensions,

while taking into consideration any modifying complements, allows for the clear and unambiguous measurement of project action character.

The full coding system is provided in appendix D, so a few examples should suffice to illustrate the method. The project "walk the dog" involves a non-telic, dynamic and durative verb followed by a countable noun phrase which does not modify the action character of the verb so the phrase is an activity, or in Smith's notation: V[-Telic, +Dur, +Dyn] + NP[+Count] - VCon[Activity]; the project "be a great statesman" involves a durative, non- dynamic verb and hence no telic component, followed by a countable noun so the phrase is a state: V[+Dur, -Dyn] + NP[+Count] - VCon[State].

How do we know what the basic action character of a verb is? For each classification, certain phrases, usually temporal adverbial phrases, are either compatible or incompatible and allow for a check. For instance: only +dynamic verbs can be used with adverbs of manner. "Walk the dog carefully, attentively, but not ?"be a statesman carefully, attentively". Smith also notes the pseudo-cleft construction with 'do' is incompatible with statives (-dyn): "What he did was walk the dog" but not ?"What he did was be a statesman".

Inchoative and terminal forms are generally expressed lexically in English: "Start saving for my trip" "quit smoking". The act of inception is implicitly instantaneous (one cannot say ?"I started my essay for an hour"¹⁵) and therefore such forms are implicitly achievement. Punctual (non-durative) adverbials that are used with

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verbs that imply duration may also convey inception: "Walk my dog at 2:00" clearly implies beginning the activity of walking the dog.¹⁶ English has many idiosyncratic inchoative ACMs, for instance, he fell in love; she took up skiing, she got sick, etc., all of which imply inception (and were coded as such).

Terminal forms may be both instantaneous or durative and thus may reflect either achievement or accomplishment action types. Smith (1997) distinguishes between completion (finish) and termination (stop), with the former verb (+dur) and the latter (-dur). Thus "finish reading my book" is an accomplishment, while "stop smoking" is an achievement. Again the use of a durative adverbial or verbal periphrasis makes this distinction clear: "I am in the process of finishing my book" or "I finished my book in an hour" are perfectly acceptable, while ?"I am in the process of quitting smoking" or ?"I quit smoking in an hour" are questionable at the very least.

Habitual action, which was noted in Chapter 1 to characterize primarily the subcategory of personal action constructs known as personal strivings (Emmons, 1986) is a frequent action type in personal project elicitation as well. Semantically, habitual action functions as a stative in that the ongoing repeated action is viewed by the speaker as a state (unchanging); however, syntactically it is dynamic and is appropriate with the progressive and adverbials of manner. Coding for habitual action in personal projects relies more heavily on world knowledge and context (when available) than other forms. For instance the very common project among male students "go to the gym" may be coded as an accomplishment (that is, a one-time feat), but is much more logically

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interpreted as a habitual action, that is a repeated action, based on the knowledge that one trip to the gym is very unlikely to accomplish anything lasting. Given the often short phrases respondents use to convey their projects such implicit meanings are not uncommon. As a general rule repeated activities, accomplishments or achievements that have no clear end point have been coded as habitual, while those with an implied limited duration have been coded as accomplishment: "get As in my exams" and "go Christmas shopping" while they imply more than one occurrence of the action are logically restricted by the season (exam time and Christmastime) and thus are coded as accomplishments; "try to be a better person" or "exercise more" have no clear time frame and clearly reflect habitual action.

In addition to these action types, I have included one Smith does not, that is, the distinction between a new, different action and simply doing more or less of the same action. These linguistic comparatives I call quantity modifiers (QMs) to avoid confusing the reader with regard to what is being compared. Many projects are not about moving from one state to another unrelated state, but rather about modifying the intensity or quantity of the current action or state. For instance "eat more healthy food", "worry less", "study harder", etc., all of which imply a change of desired state through increasing or decreasing the current action rather than changing the nature of the action. It would seem logical to hypothesize that individuals listing primarily 'doing more' projects are generally happy with the nature of their actions, but are focussing on modifying the intensity, which is arguably a less dramatic shift or discrepancy from the

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desired end state.

Initial analyses were conducted at the project level to ascertain whether there are any cross-individual consistencies in association between action phrasing and appraisal, particularly in the context of well-being (operationalized here as project *enjoyment* and project *stress*). In all 2503 projects were coded by the principal researcher across the above-mentioned categories and summarized below: (the coder was blind to the appraisal dimension ratings):

action character:	<i>state, accomplishment, achievement or activity</i> (for coding parameters, see Appendix C);
habitual vs. non habitual action:	whether the action implied repetition over an unspecified period;
QM action:	projects phased as doing more or less of an action;
explicitly conative action:	whether “try to” or “attempt to” was included in the project construal;
ingressive/terminal action:	whether the action phrasing included “starting” or “finishing”;
avoidance vs. approach action:	whether the explicitly stated end state was positive or negatively phrased;
maintenance projects:	whether the phrasing included “keep on”, “maintain”, “continue to”, etc.; and,

All projects in the database were compared to the original project elicitation to ensure that the subject’s phrasing had not been modified either in transferring the project from the elicitation module to the matrix or in entering the project into the database¹⁷. The original (elicitation) phrasing was taken as that most reflective of the idiosyncratic construal of the project, since there are virtually no constraints on the length of project phrasing, as there are in the latter two instances.

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A second coder was given a brief overview of the coding system and asked to code a random sample of 244 projects. Initial inter-rater reliability was an acceptable 85.7% in the case of action character coding; however this rose to 94.3% once a small number of specific technical and systematic miscodings were identified and appropriate coding determined (for a detailed review of the nature of differences in coding or miscodings, see Appendix E). The largely parallel ratings show that with a minimal amount of explanation regarding the parameters of the classification and with rigorous application of Smith's (1997) cue phrases, very high levels of agreement in action character coding are easily achievable. Unlike project category coding, which is much more subjective, the syntactically and grammatically encoded semantic base of this categorization leaves little to interpretation.

Inter-rater reliability on the remaining categories was over 90% in all cases, sometimes reaching 100%. The high level of coding reliability is not surprising given the very clear linguistic guidelines established (e.g. to be classed as inchoative, the phrase must include "start", "begin", "take up", etc.). In cases where there were systematic differences, the different interpretations were discussed and agreement reached. The entire database was then corrected (since most verbal phrases appear repeatedly). For details, see Appendix E. Project category coding had been completed by at least two coders for the original datasets. No modifications to this standard coding were introduced in this study.

Affective project appraisal data (project enjoyment, stress) were converted to z scores for each individual in what Palys and Little (1983) call a "zipsative" analysis. In the

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current study it was deemed more important to compare affective project ratings to individual level norms than to a single norm for the entire sample (see Omodei & Wearing, 1990, for an example of the procedure). In short we are more interested whether activity projects, for instance, are associated with greater relative enjoyment for the individual than greater absolute enjoyment across subjects. At a theoretical level, zipsatization reflects an increased sensitivity to the unique nature of each individual's construing, a stance congruent with the thrust of this dissertation and research in the Social Ecology Laboratory (Kelly, 1955; Little, 2000b). For the cognitive dimensional analysis, dimensions were not zipsatized, given the underlying assumption that appraisal of success, difficulty etc. is much more heavily influenced by common norms, particularly within a common context (university) and with peers (students).

An examination of multivariate indicators of dispersion revealed no influential points (Cook's distances < 1); standardized residuals revealed a number of outliers for most appraisal dimensions, but given the size of the database and the fact that none of the outliers were extreme nor influential, they were retained in the analysis. Projects which emerged consistently as outliers across several appraisal dimensions were examined and three were removed given that they appeared unrepresentative¹⁸. Five data points were found to have Mahalanobis distance values over 28 (recommended as the maximum value for five predictors and $n = 500$, Stevens, 1996). Given the much larger size of this data base, and the fact that the projects in question seemed to be valid projects and were rated logically¹⁹ (unlike the three outliers above), cases were not deleted from the analysis.

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Statistical analyses were primarily conducted using univariate and multivariate techniques and are described in the appropriate results sections²⁰.

Results

Well Being Project-level Outcome variables: Stress and Enjoyment

By Action Character

Since the primary focus of this dissertation is personal action and its relationship to well-being, analyses focused on the two standard appraisal dimensions that have frequently been used to reflect positive and negative affective responses to project pursuit, enjoyment and stress (Little, 1983, 1988). In concert with many previous project studies and the current prevalent view of positive and negative affect as orthogonal (Diener et al., 1999), these two dimensions were negatively and significantly correlated, but not at such a level as to suggest clear bipolarity ($r = -.29$, $p < .001$).²¹ Not all enjoyable projects are devoid of stress and not all stressful projects are necessarily unenjoyable.²²

Data exploration by action character group used the SPSS examine procedure and focused on skewness coefficients and normality plots, revealing that the stress dimension was univariately normal (all groups $S_z < 3$); however, two of the four enjoyment groups were somewhat negatively skewed (enjoyment x activity and accomplishment ($S_z = 5.9$ and 4.2 respectively). Neither deviation appeared extreme and given findings that the probability of type 1 error in MANOVA is robust to non-normality, no transformations were made (Stevens, 1996). No specific tests for multivariate normality were undertaken

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based on the contention that "...for most practical work, one-dimensional and two-dimensional investigations are ordinarily sufficient." (Johnson & Wichern, 1992, p. 153). Homogeneity of the covariance matrices was not tenable (Box's $M = 2.27$, $p < .015^{23}$) and given the large inequality in group size (see table 2.2), due primarily to the small number of state projects, this was considered serious. However, an examination of the standard deviations for the four groups for both stress and enjoyment revealed that the greatest variability was to be found in the largest groups, while the least variability was associated with the smallest (state) group. Since larger generalized variance, when associated with larger group size leads to a more conservative test, the lack of homoscedasticity was unlikely to increase the chances of Type I error in this dataset.

Table 2.2

Frequency of Action Characterizations in Personal Projects

Action Character	Frequency	Percentage
state	78	3.1
activity	1010	40.4
accomplishment	591	23.6
achievement	821	32.8
Total	2500	100 ^a
a (with rounding error)		

Overall, the projects of these 226 individuals were fairly evenly divided between telic (56.48 %) and non-telic (43.52%) suggesting there is no predominant mode of construal. Alternatively, from a durative standpoint, only 32.84 % of the projects did not

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involve the construal of duration as integral to the action (= achievement action character), while 67.16 % involved some extension over time.

In a four-group MANOVA design, mean levels of standardized scores for stress and enjoyment were compared for approach projects only. The reader will recall that based on control theory the effects of action character were hypothesized to vary as a function of approach - avoidance action type. In this data set 3.7% of projects were coded as clear-cut avoidance and an additional 3.4% as pseudo-avoidant, based on the rationale that projects phrased as “doing less of” imply a negatively valenced reference point which is being avoided. In total 168 avoidance projects were deleted from the analysis. A factorial design including avoidance was not possible given the small number of avoidance projects, particularly in some groups. For instance there were only 6 out of 2500 projects that were state-avoidant and only 25 accomplishment-avoidant. A separate analysis incorporating additional data from SEABANK was conducted for avoidance projects (see below).

Action character grouping was multivariately significant ($F = 7.03, p < .001$), as were the post hoc discriminant stepwise F values for both stress ($F = 13.21, p < .001$) and enjoyment ($F = 8.12, p < .001$), indicating that levels of stress and enjoyment do seem to vary as a function of action character phrasing. Pairwise action character group comparisons were then conducted for both Z_{stress} and $Z_{\text{enjoyment}}$, maintaining a family wise error rate of .10 using a Bonferroni correction ($.10/12 = .008$). Personal projects phrased as activities ($M = .11$ $SD = .93$) were, on average, found to be significantly more

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enjoyable than either achievements ($M = -.05$ $SD = .97$, $p < .001$) or accomplishments ($M = -.01$ $SD = .96$, $p < .006$). No significant differences emerged for projects phrased as states, nor between achievement and accomplishment action. (See Figure 2.1 for a comparison of mean levels of Zenjoyment.)

Figure 2.1

Personal projects perceived as stressful were significantly more likely to be phrased as achievements, indeed achievement projects ($M = .18$ $SD = .92$) were more stressful than each of the other three action characters, states ($M = -.17$ $SD = .83$, $p < .005$), activities ($M = -.12$ $SD = .95$, $p < .001$) and accomplishments ($M = -.03$ $SD = .96$, $p < .001$). There

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were no significant differences among the remaining action character groups (See Figure 2.2 for a comparison of mean levels of stress.). Thus both positive and negative project-level outcome variables show a similar pattern, with projects phrased as achievements (non-durative projects) significantly more likely to be lower in enjoyment and higher in stress and projects phrased as activities (non-telic) as more enjoyable and less stressful. Accomplishment projects, which have both a durative and a telic component appear to fall somewhere midway.

Figure 2.2

With regard to the second hypothesis related to avoidance x action character

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interaction, the very small number of avoidance projects, particularly in certain groups made a meaningful statistical comparison in this sample impossible. At a practical level, it might be argued that avoidance projects have been shown so clearly to have a negative impact on the individual that further differentiation in the context of well-being is unnecessary. However, at theoretical level, it is important to discern whether the patterns that emerged in approach projects (+duration and - telicity relating to higher well being) are reversed as control theory would suggest. To allow for a test of this hypothesis, three additional datasets were drawn from SEABANK: (Chambers, Richardson, Hunt, Smallian & Little, 1998, n = 79; Blake & Little, 1994, n = 76; Chambers, Quesnel & Little, 1997, n = 106). From each, projects of non-native English speakers were deleted²⁴ and then the small number of avoidance projects selected. Avoidance projects were defined as above, that is as action designed to avoid entirely or to reduce the amount of an undesired end-state, e.g.,: “quit smoking” and “smoke less.” Projects for which an enjoyment or a stress rating was missing were also deleted from the analysis.

In all, from the six data sets (total project n = 5061), 272 (or 5.4%) avoidance projects were available for analysis. Those from the new data sets were coded for action character in exactly the same manner as the projects in the main sample (The coder was blind to ratings of enjoyment and stress). Given that control theory suggests that avoidance projects with a specific end-point (accomplishment, achievement) would be less negatively valenced than projects with an ongoing negative reference point without any clearly specified end (state, activity), the four action character groups were dichotomized

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into telic (accomplishment or achievement) and non-telic (activity or state) and mean enjoyment and stress (zscores) compared²⁵.

As in the approach dataset, ipsatized stress and enjoyment ratings were multivariately significant ($F_{(2,267)} = 4.98, p < .008$) and both stress and enjoyment differed between groups, although in the latter case the difference was only marginally significant. Surprisingly, however, the differences were not in the direction anticipated, with non-telic (activity) projects emerging as more enjoyable ($F = 3.57, p < .05$) and less stressful ($F = 5.33, p < .01$) even in the context of avoidance projects. Table 2.3 provides the means and standard deviations.

Table 2.3

Mean Enjoyment and Stress (Descriptive Statistics)

(Mean levels of)	Non-telic		Telic	
	M	SD	M	SD
Z-enjoyment	-.41	.75	-.64	.96
Z-stress	.18	.85	.46	.84

Habitual vs. Non-habitual action: Repeated, iterative vs one-time action

Since habitual action is frequently expressed as an activity or a state, given the inherent duration in any repeated action, one would expect habitual action to be more enjoyable and less stressful than one-time non-habitual action. Again it is important to remember that the appraisals being compared are those made while the project is underway (actively or conceptually) so that this does not necessary run counter to

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Murray's (1952) contention that the satisfaction of focal needs is more enjoyable than that of diffuse (habitual) needs. He was comparing completed action to iterative actions. T-tests were conducted on the original data set for both enjoyment and stress to compare the two types of action. 1807 projects were coded as non-habitual and 653 habitual.

Comparing mean enjoyment between the two groups (which were found to have equal variances (Levene's $F = .775$, ns), projects that were classified as habitual were indeed significantly more enjoyable ($M = .10$ $SD = .94$ [habitual] vs. $M = -.03$ $SD = .96$ [non-habitual], $t_{(2458)} = -3.29$, $p < .001$). Similarly, mean stress was found to be significantly higher for non-habitual projects ($M = -.26$ $SD = .90$ [habitual] vs. $M = .10$ $SD = .95$ [non-habitual], $t_{(1210)} = 8.38$, $p < .001$). Equal variances could not be assumed for stress. These findings were for both approach and avoidance projects combined, given the consistency of the action-character valence relationship found above. Only 20 of the 653 habitual projects were coded as avoidance.

Quantity-Modification (QM) action: Doing more or less

We have hypothesized that doing more of the same project should be generally more enjoyable and less stressful than projects which involve an absolute change of state (vs. a relative change). Likewise, doing less of a project will be less enjoyable and more stressful, given the avoidance nature of the project. In the current dataset, 85 projects were coded as 'doing less of x', 448 as "doing more of x" and 1967 were non-QM.

Results were in the expected direction, with mean stress lower for non-QM projects ($M =$

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.06 **SD** = .95) in comparison with “doing less” projects (**M** = .33 **SD** = .9; $t_{(2003)} = 2.56$, $p < .01$) and mean enjoyment higher for non-QM projects (**M** = .02 **SD** = .96) in comparison with “doing less” projects (**M** = -.49 **SD** = .86; $t_{(91)} = -4.877$, $p < .001$). Equal variances were not assumed for enjoyment. On the other hand, mean enjoyment was higher for “doing more” projects (**M** = .18 **SD** = .86) in comparison with non-QM projects (**M** = .02 **SD** = .96; $t_{(714)} = 4.217$, $p < .001$) and congruently, mean stress was found to be lower for “doing more” projects (**M** = -.31 **SD** = .89) in comparison with non-QM projects (**M** = .06 **SD** = .95; $t_{(691)} = -7.84$, $p < .001$). Equal variances could not be assumed in either case. In short, it appears less stressful and more enjoyable to do more of something you are already doing than to undertake a completely different activity, while trying to do less of something is in fact less enjoyable and more stressful than refocusing on new action.

Table 2.4 summarizes these findings.

Table 2.4

Mean Enjoyment and Stress for ‘Quantity-Modification’
Projects and ‘Non-QM’ Projects

	Enjoyment (mean zscore)	Stress (mean zscore)
Doing More	.18 ^b	-.31 ^c
Doing Less	-.49 ^d	.33 ^a
Non-QM	.02 ^{bd}	.06 ^{ac}

a,b,c,d comparisons all $p < .001$

Explicitly Conative Projects: Trying to act

While Little (1999) situates personal projects and other PAC units within a larger

conative psychology, we may distinguish *explicitly* conative action as action which is phrased in such a way so as to highlight the striving inherent in the process. Phrases such as “trying to”, “attempt to” or “strive to” all serve to make explicit the conative nature of the project. The reader will recall that personal strivings were distinguished from projects in terms of their elicitation as higher-order actions that were explicitly conative, that is, the elicitation focuses on what one is typically *trying to* do (Emmons, 1986; 1999). In providing their personal projects, some respondents chose to qualify some of their projects in this manner. Folk wisdom would suggest that if one wishes to do something, one should “just do it” rather than “try to do it”. The emphasis on the attempt may often imply greater doubt in the speaker with regard to its likely success. Hence we would expect that explicitly conative projects will be more stressful, less enjoyable and less likely to succeed (project outcome) than projects in which the striving is not encoded so openly in the phrasing.

In the current dataset, only 93 projects were explicitly conative. These were compared to 100 randomly selected non-explicitly conative projects. Comparison between the explicitly conative and non-explicitly conative projects was not significant for stress ($t_{(191)} = -1.35$, ns), but explicitly conative projects ($M = -.27$ $SD = .98$) were significantly less enjoyable than non-conatively worded projects ($M = .10$ $SD = .88$; $t_{(191)} = 2.83$, $p < .005$). In short, it seems it may not be more stressful to try to act rather than just act, but it is less enjoyable. Perhaps the non significant effects for stress result from the influence of action character. Linguistically, “trying” to do x transforms the action character of the

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verbal phrase into an activity, which we have seen is associated with greater enjoyment and lower stress. So that “get my Ph.D”. (an achievement) becomes “try to get my Ph.D”. (an activity). This rephrasing may represent the reconstrual of a project less certain of succeeding along more durative, non-telic lines to off-set anxiety surrounding the original telicity. If so, these results suggest the ploy is effective in reducing associated stress, but takes its toll by limiting also the enjoyment. A trend towards the expected lower likelihood of success was evident, in that “try to” projects ($M = -.29$ $SD = 1.04$) were perceived as marginally less likely to succeed than projects without the explicit conative modal verb ($M = .02$ $SD = 1.04$; $t_{(191)} = 1.81$, $p < .10$).

Inchoative/Ingressive Projects: Starting My project

Just as the addition of “try to” fixes the action character as a process, so “start to” suggests a reconstrual of the action as an achievement, although not an achievement of the principal action, but of the initial action phase. In a sense, the project “start eating healthier” will be deemed successful if I just pass by the Häagen Dazs counter at the grocery store, whereas “eat healthier” implies a longer, more ongoing commitment. Such phrasing suggests a chunking of action into more doable portions (Cox & Klinger, 1993; Little, 1987a). If I cannot “lose 40 lbs” maybe at least I can “start to lose 40 lbs”. The achievement action character of the “start to” phrase implies a more negatively valenced construal of a project (turning it into an all or nothing telic project), yet the smaller chunk of action that is the focus of the phrasing may make the project seem more likely to

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succeed (Little, 1989). Alternatively the fact that an individual feels it necessary to chunk a larger action into a more manageable unit may suggest that project as a whole is somewhat overwhelming, so that focussing on a lower level of action may reduce anxiety. (Vallecher & Wegner, 1987). Thus we are left with two contrasting hypotheses: “starting to” may reduce anxiety by reconceptualizing the overall action at a more manageable level and thereby increasing perceptions of potential success, *but* the very fact that the original project required “chunking” suggests it may be anxiety-provoking to start with and hence more negatively valenced. Only the second hypothesis can be tested in this study, since the first would require within-individual contrasts that compare the same project for the same individual phrased in two different ways.

In this dataset we found only 3% of projects were inceptive. Comparisons of inceptive and non-inceptive projects (excluding terminal projects) for stress, enjoyment and outcome (likelihood of success) were all non significant, with no trends or even marginal significance. Perhaps both hypotheses are correct and thus cancel each other out: more negatively construed projects can be reconceptualized as “start to” projects which attenuates the negative affect, but not sufficiently to make them more positive than the project baseline.

Terminal/Egressive Projects: Finishing my Project

Generally one might assume that finishing (accomplishment) or completing (achievement) a project will be associated with greater enjoyment and lower stress given the “light-at-the-end-of-the-tunnel effect”. However, the underlying negative valence

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associated with telicity (reaching an end-point) and the inherent uncertainty that completion of any project brings, over the longer term suggests that completion projects will be associated with higher stress and lower enjoyment. Remembering that the moment of construal/appraisal is *prior to* completion, the tension associated with an uncompleted task (Zeigarnik, 1927) may also be more evident.

Indeed in comparing the 175 terminal projects in this dataset with a random sample of non-terminal projects (excluding inceptive projects examined above) terminal projects ($M = .29$ $SD = .96$) were significantly higher in stress than non-terminal projects ($M = -.02$ $SD = .95$; $t_{(191)} = 4.15$, $p < .001$) while non-terminal projects ($M = .03$ $SD = .94$) were higher in enjoyment than terminal projects ($M = -.33$ $SD = 1.03$; $t_{(191)} = 4.12$, $p < .001$). Equal variances could not be assumed in the last comparison. Thus there is a consistent pattern emerging that telicity, whether grammatically (achievement action character) or lexically (finish, complete) implies lower project enjoyment and higher stress, albeit in a modest fashion. The fact that no differences emerged for “starting”, but do for “finishing” suggests that it is the telic nature rather than a simple change of state that is central.

Maintenance Projects

The last category of action phrasing examined in this study involves “maintenance projects”, that is, projects that focus on the continuation of action without any reference to an increase or decrease (keep doing vs. do more or do less). Assuming that projects that individuals wish to continue are ones that are already either enjoyable or meaningful, we would anticipate that maintenance projects are associated with higher well being

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(lower stress, higher enjoyment) than non maintenance projects (the remainder). In all 3.9% of projects were “keep on” or “continue” projects and the results were in the direction predicted, but there was not sufficient power to detect significant differences. For more finely grained phrasing distinctions, it would seem that a more specifically tailored selection of projects of interest from SEABANK is required in that the overall percentage of particularly phrased projects may be too small to simply draw a random sample as was done in this case.

Standard Project Appraisal Dimensions and Action Character

In addition to the standard affective project appraisal dimensions, enjoyment and stress, several other standard cognitive dimensions were available for analysis; however not all dimensions were used in all three contributing data sets, hence the overall size of the sample of projects varies depending on the dimension. Our interest in examining the cognitive dimensions here is: a) to see whether they shed any light on why there are consistent (albeit small) differences in valence associated with telicity; and, b) to investigate whether there are any alternative explanations for these findings, for example, is it because telic projects are perceived as less controllable or less likely to succeed?

Although the Personal Project dimensions in this dataset cover a wide range of appraisals from self identity and value congruence (meaning) to support and visibility (community), there is no theoretical reason to expect anything but the efficacy and structure dimensions to interact meaningfully with action character. To ascertain whether

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this dataset corresponds to the theoretical factorial structure set out in Personal Projects theorizing (Little, 1983; 1988; 1989) and is thus reflective of normative personal projects data sets, as well as to clarify which dimensions form the efficacy factor in this data set, a principal components analysis with Varimax rotation was used to reduce the 13 common dimensions across the datasets -- support, visibility, others' view, commitment, absorption, importance, self identity, value congruency; competence, control, initiation, outcome; and project challenge and project difficulty²⁶ -- to four underlying factors.

The four resultant factors show a remarkable isomorphism with four of the five theoretical factors that are the focus of project theorizing: meaning, efficacy, support and structure (Little, 1987, 1988, 1999). The exclusion of the affective dimensions, specifically stress, resulted in the other dimensions traditionally associated with the stress factor dimensions (challenge and difficulty) loading negatively on the efficacy factor (see Table 2.5). Those dimensions loading on factor 2 (efficacy), factor 4 (structure), "progress", a standard efficacy dimension excluded from the factor analysis because it was only available in two of the three datasets, and "stage" a recent *ad hoc* dimension were analyzed in the context of action character differences:

Table 2.5

Cognitive Factor Structure: Ipsatized Project Dimension Ratings

Factor~ Dimension	Factor 1 (Meaning)	Factor 2 (Efficacy)	Factor 3 (Community)	Factor 4 (Structure)
absorption	0.60			

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Factor~ Dimension	Factor 1 (Meaning)	Factor 2 (Efficacy)	Factor 3 (Community)	Factor 4 (Structure)
challenge		-0.73		
commitment	0.72			
competence		0.61		
control				0.64
difficulty		-0.83		
importance	0.58			
initiation				0.72
others' view			0.66	
outcome		0.59		
self identity	0.68			
support			0.70	
value congruency	0.75			
visibility			0.67	

Progress

Progress (“to what extent have you been successful in your project so far?”) has been a somewhat problematic dimension in PPA given that it has not always predicted well-being to the extent one would expect based on control theory (Wilson, 1990; Dowden et al., 2000). It is possible this is because of a confound introduced by action character, either it may be difficult to rate a non-telic project in terms of progress; or there may be a dual interpretation of “progress”. Respondents may be rating where they are with reference to where they eventually hope to be (in telic projects) rather than in

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reference to where they expected to be by this stage of the project.²⁷ A one-way ANOVA on mean progress scores by action character group revealed that there were significant differences among the groups ($F_{(3,1269)} = 11.347, p < .001$) although not along telic-non telic lines. Figure 2.4 reflects that achievement projects (**M** 4.34 **SD** 3.32) differ significantly from state (**M** = 5.67 **SD** = 2.64), activity (**M** = 5.58 **SD** = 2.92) and accomplishment (**M** = 5.57 **SD** = 3.07) action character groups ($p < .001$). There were no significant differences among the other three groups.

Figure 2.3

Differences in perceived progress as a function of action character

This suggests that individuals do not have difficulty rating non-telic projects on progress as thought, that is, it appears they are able to interpret the idea of “success to

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date” to mean how successful they have been in maintaining the activity (go to the gym 3 every three weeks; phone home more, etc.) rather than the more literal progression towards a clearly demarcated end state. On the other hand the lack of duration characteristic of achievement projects *does* suggest that progress may be more difficult to appraise or perceive within this action character grouping. One may know one is making progress in “working toward my Ph.D”, but progress may be less obvious in the black and white “graduate with my Ph.D.”

To test whether the lower enjoyment associated with achievement projects is associated also with lower progress, Zenjoyment was regressed on activity, accomplishment and achievement projects separately (state projects were too few to allow for a meaningful result). Correcting to maintain a familywise error rate of .05, progress was found to significantly predict overall project enjoyment for activity and accomplishment projects ($r = .24$ and $.17$, $p < .001$) but not for achievement projects ($r = .12$, ns). This would suggest that progress may not be as relevant for projects which are phrased (and construed) as non-durative events. Progress did not predict project stress for any of the action character groupings.

Outcome

Since outcome is consistently found to be the project dimension most predictive of overall well-being (except stress itself) (Wilson, 1990; Dowden et al., 2000), we would expect it to vary by action character grouping given its inherent telic connotation. The prompt “To what extent do you believe this project will be successful” again implies a

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particular point at which success may be judged, something not relevant to atelic projects. As we saw with progress, however, individuals appeared to reconceptualize the question to fit the character of the action, so respondents may interpret successful outcome in activity pursuit as successful continued future engagement. If the latter conclusion is correct, that judgements of progress in activity are related primarily to the ability to maintain an action, it might be logical to expect that outcome ratings for activities would be higher, given that the activity is already in progress and therefore, de facto, successful. In the case of single activities (try to study harder) only maintenance of the activity is required for success, while in the case of accomplishments (finish my English essay) or achievements (get an A on it) some previously unattained state must be reached, giving rise to greater uncertainty.

However in a one-way ANOVA comparing mean levels of outcome across action character groupings we find activities ($M = 7.07$ $SD = 2.4$) to be significantly less likely to succeed than either achievements ($M = 7.43$ $SD = 2.44$, $p < .02$) or accomplishments ($M = 7.6$ $SD = 2.3$, $p < .001$) (see Figure 2.5). Perhaps then this reflects an inherent sense that “outcome” *per se* is not as relevant to atelic projects²⁸. To test this, both Zenjoyment and Zstress were regressed separately on outcome for the three main action character groupings. Since activities in general show lower mean levels of outcome, similar or higher prediction of project enjoyment in the activity project grouping would suggest that absolute levels of outcome may be less central to atelic project enjoyment. In other words, a 6 or 7 (meaning generally likely to succeed) for an activity project may predict overall

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project enjoyment as much as 8 or 9 for an achievement or accomplishment project. In short, muddling along on activities is equally enjoyable as more clearly defined success on telic projects.

Indeed regression showed that outcome predicts project enjoyment in all three action character groupings (again state was not computed), but the effect size for activity projects was higher. Thus lower absolute levels of perceived success do not seem to dampen project enjoyment for activities. Results were similar for stress, although of a lower magnitude (see Table 2.6). Although not included in the comparison, it is worth noting that the mean level of outcome for state action character was very high in comparison to activities, which seems odd in that both are atelic and durative. We might speculate as suggested in the introduction that states (static) are often used to represent action outcomes (dynamic) and hence the very phrasing of the action as an outcome may imply a high expectation of success.

Competence

A more recent addition to the efficacy dimensions (MacDiarmid, 1990), competence taps more directly the concept of self-efficacy (Bandura, 1997) by eliciting ratings of how competent the respondent feels in carrying out the project. There are no clear links to the structure of the action as in progress or outcome, although one might expect higher ratings of competence for those actions the individual is already successfully doing (activities) as opposed to those associated with greater uncertainty (accomplishments, achievements). A one-way ANOVA showed no mean differences

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across action character groupings, however ($F_{(3, 1849)} = 1.29$, ns), suggesting competency

Table 2.6

Predicting Project Enjoyment and Stress from likelihood of success (outcome)

Action Character	Outcome Variable	F	Sig.	adjusted R^2
Activity	Zenjoyment	59.71	$p < .001$	0.06
	Zstress	10.4	$p < .001$	0.01
Achievement	Zenjoyment	32.05	$p < .001$	0.05
	Zstress	3.58	ns	
Accomplishment	Zenjoyment	31.5	$p < .001$	0.04
	Zstress	7.46	$p < .01$	0.01

Figure 2.4

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does not vary as a function of the character of the action being rated. Perhaps in making the rating, the individual takes into account unwittingly the inherent character of the action and thus adjusts the absolute levels of competency accordingly (i.e., compares competence in one activity to other activities, in one achievement to other achievements)

Control

While loading on a structure factor in the traditional five-factor model of PPA, control is often associated with efficacy in factorial models based on different dimensional combinations, in which frequently an efficacy/structure factor emerges. Control has been shown in PPA to predict well-being (Little, 1988; Wilson, 1990; Dowden et al., 2000) and is associated with a broad theoretical literature relating a lack of control to stress (Seligman, 1975; Skinner, 1996). If control varies by action character, and it may not, given that ratings of control may be more like competence and thus be adjusted by the respondent to take into account action character, one would expect that achievements would be viewed as least controllable, given that success or failure resides in a single non-durative moment. At least in the case of accomplishments some sense of control may emerge from the pursuit of the activity leading up to the telic end (lose 10 lbs vs. get back to my ideal weight of 150lbs). A one-way ANOVA suggests that action character is relevant to the perception of control ($F_{(3, 2491)} = 7.60, p < .001$), with achievements ($M = 6.99$ $SD = 2.8$) perceived as less controlled than accomplishments ($M = 7.63$ $SD = 2.4, p < .001$). No significant differences with activity ($M = 7.33$ $SD = 2.5$) or state ($M = 7.64$ $SD = 2.51$) projects emerged; however, state projects were clearly equally different, but

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the lack of significance was due to insufficient power given their small number (see Figure 2.5).

Figure 2.5

Project control stresses personal control of a project, which may be enhanced by the combination of both a clearly demarcated end point and an ongoing process (= accomplishment). Activities may be linked more appropriately to a sense of the project being under control in a less personal sense (Antonovsky, 1983). The relationship between well-being and various conceptualizations of control is singularly complex so this dissertation will go no further than to show that action character is associated with perceived control, suggesting further study with additional differentiated control measures

appears warranted.

Initiation/Responsibility

Initiation asks “to what extent were you responsible for the initiation of the project?”, while responsibility asks “to what extent are you responsible for the project?”. Since these dimensions were used exclusively in different datasets, they have been combined here to test whether a general sense of responsibility, often associated with the project structure factor, varies as a function of action character. In a one way ANOVA, initiation/responsibility was found not to vary significantly by action character ($F_{(2, 1818)} < 1$).

Stage

Another newer addition to the dimension matrix (Goodine et al., 1992), stage, is perhaps the most pertinent dimension to telic action character in that it asks respondents to rate at what stage they consider their project has reached, based on the four theoretical stages of project pursuit developed by Little (1983): inception, planning, action and termination. Like outcome and progress, stage would seem to be more relevant to telic projects in that the underlying linear theoretical model suggests moving forward from conceptualization through completion. Previous research with project stage and well being has shown a consistent positive relationship: the further along in your project the better off you feel (Goodine, 1999). Distinguishing action character along telic (achievement/accomplishment) and non-telic (activity/state) lines, we would expect the findings to hold in the former case, but not in the latter, where the enjoyment emerges as a function of

engagement not discrepancy from an end state.

To better reflect the theoretical underpinnings of the stage dimension, the eleven point scale was converted into four groups (0-2: inception; 3-5 planning; 6-8 action and 9-10 termination). Two 4 (stage) x 2 (action character group) ANOVAs on Zenjoyment and Zstress ratings did indeed show that both the stages and the action character groups for both outcome variables, *as well as their interaction* for enjoyment were significant (see Table 2.7); however the interaction was not in the direction expected (see Figure 2.6).

As Figure 2.6 suggests, interaction comparisons for stage x action character (Zenjoyment) were significant only for stage 3 ($F_{(1,970)} = 12.26, p < .001$) and stage 4 ($F_{(1,117)} = 6.70, p < .02$), so that activity projects in their later stages are significantly more enjoyable than telic action. Contrary to our hypothesis, then, respondents seem to be able to distinguish stages in activities and indeed the action and termination phases are more enjoyable. Since activities are inherently about action, that is, the enjoyment is derived from engaging in action, we might speculate that the inception and planning phases are similar for both action character groups because they precede the beginning of action, while the termination phase for the latter essentially means the activity has been going on for a long time and may end at any point (*de facto* “successfully” since the action constitutes the success). A brief look at the frequencies of the various stages for telic vs. non-telic projects gives some evidence for this interpretation (see table 2.8). Many more telic projects are to be found in all stages except the third (action) where the frequencies are about equal. Finally, in the case of telic activity lower enjoyment is again associated

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with ending or finishing projects, something counterintuitive as mentioned above and taken up in the discussion.

Table 2.7
Means and Standard Deviations for Stage x Action Character
(Zenjoyment, Zstress) with significant simple effects

	Enjoyment			
	Telic (Acc/Ach)		Non-Telic (Act/State)	
Stage	M	SD	M	SD
1	-0.2	0.05	-.09 ^c	0.07
2	-0.04	0.04	-.02 ^b	0.05
3	-0.01	0.04	.21 ^{cb}	0.04
4	-0.1	0.11	0.37	0.15
	Stress			
	M	SD	M	SD
1	-0.08	0.05	-.14 ^a	0.07
2	-0.06	0.04	-0.1	0.05
3	-0.09	0.04	.20 ^a	0.04
4	-0.08	0.15	0.06	0.11

a $p < .05$; **b** $p < .01$; **c** $p < .001$

Table 2.8
Number of Telic and Atelic Projects by Project Stage

	Inception (1)	Planning (2)	Action (3)	Termination (4)
Atelic Action (Act/State)	186	337	499	41
Telic Action (Acc/Ach)	319	504	490	79

Figure 2.6

In the case of stress, again it was the third stage (action) that differed significantly (see Table 2.7) although Figure 2.7 would suggest that there is not the sharp bifurcation at the end of the preactional phase as was evident for enjoyment.

Figure 2.7

Domain by Action Character Interaction

We have established that, on average, non-telic projects are modestly more enjoyable and less stressful than telic projects both in avoidance and approach construals and across project stages, but does this hold also across contexts? Previous research has shown projects in different life domains do differ significantly in valence, with academic and intrapersonal projects generally perceived more negatively (Salmela-Aro & Nurmi, 1992; Little, 1998) and leisure projects viewed more positively (Chambers & Little, in

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preparation). A chi square test on the full sample showed that the action character and project categories are not independent, as might be expected ($\chi^2_{(10)} = 92.07, p < .001$). Noteworthy particularly was the high percentage of observed vs. expected achievement action character projects in the academic domain (33% of all achievement projects were in this single domain) and the high number of activity action character projects in the interpersonal domain (32.2% of all activity projects were interpersonal). Clearly this raises the question as to whether the differences in valence associated with action character are purely a function of differences in domain, to wit: are achievement projects overall more stressful and less enjoyable because they are frequently academic? Should this be the case, the relationship between valence and action character might be seen as more task-generated than individual-generated.

To see whether action character accounts for variability over and above that associated with project domain, a three (activity vs. accomplishment vs. achievement) by six (project category) factorial analysis of variance was conducted for both Zstress and Zenjoyment. The action character state was sufficiently infrequent to warrant exclusion as was project category 7 (misc.), leaving a total sample of 2404 projects. By far the most common projects were academic ($n = 641$) which one might expect in a student sample. Frequencies are given in column two of Table 2.9.

Given the lack of homogeneity of variance across groups, increases in Type I error were feared as a result of the largely unequal group sizes and thus all groups were reduced to more comparable sizes using the random select function on SPSS (column 3, Table

2.9). In the context of the action character groups, the smaller standard deviation associated with the smaller group size provides a more conservative test, so no adjustment was deemed necessary (see earlier analyses).

Table 2.9

Number of Projects in Each Domain

Project Category	Number of Projects (full)	Number of projects ($\approx$ even groups)
academic/ occupational	641	300
health/body	298	298
interpersonal	486	300
intrapersonal	261	261
leisure	354	300
maintenance	367	300

For both enjoyment and stress, main effects and the interaction were significant, indicating that affective valence associated with action character is not explained by the valence of the project domain, as predicted, but also that the relationship is not uniform. Table 2.10 provides the F values and significance levels for both the main effects and the interactions.

Figure 2.8

Table 2.10
Enjoyment and Stress by Project Category
and Action Character (2-way ANOVA)

Valenced Dimension	Effect	F	significance
Enjoyment	Project Cat.	41.26	$p < .001$
	Action Cat.	4.29	$p < .02$
	Interaction	2.28	$p < .005$

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Valenced Dimension	Effect	F	significance
Stress	Project Cat.	48.82	p < .001
	Action Cat.	3.93	p < .02
	Interaction	3.60	p < .001

Table 2.11
Project Enjoyment: Significant Differences across Domains

Domain	F-value	Significance
academic	2.64	p < .10
health	4.88	p < .01
interpersonal	5.03	p < .01
intrapersonal	3.78	p < .05
leisure	1.61	ns
maintenance	0.40	ns

An examination of the marginal mean plots for enjoyment (see Figure 2.8) shows a consistent pattern, with activity projects regularly more enjoyable or at least as enjoyable as achievement projects *except* in the first category, academic projects. Simple effect comparisons were significant for three of the six project categories: health/body, inter- and intrapersonal projects (see Table 2.11) and were approaching significance for academic projects, but no differences were found among leisure or maintenance projects. Marginal Means are provided in Table 2.12.

Interaction comparisons showed that achievement health/body projects were significantly less enjoyable than either activity or accomplishment health/body projects

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($p < .05$), while achievement interpersonal projects were significantly less enjoyable than activity interpersonal projects ($p < .005$). Similarly achievement intrapersonal projects were less enjoyable than activity intrapersonal projects ($p < .05$), findings consistent with those earlier that (durative) activities tend to be more enjoyable than (non-durative) achievements.

Table 2.12

Marginal Means of Enjoyment: Domain by Action Character Grouping

	Activity		Achievement		Accomplishment	
	M	SD	M	SD	M	SD
Academic	-.40	.83	-.09	.90	-.19	.92
Health	-.03	.90	-.40	1.00	.08	.95
Interpersonal	.51	.84	.10	.99	.29	.89
Intrapersonal	-.16	.86	-.51	.90	-.15	.99
Leisure	.59	.69	.57	.67	.39	.83
Maintenance	-.35	1.06	-.49	.95	-.44	.98

Academic projects deserve special note, however. While it would be easy to point to the non-significant findings suggesting that these are therefore in line with the original hypothesis, but the fact they were very close to significance ($p < .06$) but in the opposite direction to all the other groups, suggests a potentially meaningful cross-over interaction. Indeed on testing the differences in a one-way ANOVA among all academic projects (that is, not the reduced set of 300), the differences were much clearer ($F_{(2,633)} = 5.01$, $p < .01$), with activity projects emerging as significantly *less* enjoyable than both accomplishment

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and achievement academic projects ($p < .02$ in both cases). It is more enjoyable for me to “study for my psych mid term” than to ‘study harder’.

Thus it seems clear that the negative valence of achievement projects in general is NOT primarily due to the preponderance of achievement projects in the academic domain (since in this one domain achievement projects are in fact more enjoyable). In other domains activity projects were consistently more enjoyable than achievement projects, with the exception of the maintenance and leisure domains, where there was no appreciable difference. Accomplishment projects differed significantly only from achievement projects in the health/body domain, suggesting the duration component does not greatly attenuate the negative valence associated with telicity.

Table 2.10 shows a significant interaction between project domain and action character for Zstress as there was for Zenjoyment. In a simple effects analysis for Zstress, significant differences emerged in health/body; interpersonal, intrapersonal and maintenance projects (see table 2.13 and figure 2.9). As with enjoyment, the direction of the differences was as hypothesized for the first three groups, that is activity projects were seen as less stressful, indeed significantly so in all three cases ($p < .01$, see table 2.14 for marginal means); however again with Zstress we find a cross-over interaction, but in this case with maintenance projects. Maintenance projects phrased as activities were significantly *more* stressful than those phrased as achievement/ accomplishment projects. It is more stressful to “keep my room clean” than “clean up my room today”

Interaction comparisons showed that activity projects were significantly less

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stressful than achievement projects in the health/body and intrapersonal domains ($p < .01$); in the interpersonal domain because of the few achievement projects in the interpersonal category, the comparison did not reach significance, but activity projects were marginally less stressful than accomplishment projects ($p = .052$).

Table 2.13
Project Stress: Significant Differences Across Domains

Domain	F-value	Significance
academic	1.16	ns
health	5.30	$p < .01$
interpersonal	4.07	$p < .05$
intrapersonal	7.18	$p < .001$
leisure	1.16	ns
maintenance	4.56	$p < .05$

Table 2.14
Marginal Means of Stress: Domain by Action Character Grouping

	Activity		Achievement		Accomplishment	
	M	SD	M	SD	M	SD
Academic	.72	.74	.57	.75	.55	.80
Health	-.27	.84	.15	.90	-.10	1.00
Interpersonal	-.22	.86	.05	1.04	.09	.97
Intrapersonal	-.24	.98	.25	.88	.09	.94
Leisure	-.67	.80	-.45	.75	-.56	.84
Maintenance	.16	.89	-.13	.91	-.21	.89

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In the context of academic projects (which are consistently found to be more negatively valenced than most other categories; Salmela-Aro & Nurmi, 1992; 1996) the greater enjoyment attached to achievement projects (but no less stress) may reflect the tacit recognition that completion means release from obligation (even if only to make way for the next obligation). The lack of such a reversal in the context of intrapersonal projects, which are also consistently associated with negative valence is noteworthy. If achievement means moving on and finishing up unpleasant projects, why are achievement intrapersonal projects more stressful and less enjoyable than activity projects? We might

Figure 2.9

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hypothesize, based on expectancy theory, that it involves the perceived (lower) likelihood of success. Of all the project categories, intrapersonal projects are viewed as the least likely to succeed (Zoutcome: **M** = - .32 **SD** = .92), significantly less than projects in all other domains except health/body (all *post hoc* comparisons, $p < .001$, see Figure 2.10)²⁹.

Figure 2.10:

The reversed valence (high stress) of activity projects in the maintenance category may, in turn, reflect the combination of negatively-valenced low-interest projects and time constraints. Most of these projects (paint my bedroom, pay down my visa, do laundry) are all things we have to do which eat up time that we would rather spend ...on other activities. Achievement/ accomplishment in this context suggests the ability to stop doing lower-level tasks and return to higher order ones. Carver and Scheier (1990) suggest that a unique affective response occurs with “activities that people wish to have completed but

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have no desire to do [or] wish their attainment to be instantaneous. (p. 26)”, arguing that the ideal rate of progress is so high (instantaneous) in these cases that it cannot possibly be met and therefore negative affect is inevitable. Distinguishing action character would suggest that the conceptualization of such projects as ongoing, never ending is particularly problematic. We might be better off to “do this week’s laundry” (accomplishment) than “do laundry” (activity) in this one category.

Future studies will need to examine action character in relation to both project domain and stage of project together.

Discussion

Although in recent years personality psychology has focused more on individual differences than the common characteristics of humans, the latter has been a central theme in the field from its inception (Buss, 1984). Normative comparison of ipsative ratings in this chapter falls very much into the latter realm of inquiry: are there differences in the expression of human volitional action as represented linguistically, regardless of the individual and regardless of the domain of the action, that relate systematically to the affective experience associated with that action? If language is not arbitrary, and evidence from both psychology and linguistics suggests it is not (Pennebaker & King, 1999; Vallacher & Wegner, 1987; Kelly, 1955; Lakoff, 1987; Harré & Gillet, 1994), then consistent differences in the representation of action character should be associated with systematic differences in the experience of action. This study provides evidence that a)

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linguistic-based categorization of action statements is possible and reliable and b) that indeed there are modest associations between action character and project valence, both directly and indirectly. Taking one small area of semantics: the grammatical and syntactical representation of action character (situational aspect), we found, as hypothesized, that approach actions phrased as activities are generally rated as more enjoyable (and frequently less stressful) for the individual; while actions expressed as achievements (or the roughly equivalent lexical category of terminative forms) are more stressful (and frequently less enjoyable). So that while Aristotle may be right in the superiority of achievement and accomplishment action character (a point he made following his distinction in the quote at the head of the chapter) from *a telic point of view*, in that such actions may ultimately drive progress and movement forward more directly, it does seem that we tend to enjoy activity more.

There are exceptions, however, not in avoidantly phrased projects as predicted by control theory, but as a function of project domain. Academic projects seem to be more enjoyable and maintenance projects less stressful if phrased telically. However, the hypothesized interaction between context valence and action character was only partly supported by these findings, since the negatively valenced category of intrapersonal projects did not show this effect, while it was evident in the case of maintenance projects which are usually neutral. Action character therefore appears to moderate the relationship between project category and enjoyment but in combination with other variables, such as the low likelihood of success associated with intrapersonal projects. This nuanced

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interaction between action and context provides support for the social ecological model of personality (Little, 1998, 1999) which stresses the unique ways in which projects reflect individual differences as they interact with contextual factors. This model will be explored further at the individual level in chapter 3.

Although control theory accounts for the results associated with approach projects, the fact that predictions were not supported in the case of avoidance action suggests alternative explanations may be required. While it is not possible in a correlational study to state precisely why atelic action is more enjoyable and less stressful than telic action, it seems at least plausible to consider that the small but consistent negative affect associated with the latter may be a reflection of one of psychology's earliest findings, the Zeigarnik effect (Zeigarnik, 1927). Ratings of accomplishment and achievement prior to action termination are subject to tension associated with an unfinished task in a way that an atelic or habitual action is not. In the latter case there is no discrepancy from an end point to arouse the associated affect. In strict terms the action is consummated by engagement not completion. This would hold true for both approach and avoidance actions and thus is consonant with the data.

Further support from this view is provided by the analysis of the stage dimension in which it is only at the action (third) stage that a clear bifurcation of affect occurs, with the action stage clearly showing higher stress (and lower enjoyment) associated with telic projects. In preactional phases, it is possible that the key discrepancy guiding affective response is the distance from action initiation rather than termination, in which case we

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would expect no differences between telic and atelic action, as both must be initiated. The comparison of enjoyment ratings over stages provides some evidence for this view. A future research issue will be to determine if action characterization in the preactional phase is more subject to variation or if it remains constant from the earliest inception stage, i.e., do we tend to think of project A in achievement terms *ab initio* or is action character more variable at the earliest stages of project conceptualization.

The Zeigarnik effect may explain the higher negative affect associated with telic activity, but does not address the more positive appraisals of atelic, habitual and “doing more of” actions, all of which could be viewed as potentially subject to habituation and eventually boredom (Carver & Scheier, 1990). Exploration of the interaction between cognitive appraisal dimensions and action character suggest the difference may reflect the fact that self-efficacy is enhanced through successful engagement in atelic action, while only upon completion of telic action. Since ratings are for ongoing projects, current efficacy ratings (how are you doing now?) such as progress and control (is this project now under control?) are likely to be higher since the feedback is immediate. I know I am “spending more time with Mom” and can feel good about it, but I am much less certain how I feel about “deciding to visit my Grandmother” until I actual complete the project and decide one way or another.

This interpretation is supported by the initially counter intuitive finding that outcome, which is a central efficacy dimension, interacts with action character differently than the other core efficacy dimension, progress. Activities are generally seen to be

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progressing well ($M = 5.58$ $SD = 2.92$), but less likely to succeed (outcome: $M = 7.07$ $SD = 2.38$), while achievements are seen to be progressing significantly less well ($M = 4.34$ $SD = 3.32$), yet appear more likely to succeed ($M = 7.43$ $SD = 2.44$). Present-focused progress (doing well so far) appears more central to a sense of efficacy in activities, while future-focused outcome (likelihood of success) appears more central to a sense of efficacy in projects phrased as achievements.

To test this more systematically, achievement and activity action character were hypothesized to be moderator variables in two regression equations in which enjoyment was regressed first on progress and then on outcome. Interpreting the unstandardized beta values (Baron & Kenny, 1986), progress did predict enjoyment for activities ($b = .035$, $t = 5.68$, $p < .001$) but not for achievements ($b = .035$, $t = 1.89$, ns). In the case of outcome, the enjoyment associated with achievement projects and with activities was equally well predicted ($b = .093$ in both cases, $t = 7.73$ [activities] $t = 5.66$ [achievements], $p < .001$). Thus action character appears to moderate the relationship between progress and enjoyment, but not the relationship between outcome and enjoyment. This may in part explain the poorer predictive ability of progress in past PPA meta-analyses (Wilson, 1990; Dowden et al., 2000). It is certainly consonant with the linguistic characterization of achievements as instantaneous. It is hard to be progressing in an instantaneous venture.

To test whether action character modifies the combined predictive capability of progress and outcome, the two dimensions were multiplied and enjoyment regressed on the new efficacy dimension for activities and achievements separately. Indeed the new

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efficacy index predicted enjoyment significantly better for activities ($b = .008$, $t = 6.56$, $p < .001$) than for achievements ($b = .004$, $t = 2.28$, $p < .05$). Thus it seems at least plausible that perceptions of efficacy that are more immediate in the case of ongoing activities vs. outcome-focused achievements may be reflected in the higher enjoyment ratings.

Other lexical and syntactical categories of verbal expression were also shown to be regularly associated with significant differences in project appraisal, including “trying to X” which is experienced as less enjoyable than simply “doing X”; doing more of X as more enjoyable and less stressful than simply “doing X,Y or Z”; doing less of X as less enjoyable and more stressful than simply doing X,Y or Z”. For clarity, implications and potential explanations were discussed in the context of the results, but at a general level, these findings support the value of looking at small differences in the expression of action as there do appear to be consistent links with personal meaning as reflected in the different affective appraisals. Further studies will be need to explore the cognitive appraisal links to these and other verbal phrasing patterns.

Perhaps the most important result in this portion of the study is the evidence that how people chose to characterize the action associated with their goals is associated with different perceptions of their actions, cognitively and affectively. The same goal broadly construed can give rise to structurally different action representations which moderate how we perceive what we are doing. Not all goals lead to lighthouse-like reference criteria that we must either make for or attempt to avoid. Some goals are translated into reference criteria that focus on the maintenance of action, more like street lights that demarcate our

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path and keep us on the right road. “Eat healthy” is not something I wish to accomplish, it is either something I am doing and wish to ensure I continue or something I am sure I can do (starting is not the issue) but want to be able to “follow through”.

The intensity of positive affect associated with successful achievement or accomplishment may well be greater than that associated with activity, but the different action characters and postulated different reference points (lighthouse vs. streetlights) suggest that to compare the two may be inappropriate. Since the whole notion of “completion” is antithetic to the definition of non-telic action character, we can never truly compare completed activities with completed achievements. Activities are not completed, they are rather the object of disengagement (Klinger, 1977). Even if affect intensity is greater in the cases of project achievement, it has been shown that the frequency of affect is most associated with global well being (Diener, Sandvik & Pavot, 1991), so reference to our streetlights that provide frequent, immediate and incontrovertible evidence that things are going just fine (we are still on the road) is liable to affect overall longer-term well being more than the few major lighthouses successfully reached. This will be explored further at the individual level in chapter 3.

While it must be stressed that the effect sizes found in all of the action character analyses are small, explaining between one and three percent of the variability in well being on their own, the distinctions are liable to be more useful theoretically and as moderator variables (as we have seen with progress) than as key predictors of well being in isolation. Humans have chosen over millennia of language development to encode clearly different

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action characters and we seem to react cognitively and affectively to those encoded aspects of action in distinctive ways. Kelly (1955) admonished his readers that if we want to know what someone is thinking, we should ask them and they might just tell us. To that might be added the caution to listen not only to what they say but to how they say it.

Endnotes

1. For example, in listing current personal actions using Little's (1983) PPA methodology, respondents sometimes list their goals in terms of the action-outcome rather than the action itself, for instance: "be financially stable" rather than "earn a lot of money". The impact (or lack thereof) of differences in action characterization at this level forms one of the central research questions of this thesis: e.g., when is it and when is it not advantageous to conceptualize one's goals as states to be reached rather than actions to be undertaken
2. From the Greek τέλος, defined in Liddell and Scott (1972) as "an end accomplished: the completion or fulfilment of anything" (p. 697).
3. Although it is tempting to draw links with formulations such as autotelic action (Csikszentmihayi, 1990) or paratelic action (Apter, 1984), in fact these terms refer to a much narrower category of action-engagement that include affective and additional cognitive components. In this dissertation we have chosen to link autotelic action (flow) with aspect (Chapter 6), while telic dominance is explored in chapter 3 with relationship to individual-level telicity.
4. As both Smith (1997) and Comrie (1976) note, given current precision in 'nanosecond' measurement, even the most instantaneous action can be slowed and viewed as a process through the magic of film, so, in effect no action can be said to be entirely without duration. An example to clarify: It would be odd to say in normal parlance: ? "*Look, the mirror is shattering*", suggesting an ongoing process. The shattering is usually of such speed that before the utterance is made, it is complete. One might however, in testing windshield resiliency, see an occasion to say when viewing in slow motion a film of a test crash: "*And here we see the windshield begin to shatter. Now it is shattering from the left corner across... etc.*" Thus contexts can be created for shifting verbs from one action type to another, but many are contrived. More important, however, is the inherent flexibility such a system provides for viewing action in many different ways. Even to express meaning that was historically never required, the linguistic interaction of action type and aspect (in its narrow sense) can be used to accommodate new situations.
5. The reader is reminded again of the traditional confusion in linguistics as to whether action character and aspect are separate grammatical categories. In this dissertation these verbs would be better thought of as action characterization modifiers (ACMs).
6. Although other aspects of linguistic "load" have been shown to relate to molarity (MacDiarmid, 1990).
7. This is a useful example of the clear distinction between a goal and an action. Goals motivate action, but different goals (performance vs. mastery) can motivate the same action: "play Beethoven's Pathétique Sonata well."

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8. Although it is usually goals or motives that are classified as approach or avoidance, clearly 'me as good doctor' and 'me not as a bad doctor' are two equivalently different end-states. However, the implication of this different construal is most readily grasped in the nature of the action taken (toward, away) and hence is discussed here.
9. Klinger found these verbs to best capture parsimoniously the array of actions reported in his current concerns methodology (see chapter 3) (Personal communication, May, 1999).
10. Kuhl's (1994a) work clarifies why this may not occur in some cases, but for now, normal cognitive and volitional system functioning is assumed.
11. For a detailed inquiry into project pursuit and procrastination, see Blunt and Pychyl (1999).
12. It should be stressed; however, that at a theoretical level this same procedure could be used with non-native English speakers, but the action phrasing would have to be coded in the original language. To date insufficient data exists in SEABANK in languages other than English to allow for this.
13. No more specific measure of native language was available for this dataset.
14. I have eschewed her term 'situation type' because it implies the character is in the situation rather than in the perspective of the actor. The distinction is subtle, with Smith focusing on the situation as the lexical component of the verb (hence situationally defined) while I am focusing on the free choice of which verb to use (hence individually defined).
15. Of course more playful and adept English speakers can play with action character and other grammatical forms to convey subtle variations in meaning. For instance, "I am finding my keys" is, strictly speaking ungrammatical, since find is an achievement action character, but here the meaning of the verb has changed with its use in a different grammatical form: "I am finding my keys" implies "I am looking for my keys and will find them" giving the listener the sense that the outcome is in little doubt. While valid, these usages are not standard and as they are not common usage are highly unlikely to emerge in the context of expressing personal projects.
16. Where the time frame is ambiguous: "I will walk my dog in an hour", the durative vs. inceptive nature of the action is also ambiguous; however, fortunately such cases are highly unlikely in coding projects, which are only rarely localized in time so finely. Similarly stative verbs may be transformed into inchoatives with a punctual adverb: "Suddenly I knew who he was" (started to know). Again such exceptions are unlikely in project coding.

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17. Indeed many projects were significantly truncated in both the matrix and database versions due to the limited space provided. A small number of projects, approximately 1%, were phrased in such a way so as to imply but not specify a given verb, e.g. “Should I buy a car or a computer? or “tune-up for car”. Where the implied verb was deemed readily understood it was assumed (*Decide whether I should.... and get a tune-up...*). In a very small number of cases (less than .005%) the elided verb was not to be clearly deduced and hence the project was deleted, e.g., “fear of failure in school” (*get over, deal with, stop worrying about?*).

18. For example in one project, “take back empty beer cases”, the fact that most appraisal dimensions were rated as zero seemed to reflect the non-relevance of many dimensions to such a low-level project. Another, “meet girl writing this study” seemed somewhat frivolous and engendered by the study rather than reflected in it.

19. Albeit these tended to be projects of higher abstraction (decide what to do with the rest of my life, decide if my boyfriend is for me...).

20. The reader may question the statistical appropriateness of analyzing project cases separately given potential problems with the assumption of independence. Unlike scales using fixed items, projects sample from the entire ‘population’ of an individual’s project system and are rated each on a scale from 0 - 10, so that any single rating does not limit the degrees of freedom associated with the other ratings. Most importantly, Gee (1998) provided convincing evidence that the underlying project space associated with both PPA data from complete matrices and PPA data from totally randomly sampled projects across individuals was the same. He concluded that project level analysis was robust to violations of this assumption.

21. This is a contentious issue; however, as Russell and Carroll (1999) point out. From the perspective of this dissertation, it may be best to say that bipolarity was not assumed and thus all the analyses were conducted for both positive (enjoyment) and negative affect (stress).

22. The use of the stress dimension as a project-level negative affect outcome variable was dictated by the nature of the dimensions used in these archival data sets. Clearly not all stress is bad (e.g., eustress, Selye, 1974), a stance supported by the finding that this appraisal dimension most frequently loads on a factor which includes both difficulty and challenge. In more recent data collection, discrete emotion dimensions that are even more clearly valenced have been used and in the coming years a more fine-grained project level negative affect outcome variable (a composite of discrete emotion ratings) will be available for analysis in SEABANK.

23. Possibly due to the lack of univariate normality in enjoyment since Box’s M is sensitive to any variability in normality; however, it was assumed that this represented a genuine violation of sphericity.

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24. In both Chambers et al. data sets, both native language and language spoken in the home were specified; however, in Blake and Little, 1994, no such information was given, therefore any ungrammatical project descriptions were deleted as an alternative. Although SEABANK contains an extraordinarily rich set of project data, unfortunately few researchers until recently included the project description in a script variable; hence the selection of datasets was in part based on those that included project description information.

25. While both the normality and homoscedasticity assumptions were met in this data set, two outliers were deleted on the basis of very high enjoyment ratings. On average, the overall enjoyment ($M = -.54$ $SD = .88$) and stress ($M = .34$ $SD = .85$) were consistently below and above, respectively, the baseline enjoyment and stress levels for the individuals, as reflected in the mean z-score ratings and as we would expect from the consistent findings that avoidance projects are negatively valenced (Emmons, 1989; Klinger et al., 1981). These two cases, in which high enjoyment was associated with avoidance, may reflect a focus not on the enjoyment and stress associated with project pursuit, as called for in the project appraisal definition, but rather ratings based on the representation of a potentially successful outcome of the project, hence the high positive affect ($z = 1.89$ in both cases) and low stress. They may also represent measurement error in that, across the approximately 200 project-related appraisals that each subject makes, some degree of misalignment in project x dimension rating and/or response set is inevitable. Based on the highly incongruent ratings, the two cases were deleted from the analysis.

26. See Appendix F for the dimension definitions.

27. A rating of "2" therefore might mean: "I am making progress at a rate I had expected, but have a long way to go before completing the project" (I am still far off from successful completion) OR "I had thought I would be much further along by now, so feel my progress (success to date) is poor" One would expect the latter interpretation to be associated with lower well-being, but not the former. Although the dimension purports to tap the latter meaning, further differentiation/clarification may be required. In study 3 of this dissertation, the dimension was recast as "progress/meeting expectations" to stress the latter meaning.

28. Interestingly, the sharp (although non-significant difference because of low power) difference between activity and state projects (both atelic) may be due the implicit inchoative nature of state projects. "Be a lawyer, be a better person" etc. actually reflects a state that has not yet begun and hence carries a similar level of uncertainty to telic projects.

29. Based on a six-group one-way ANOVA ($F_{(5,2475)} = 17.22, p < .001$).

CHAPTER THREE

Action character as an individual difference

For in every action what is primarily intended by the doer, whether he acts from natural necessity or out of free will, is the disclosure of his own image. Hence it comes about that every doer, insofar as he does, takes delight in doing, since everything that is desires its own being, and since in action the being of the doer is somehow intensified, delight necessarily follows... thus, nothing acts unless by acting it makes patent its latent self - Dante

Introduction

To this point, the discussion of the characterization of action has been restricted to single instantiations with analyses in the last chapter focussing on action character at the project level, that is, are there commonalities in the construal of action across individuals such that action character is systematically related to action-linked cognitive and affective responses? The encouraging findings in this regard, however, do not address the issue of whether there are systematic differences in the construal of action among individuals, or whether the same action character-valence associations will hold at the individual level. Specifically are some individuals more activity-oriented, achievement-oriented (in the action character sense) or state oriented, as reflected by a tendency to phrase their actions in one action character or another? If such differences emerge, are they stable across time and how do they relate to recognized trait measures and, finally, the central question for this study, is one or another orientation more conducive to global well being?

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Given the trade-off between higher intensity positive affect associated with successful goal completion and lower intensity but frequent positive affect associated with the ongoing pursuit of activity, it would appear most likely that those who have a balanced project system in terms of some pursuits construed as telic and some atelic would enjoy greater overall well-being. The shorter term positive affect associated with the successful completion of telic tasks would provide bursts of motivational positive affect, ultimately affecting well-being indirectly through a heightened sense of self-efficacy (Bandura, 1997; Dweck, 1986) and effectance on the world (White, 1959), while the low grade ongoing positive affect from atelic pursuits impacts directly one's subjective well being (Diener, Sandvik & Pavot, 1991). Still balance may not be not enough. Highly telic leisure pursuits and atelic academic work projects, for instance, are much less likely to be as enjoyable. Action character must match the context within which the personal project is pursued. ***Thus it is hypothesized that project systems that are either extremely telic or extremely atelic, suggesting singularity of action character across domains, are liable to be associated with lower well-being. As well, mismatched action character-context dyads are liable to be antithetic to well being.*** The latter will be examined specifically by comparing leisure and academic pursuits, domain specific well-being and overall action characterization.

As well as examining these individual differences in the context of well-being, it will be important to clarify their stability across time and what, if any, relationship they have to extant trait measures. In particular, associations with the "Big Five" personality

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traits (John & Srivastava, 1999; Costa & MacCrae, 1999) and related facets will be explored using the NEO-PI-R (Costa & MacCrae, 1985) as well as potentially theoretically relevant traits such as telic dominance (Apter, 1984) and action orientation (Kuhl, 1994a). In the first instance, the NEO-PI-R measures thirty trait facets which factor into five major trait domains. Many of these would seem unlikely to relate to the verbal phrasing individual difference ratios, but tentatively *it is hypothesized that telic individuals may be more conscientious (C), particularly on the facets “achievement striving” and “self-discipline”, while those higher on the QM or “doing more” ratio might be less open to new experience (O), particularly as reflected in the “action” facet (based on the assumption that doing more of the same leaves less opportunity for new experiences)*. No specific hypotheses were made for neuroticism (N), extraversion (E) or agreeableness (A).

Although the theoretical foundation of the trait of telic dominance, which is one of two ‘meta-motivational modes’ in Michael Apter (1989)’s Reversal Theory, is distinct from that proposed here, it is not incompatible and the similarity of terms would suggest some convergence of constructs. Telic dominance, however, as measured by the Telic Dominance Scale (TDS) involves much more than the phrasing of action, thus it might be expected to correlate positively, although only modestly with telic action character, suggesting convergent validity but not isomorphism.

According to Kuhl (1994a), the primary distinction between action- and state oriented individuals is the inability of individuals to move into the active phase of project

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pursuit. It would seem logical therefore that state-oriented individuals would be more prone to habitual and atelic action, as well as “doing more” of whatever they are already doing, given the implied lack of a change of state. Indeed syntactically, habitual activity is treated very much as a state, with the same verb form (simple present) representing both: I know (state); I build houses (habit) vs I am building a house (present telic action).

The paradox such a hypothesis presents, however, is the strong negative affect associated with state-orientation (Klinger & Murphy, 1994), while, as we have seen, habitual and atelic action, at least at the project level, appear associated with greater enjoyment. Perhaps it is only a subset of individuals for whom the extreme inability to switch into telic mode is problematic in the way Kuhl proposes. ***Tentatively, state-orientation is hypothesized to correlate more strongly with atelic action (and associated verbal phrasing dimensions) than with telic action, although the relationship may be context sensitive, that is atelic action across all contexts may be more strongly related (negatively) to action-control than is flexible, strategic atelic action engagement.***

Finally, the associations between specific dimensions and action character that were found at the project-level were tested at the individual level to see if the same relationships hold and if a distinct picture of the telic vs. atelic and duration-focussed vs “instantaneous” personality in action emerges.

Method

For the analyses at the project level (chapter three), only those projects rated by the individual in the rating matrix were examined, since only these were clearly associated

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with project-level affect outcome measures (stress, enjoyment). At the individual level, all the projects listed in the project elicitation were classified based on the view that the selection of ten to fourteen projects was unlikely to be a sufficiently representative sample of the numerous linguistic phrasing preferences examined in this study. Demographics and procedure were addressed in chapter 2.

Analyses were primarily correlational for continuous phrasing variables and t-tests were used for dichotomous variables; multiple regression was used to predict well-being. Finally a measure of stability of action character usage (and other verbal phrasing use) was derived from a portion of the third group of participants in this data set (that is, Chambers & Little, 1999) who completed the PPA methodology twice, once in late January, 1999 and once in late March, 1999, providing a two-month test-retest of how stable individual differences in action phrasing are.

Results and Discussion

Descriptive Statistics

To investigate whether there are individual differences along the linguistic categories outlined in chapter two, the following four ratios were calculated based on the project elicitation lists of respondents from the concatenated dataset used in the analyses to date. Because of incomprehensible or missing elicitation lists, four subjects were excluded leaving a total sample of 222 (100 men, 122 women).

1. **achievement ratio**: number of achievement projects divided by the total number

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of projects in elicitation. The higher the number the less prone the individual is to phrase action in a durative fashion, that is, the individual tends to see his/her actions as black or white achievements, for instance, 'buy a new car', 'pass psychology', 'quit smoking';

2. **telic ratio**: number of achievement/accomplishment projects divided by the total number of projects in elicitation. The higher the ratio the more the individual tends to phrase his or her actions as oriented towards a specific end goal/point. The lower the number, the more atelic the individual and the more he/she phrases personal action as ongoing processes. A process oriented individual might have several projects that imply extended duration, such as, 'study harder', 'see my parents more often', 'eat more healthily', 'work out very day';

3. **QM (+) ratio**: the number of "do more of" projects divided by the total number of projects in the elicitation. A higher ratio indicates a greater tendency to see one's projects as doing more of what one is already doing; and,

4. **habitual ratio**: the number of habitual projects divided by the total number of projects in the elicitation. The higher the number, the more the individual tends to phrase his/her projects as habits, that is they are clearly actions that are repeated over time.¹

Ratios were computed for the other phrasing variables, but based on the large number of participants who had no such projects in their elicitation, the distributions were highly positively skewed. Thus avoidance tendencies, explicitly conative tendencies, and, terminative/egressive tendencies will be treated as dichotomous variables. While it is usual to dichotomize variables using a median split or, more rarely, the mean, neither would

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appear to represent adequately the logic behind the frequency data for the remaining variables, given the high number of individuals who had no projects phrased in one or more of the categories under investigation. Therefore individuals with a frequency of 0 or 1 project in any given category were classified as non-avoidant, -terminal, - explicitly conative and those with at least two projects phrased in that manner were classified as avoidant, terminal, explicitly conative. A single instance of the phrase was deemed possibly the result of chance or priming in the elicitation, rather than reflective of a stable individual difference. Table 3.1 provides the frequencies for these last three variables.

Table 3.1

Dichotomous Classification: Avoidant, Terminal
and Explicitly Conative Tendencies

Variable	Total non-	Total	Percentage
Avoidant	183	39	17.6
Terminal	144	78	35.1
Explicitly Conative	192	30	13.5

Table 3.2 provides the means and standard deviations for each of the absolute and ratio variables, as well as t- tests for potential gender differences. Note that no differences emerged in the ratio data, but women ($M = 21.97$ $SD = 11.75$) had significantly more projects than men ($M = 16.59$ $SD = 9.37$) which did lead to other significant absolute differences, which were controlled for in the ratio variables. Frequencies of those variables with sufficient dispersion to be considered continuous (achievement; telicity; habit and

QM [+]) are provided in Appendix G.

Table 3.2

Individual Difference Variables: Action Character
(Descriptive Statistics)

Variable	Absolute # of Projects		Ratio to Total Projects		Gender differences between absolute number of projects in each category (t tests) ^{ab}	
	M	SD	M	SD	t	probability
duration (achievement)	4.5	3.7	.23	.15	$t_{(220)} = -3.03$	$p < .003$
telicity			.58	.20		
state	.74	1.59			$t_{(200)} = -1.82$	ns
activity	7.71	6.10			$t_{(207)} = -3.64$	$p < .001$
accomplishment	6.55	4.7			$t_{(220)} = -1.21$	
conativity	.72	1.93	.04	.08	$t_{(162)} = -2.24$	ns
QM	3.34	3.56	.16	.13	$t_{(220)} = -.976$	ns
avoidant	.80	1.39	.07	.08	$t_{(210)} = -2.89$	$p < .004$
terminal	1.33	1.59	.07	.08	$t_{(220)} = -.58$	ns
total # of projects	19.55	11.05			$t_{(220)} = -5.38$	$p < .001$
habitual	5.61	6.02	.26	.18	$t_{(204)} = -2.48$	$p < .001$

a. Bonferroni corrected for 10 tests ($p < .005$ for significance).

b. negative signs indicate a lower mean for men. In general women had more projects in each category, although not all differences reached significance.

Test-Retest Reliability

Before examining the relationship of these variables to traits and global measures of well being, a fundamental psychometric question must be addressed. Are phrasing tendencies stable across time? An individual difference measure with no stability clearly cannot predict reliably, at the same time, personal action is dynamic and we would expect that the projects of individuals would vary as a function of the current concerns of the individual (Klinger, 1975) as well as time of year, health and a host of variables that may impinge upon personal action from the social ecology. Indeed the PPA perspective has largely arisen in order to better capture the dynamic nature of personality precisely because our behaviour *does* change as a result of temporal and spatial contexts (Little 1998; 1999). Over a decade ago, PPA test-retest reliability was examined for a two-week period and coefficients ranged from a low of .07 (enjoyment) to a high of .82 (negative impact; Little, 1988), suggesting that some dimensions of appraisal may have higher test-retest reliability than others. Indeed the affective measures (stress and enjoyment) were the lowest by far, attesting to well documented short term fluctuations in affect (Frijda, 1986; Frijda, Mesquita, Sonnemans & Van Goozen, 1991, Diener & Fujita, 1995).

Verbal phrasing scores at the individual level are not, however, appraisal dimensions. They reflect instead the tendency of an individual to conceptualize (and therefore phrase) personal action within several distinct categories. A high degree of reliability would suggest that even if projects change, the individual *is showing consistency in phrasing that transcends the nature of the project*². This is a key question not only for

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personality psychology, but for aspectology within linguistics, in which action character is frequently labeled “situation aspect” to differentiate it from “viewpoint aspect” dealt with in study 3 (e.g. Smith 1997), implying that it is the situation rather than the individual that defines the action character.

The personal projects listed in the elicitation of a second administration of PPA for twenty subjects in the original concatenated dataset were coded using the same parameters as the first administration. The same ratios and dichotomous variables were calculated and the data compared between time 1 (January, 1999) and time 2 (March, 1999). Results are given in Table 3.3 for the continuous variables and in table 3.4 for the dichotomous variables. In general test-retest reliability was moderate to high. Only the dichotomous variables relating to terminal and explicitly conative action were problematic, possibly as a result of the relatively few instances of these in comparison to the entire project elicitation.

The lower test-retest coefficient for the achievement as opposed to the telicity ratio suggests that there may be more movement between accomplishment and achievement action characters than from achievement to activity/state. In short, telic individuals tend to remain telic, but may phrase projects as either accomplishment or achievement. The high correlation between habitual phrasing and achievement ($r = -.70$, $p < .001$) suggests also the stability of non-telic phrasing/project construal, whereas “finish doing” a *de facto* telic undertaking correlated non-significantly with the telic ratio, indicating that even those more atelicly oriented are prone to think in terms of “finishing” some of their doings from time to time³.

Table 3.3

Test-retest Reliability: Continuous Phrasing Variables

Variable	Time 1		Time 2		Pearson's r	sig.
	M	SD	M	SD		
(n = 20)						
Total # of Projects	27.2	9.41	19.9	7.07	.53	p < .02
Telicity	.56	.19	.55	.24	.82	p < .001
Achievement	.28	.13	.27	.17	.53	p < .02
Habit	.34	.20	.29	.21	.74	p < .001
QM (+)	.20	.13	.19	.15	.66	p < .005

Table 3.4

Test-retest Reliability: Dichotomous Phrasing Variables

Variable	Time 1		Time 2		Pearson's r	sig.
	M	SD	M	SD		
(n = 20)						
Termination (Finish)	.6	.5	.37	.50	.36	ns
Conativity (Try to)	.15	.37	.16	.38	.39	ns
Avoidancy (not)	.40	.50	.21	.42	.61	p < .01

Most importantly these data suggest that how we phrase our actions, and by extension, how we use language to reflect our world is a useful, stable individual difference. Further tests with varying time periods and phrasing variables appear warranted.

Phrasing Differences and Trait Variables

Many personality psychologists agree that the plethora of trait descriptors used in psychology can be reliably factored into five overarching trait domains (Digman & Inouye, 1986; John & Srivastava, 1999). While those domains are often called by different names, they appear to be sufficiently stable and ubiquitous as to provide a useful basis of comparison for new personality variables. In this data set all phrasing variables were compared to the NEO-P-IR domain and facet scores (Costa & McCrae, 1985) to identify which personality traits are particularly associated with the individual differences reflected in verbal phrasing. As well, for a small number of participants, scores were available on the Telic Dominance Scale (TDS, Apter, 1984) and Kuhl's (1994) Action Control Scale (ACS), additional trait measures that have potential links with action character as an individual difference. Results are presented and discussed by trait instrument below.

NEO-PI-R

Continuous Variables.

Only 162 individuals in the concatenated database had completed the full NEO-PI-R, 81 males and 81 females. Pearson r correlations were calculated for the four continuous phrasing ratio variables, telicity, durativity, QM (+) and habit.

The most noteworthy result in this analysis was the paucity of any significant relationships at all. Out of the 140 correlations, only three were significant, suggesting caution in interpreting even these. This strongly supports Little's (1996; 2000b) stance that measuring personal action is not just another way of measuring the same dimensions

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of personality that traits measure, but rather gives a distinct, unique perspective on the individual by tapping into how that individual is giving expression to him/herself within a given ecological context. In language the sources of the information on personality are clearly distinct, with adjectives that are used to describe others to self and self to others as the basis of trait measurement (Allport & Odbert, 1936), but verbs the foundation for describing who we are through our doings (de Raad, 1992). The lack of strong relationships with trait measures also corroborates the findings of Pennebaker and King (1999) who found that their measure of language as an individual difference measure was very weakly related to the NEO and who argue that their “data suggest that linguistic style is an independent and meaningful way of exploring personality.” (p. 1296).

The three significant correlations did not correspond to the hypotheses, although the direction of the relationship in the latter were as predicted, but so small as not to warrant interpretation. Rather the tendency to phrase projects as habitual was related significantly to the values facet of Openness ($r = .17, p < .05$) and to the tender-mindedness facet of Agreeableness ($r = .20, p < .02$). Telicity was also negatively associated to tendermindedness, probably as a result of the same underlying relationship, given the high correlation between habitual project pursuit and atelicity. Since values refers to the tendency to be broad-minded, tolerant and non-conformist, the association may be driven by the higher number of interpersonal projects associated with activity (atelic) action character rather than the action character itself. Similarly the association with tendermindeness may reflect the particularly common theme in activity projects:

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“spend (more) time with X” and “help X with Y”, both atelicly phrased. A higher proportion of such projects may reflect both increased tendermindedness and values, a desire to “get along” rather than “get ahead” (Hogan, 1987).

Table 3.5 shows absolute correlations between the four phrasing variables and the NEO domains and facets (only for those relations in which $p < .10$). In concurrent research into the inter-relationship of traits and personal projects we have found significant gender differences in how traits are given expression in personal action (Little & Chambers, in preparation). Based on these findings the correlations among the four phrasing variables and the NEO traits were examined by gender. Despite a considerable loss of power, many more significant relationships emerged (see Tables 3.6 and 3.7).

Table 3.5

NEO Domains and Facets and Action Phrasing Variables

	O Open- ness	O2 Aesthe- tics	O6 Values	A Agreeable- ness	A3 Altruism	A6 Tender- -mindedness	C2 Order
Telicity						-.18*	.13
Achieve- ment		-.15					
QM: more			.15				
habit	.14		.17*	.13	.14	.20*	

n = 162, * = $p < .05$

Table 3.6

NEO Domains and Facets and
Action Phrasing Variables (males)

	N5	E5	O1	O6	A1	A3	A4	A6	C	C2	C6
Telicity			-.25*				-.20		.21	.27*	.27*
Achievement		.20			-.19						
QM: more	.20			.22							
habit				.23*	.20	.19	.19	.23*			-.26*

n = 81, p < .05 (N5 = impulsiveness; E5 = excitement-seeking; O1 = fantasy; O6 = values; A1 = trust; A3 = altruism; A4 = compliance; A6 = tendermindedness; C = conscientiousness; C2 = order; and, C6 = deliberation).

For males telicity appears to be particularly associated with lower imagination and fantasy together with higher scores on order and deliberation. The latter, together with the modest (not significant) correlation with conscientiousness as a whole suggests logically that “getting things done” as opposed to “doing things” is indicative of a greater emphasis on accomplishment, indeed Costa and MacCrae characterize conscientiousness as, among other things, “...assessing the degree of organization, persistence and *motivation in goal-directed behavior*” (Costa & MacCrae, 1985, italics added.). The inverse relationship with fantasy, as well as the negative relationship between habitual phrasing and deliberation may reflect the sometimes incompatible nature of daydreaming, fantasy, creativity with goal-directed behaviour. Again the ability to be atelic and telic in different settings may be the ideal.

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The significant relations between values, agreeableness and habit are the same for men as for the entire sample.

Table 3.7

NEO Domains and Facets and Action Phrasing Variables (females)

	N3	N5	E2	E3	O2	A	A3	A5	A6	C5
Telicity		-.21							-.19	
Achievement			-.20	-.21	-.19					
QM: more habit	.25*					.27*	.30**	.23*	.25*	-.23*

n = 81, * = $p < .05$; ** = $p < .01$ (N3 = depression; N5 = impulsiveness; E2 = gregariousness; E3 = assertiveness; O2 = aesthetics; A = agreeableness; A3 = altruism; A5 = modesty; A6 = tendermindedness; and, C5 = self-discipline).

For women, it is neither telicity nor habitual project pursuit that appears most strongly related to trait descriptors, rather the tendency to “do more of”. The (relatively) strong association with agreeableness facets may reflect the communion - activity link suggested in chapter one (since “doing more of” is always phrased as an activity). The negative relationship with conscientiousness is likely a reflection of doing more of x at the expense of y (perhaps telic projects). Finally the interesting association between doing more of and depression (N3) recall’s Klinger’s (1977) formulation of depression as an inability to disengage from goals that are no longer attainable. “Doing more” in this context could certainly lead to a vicious downward spiral ending in depression.

Dichotomous Variables

The three dichotomous variables, avoidant phrasing, terminal phrasing (finish) and explicitly conative phrasing (try to) were used as grouping variables to compare domain-level means⁴ across the five trait domains measured by the NEO-PI-R. The only hypothesis made in this context relates to the longstanding finding in the literature that avoidant phrasing is associated with negative affect and thus we would expect those having a tendency towards avoidant phrasing to be more neurotic. T-tests were conducted on the mean difference between those expressing and those not expressing the three verbal phrasing tendencies. Given the exploratory nature of this inquiry no corrections for familywise error were made, so significant results should be interpreted with caution.

No significant differences emerged for terminal phrasing; however, as anticipated, those who phrase their projects as end-states to avoid or to do less of the action were significantly more likely to be neurotic ($t_{(160)} = -3.43, p < .001$), but also more likely to be conscientious ($t_{(160)} = -2.50, p < .02$). Perhaps the very nature of pursuing avoidant action requires higher conscientiousness since one must always be vigilant to ensure the undesired end-state is avoided (Elliott et al., 1997). This comparison remained significant when the same variables were examined by gender, *but for men only* ($t_{(79)} = -2.19, p < .05$). The association was not even approaching significance for women ($t_{(79)} < 1, ns$).

Also more likely to be neurotic were those who tend to “try to” do rather than just doing ($t_{(160)} = -2.00, p < .05$). Given the demonstrated association between perceived lower likelihood of success and “trying to” in chapter two, the uncertainty associated with

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this phrasing may be related to the negative affect elements associated with N. The same association was evident when examined by gender, but for women only ($t_{(79)} = -2.57, p < .05$). These results are further evidence for differences in how men and women give expression to (both literally and figuratively) their traits while engaged in personal projects.

Telic Dominance

64 subjects in the concatenated database also completed the Telic Dominance Scale (TDS; Murgatroyd, Rushton, Apter & Ray, 1978). The TDS consists of three subscales designed to reflect the three principal aspects of two diametrically opposed trait-like meta-motivational states, that is, either telic (focused on future, goal oriented action) or paratelic (focused on the experiencing of the now at the expense of future, goal-orientation). The three sub-scales are serious mindedness (SM: pure telicity), planning orientation (PM: future vs. present orientation) and arousal avoidance (AA: characteristic of telic individuals), demonstrating that Apter's (1984, 1988a) conceptualization of "telicity" is much broader than that proposed here. Nonetheless one would expect a moderate correlation with the scale as a whole, given the core differentiation between activity/state action characters as process oriented vs. accomplishment/achievement orientation as goal oriented. Among the subscales, SM is that which measures telicity most directly, thus was expected to show the highest correlation with the telic and duration ratios. However table 3.8 shows that it is the measure of achievement that correlates significantly with the TDS and all but one of its subscales, the SM subscale,

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rather than the measure of telicity, suggesting that the unmitigated telicity associated with achievements captured by the duration ratio is closer to Apter's conceptualization of a telic orientation. The conceptual distinction between accomplishment and achievement is one not always made in the linguistic literature (Maslow, 1982; Kucera, 1983) and is not regularly made in psychology (e.g. Heckhausen & Kuhl, 1986), but appears to be important. The differences in association here and above between phrasing accomplishment + achievement (telicity) and phrasing achievement suggest the two are distinct constructs.

Table 3.8

Correlations between the Telic Dominance Scale
and telicity/lack of duration in verbal phrasing

TDS (n = 64)	Telic Ratio (achievement & accomplishment)	Achievement Ratio
Full Scale	.19, ns	.38, $p < .001$
Serious- mindedness	.04, ns	.03, ns
Planning Orientation	.17, ns	.32, $p < .01$
Arousal Avoidance	.17, ns	.32, $p < .01$

While these findings suggest that telic orientation may be associated with a tendency to phrase projects as achievements rather than as accomplishments/activities or

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states, the moderate level of association might be viewed as indicative of discriminant validity. Telic verbal phrasing is not isomorphic with telic meta-motivational orientation.

The lack of a significant relationship with the SM subscale, which is defined as “the frequency with which a subject sees himself or herself to be engaged in activities whose primary purpose is to achieve a goal beyond these activities, rather than activities which are indulged in for their own sake.” (Murgatroyd et al. 1988, p. 365) is surprising given the clear conceptual convergences. It appears that in telic dominance terms, individuals who phrase their projects as achievements tend to be more future-focused and more arousal-avoidant, but not strictly speaking more telic in Apter’s use of the word. An examination of some of the items loading on the SM subscale makes it clear that the use of telicity in Reversal Theory is closer to the use of “Outcome” by Kuhl and Heckhausen (1986) discussed in the last chapter, in that it focuses on the conceptualization of the result of the action, not how the action itself is dynamically construed. In Table 3.9 we can see there is no consistent relationship between the scale options and the action character phrasing. It is interesting to speculate whether options phrased telicly (when telic) and atelicly (when paratelic) might increase the predictive validity of the telic dominance scale or this subscale.

In short, it seems there is a sufficient relationship in the expected direction between the TDS and phrasing measures of telicity to conclude the constructs are related, but more tailored research is required to determine the nature of that relationship.

Table 3.9

Sample Items from the SM subscale of the TDS

Item #	Paratelic Option	Action Character	Telic Option	Action Character
13	going to a party	accomplishment (telic)	going to a meeting	accomplishment (telic)
17	taking life seriously	activity (atelic)	treating life light-heartedly	activity (atelic)
23	watching a game	accomplishment (telic)	refereeing a game	accomplishment (telic)
33	glancing at pictures in a book	activity (atelic)	reading a biography	accomplishment (telic)

Comparisons of the TDS (full scale) and the three dichotomous variables were all non-significant, again suggesting that finishing one's projects is not associated clearly with telicity as an individual difference.

Action Orientation

Only 58 subjects in the concatenated database had also completed the ACS, so the likelihood of significant correlations was small and few emerged. More importantly, though the absolute correlations were generally very low, with the single highest ($r = .21$, ns) between the volatility subscale and "doing more". Volatility measures the tendency to switch from one action to another (here high scores = low volatility) so the convergence is not surprising. Doing more of the same is likely to equate to a lower tendency to switch activities.

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Perhaps the most interesting finding emerged as a result of a gender split. Again, “doing more” projects were most strongly and positively associated with all facets of the ACS scale for men. ($r = .32$ for the scale as a whole). The scales are scored inversely so the absolute correlations suggest that doing more involves less hesitation ($r = .30$), less volatility ($r = .27$) and less preoccupation ($r = .24$) for men. Surprisingly the relation appears to be the opposite for women, at least insofar as hesitation is concerned. For women “doing more” appears to relate negatively to the hesitation scale, meaning that women who phrase their projects as “doing more of” tend to be more hesitant. Given the earlier findings with depression and “doing more of” this suggests that there may be a distinct difference in the use and meaning of the phrase for the two genders.

For men “doing more” may be doing more of something they like doing, while for women “doing more” maybe doing more because they are not able to do something else (perhaps because of their social ecology, gender roles or societal expectations) . A brief look at the project lists of male participants shows that many of the “more” projects are “play more hockey” “go snowboarding more often”, “go out with friends more often” whereas for women they tend to be “study harder”, “be more positive”, “spend more time with my boyfriend”, suggesting that the domain of project pursuit may be an important moderator.

Among the dichotomous variables, the subscale hesitation was significantly related to a tendency to phrase projects as “try to” ($t_{(56)} = 2.89, p < .005$), adding further weight to the common view that “trying” can be somewhat of a hedge. Noteworthy is the fact

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that none of the men in this sample had a tendency to phrase their projects as “try to”, so this effect is solely due to women. Individuals with a tendency to phrase projects avoidantly showed a trend towards higher scores on the hesitation and total scale ($p < .10$), but more power will be needed to examine the relationship. In general then, volitional competence, as measured by the ACS appears to have more to do with “doing more” and “trying to do” verbal phrasing than any of the action character distinctions. Since the key element in Kuhl’s distinction between state and action orientation is the ability to start action and in chapter 2 it was found action character is not directly related to starting, it is not surprising no clear association emerged. Those who are state oriented probably have as much difficulty starting atelic action as they do telic action.

Phrasing Differences and Project Dimensions

Having shown modest relationships between trait and action phrasing variables that suggest, in accordance with the social ecological model, that traits are related to but do not fully account for differences in our personal projects (Little, 2000a), it is important to examine directly project-level differences in relation to these phrasing variables. PPA offers the benefit of allowing both project-level and individual level measurement. Micro associations between isolated actions and their appraisals were explored at some length in chapter 2, while the macro association between mean appraisals across projects (actions) and phrasing variables representing the tendency to word projects in a certain fashion are examined below.

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In addition to the primary efficacy and structure dimensions explored in chapter 2, the relationship of the phrasing variables to system-level project appraisal as measured by the Personal Project System Rating Scale (PPSRS) was also investigated. Specific hypotheses for the former were not made; rather I was interested in whether the findings at the project-level hold at the individual level. In the case of the PPSRS we would expect greater efficacy but higher stress to be associated with higher telicity, again reflecting the earlier findings.

Affective Dimensions

At the individual level, neither stress nor enjoyment correlate significantly with project phrasing, suggesting that the association found at the individual project level may be attenuated at the project system level where various project valences may counterbalance one another. Indeed the finding that activities are less enjoyable in the academic setting and more stressful if maintenance projects, suggests a context specificity that is lost at the mean level. Direct magnitude ratings of system stress (PPSRS stress) were, as predicted, modestly higher for those with a “pure” telic phrasing tendency (as measured by the achievement ratio) ($r = .15$, $p < .05$). Discrete emotion ratings were available for a subset of the data base ($n = 68$) and were examined at the mean level. While the more generic stress, as noted, was not significant, project anxiety and project fear were both positively associated with individuals who tend to phrase their projects as achievements ($r = .29$, $p < .02$ and $r = .24$, $p < .05$, respectively). This suggests more fine-grained discrete-emotional reactions to projects may reveal a clearer affective picture at

both the individual and project level.

Cognitive dimensions

Table 3.10 provides the Pearson r correlations between mean level cognitive appraisal dimensions and the phrasing variables. Although the direction of the relationship between variables is the same, subtle differences are evident in what emerges as focally distinct at the individual level.

Progress was clearly and strongly negatively related to both measures of telicity, which based on the project level results in which achievement projects were much less likely to be seen as progressing well, seems likely due to the effect of a greater number of achievement projects in the system. Outcome (how likely is your project to be successful) is positively related to telicity, again reflecting the findings at the project-level in which accomplishments and achievements were more likely to succeed. As noted in chapter 2, this appears on the surface to be counterintuitive, in that if a project is not progressing well it seems odd to expect it to succeed more than projects that are progressing better, but is a good indicator of the moderator potential of action character. Indeed one might almost characterize progress as quintessentially atelic... “as long as things are moving along I am not concerned about the end” (streetlights) and outcome as quintessentially telic, “I may not be doing so well so far, but I’ll succeed in the end and that is what counts” (lighthouse).

Table 3.10

**Mean Project Dimensions and
Continuous Phrasing Variables**

Project dimension (individual means)	Achieve- ment Ratio	Telic Ratio	“Doing More”	Habitual Ratio
challenge		-.17*	.26**	.18*
competence		.18*	-.16*	-.16*
control		.15*		
difficulty	.19**		.28**	.13*
initiation				
outcome		.14*		
progress	-.35***	-.21*		
responsibility				
stage			-.14*	

Competence, which showed no relationship to telicity at the project level, appears to be related to individual-level telicity ($r = .18$, $p < .02$), potentially as a result of the predicted relationship between increased telicity and enhanced self-efficacy through project completion. While the projects phrased in the elicitation are not completed, the stability of telic phrasing noted suggests that previous projects, phrased telicly probably have been, thus the relationship may reflect project-system level confidence in one's ability to complete. That competence is negatively related to “doing more of the same” and habitual project engagement supports this interpretation in that such activities are less likely to increase self efficacy over the long term given their largely unchanging nature.

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At the project level achievements were found to be less controllable than other action characters; however at the individual level it is the controllability of accomplishments that appears to be most salient. Despite the inclusion of non-controllable achievements in the telicity ratio variable, the control that is felt over action characterized as accomplishments is sufficiently strong to emerge as a modestly significant relationship ($r = .15$, $p < .05$). Given the non-significant but negative relationship between mean level achievement phrasing (duration inversely) and control, it seems likely that a ratio of accomplishment phrasing on its own would correlate substantially higher with control. This is another instance then, where not all telicity is the same and the subtle distinction between accomplishment and achievement may be important.

As was found at the project level, initiation and responsibility do not seem to be related to action character at the individual level. Stage, however, showed a small negative association with “doing more of the same”, which might be expected in that doing more may well mean not finishing. Given the findings associated with project system level stress reported above, it was not surprising that the two dimensions challenge and difficulty, both traditionally associated with the stress factor, were also correlated with the phrasing variables. The findings here are intriguing and somewhat counterintuitive, with mean challenge and difficulty significantly more associated with individuals who phrase their actions as habits and as “doing more of”; in the case of challenge this extends to atelicity ($r = -.17$, $p < .05$). Thus viewing one’s projects as ongoing processes/habits seems to increase challenge and difficulty, yet project system stress is related to higher telicity, the

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opposite association. Furthermore while challenge is associated negatively with telicity, difficulty is associated positively with achievement action character, which is telic. The challenge and difficulty associated with habitual pursuits might be thought to reflect their higher order nature, that is greater meaning and less manageability (Little, 1989); however the fact that the PPSRS meaning dimension correlated positively with achievement action character ($r = .17, p < .02$) suggests this may not be so. Challenge, difficulty and telicity clearly warrant further exploration at both the individual and project level. The reversed association between achievement and telic projects suggests again that the telic component of accomplishment action character may interact with project variables differently than that of achievement, with the latter more focally difficult and the former less focally challenging.

Dichotomous Variables

Key mean project dimensions were compared using t-tests across the three dichotomous phrasing variables: terminal action (finish), avoidant action and explicitly conative action. Note that given the possibility of type one error, probabilities over .01 should be interpreted with caution (Bonferroni familywise error of .10). As Table 3.11 shows, most of the differences were intuitive, with individuals with a high number of explicitly conative projects tending to see these as significantly further from completion (stage), less likely to succeed, and less controllable. These projects were seen as more difficult and more challenging, giving some weight to the argument in chapter two that “trying to act” may be a strategy to deal with difficult projects that don’t seem likely to

succeed.

Table 3.11
A Comparison of project appraisal means:
Explicitly conative project phrasing variable

Dimension	Non conative		Explicitly Conative		t value	sig.
	M	SD	M	SD		
challenge	6.46	1.52	7.24	1.4	$t_{(152)} = -2.17$	$(p < .05)$
competence	7.95	1.43	7.38	1.74	$t_{(172)} = 1.65$	ns
control	7.46	1.25	6.86	1.39	$t_{(220)} = 2.42$	$(p < .05)$
difficulty	5.82	1.36	6.56	1.55	$t_{(220)} = -2.70$	$p < .01$
outcome	7.48	1.15	6.76	1.44	$t_{(220)} = 3.08$	$p < .005$
progress	5.36	1.58	4.66	1.79	$t_{(114)} = 1.72$	ns
stage	5.07	.99	4.23	1.25	$t_{(35)} = 3.52$	$p < .001$

Fewer differences emerged in the other two dichotomous variables. Individuals who phrase their projects avoidantly tended to have projects that were seen as progressing less well ($t_{(114)} = 3.08$, $p < .005$) and in the early stages ($t_{(218)} = 3.84$, $p < .001$). They also seemed to feel marginally less competent in their projects ($t_{(45.1)} = 2.08$, $p < .05$). Finally individuals with a higher number of “finish x” projects perceived their projects as a whole to be progressing marginally less well ($t_{(114)} = 2.35$, $p < .05$).

Phrasing Differences and Well Being

Global Well-Being

Curve estimation was used to test the primary hypothesis, that extremes in telicity and duration are associated at a global level with lower subjective well-being (i.e., a quadratic relationship) as operationalized by SWB (high global life satisfaction + positive affect - negative affect) and the CES-D. Neither the linear relationship nor the curvilinear appeared to fit the data ($F < 1$, ns in both cases), suggesting there is no clear relationship at the global level between telicity and well being. Correlations among the SWB components and the continuous phrasing variables showed only a modest negative relationship between life satisfaction and achievement project phrasing ($r = -.17$, $p < .05$) and a modest positive relation between phrasing one's projects as habits and positive affect ($r = .18$, $p < .01$).

Individuals who phrase their projects as states to be avoided tended towards lower positive affect ($t_{(2153)} = -2.05$, $p < .05$) and higher negative affect ($t_{(218)} = -2.88$, $p < .005$). Again this is consistent with findings in the literature that phrasing goals avoidantly is antithetic to well being (Klinger et al., 1981 and Elliott et al., 1997) . Perhaps more interesting was the finding that even more than avoidant phrasing, "trying to do" one's projects is associated with both lower SWB ($t_{(213)} = 2.97$, $p < .001$) and higher depression ($t_{(219)} = -2.09$, $p < .05$), although in the latter case only marginally so. Examining the components of SWB, it appears frequently "trying to do X" is associated with both greater negative affect ($t_{(218)} = -2.37$, $p < .02$) and lower life satisfaction ($t_{(218)} = 2.62$, $p < .01$).

Table 3.12

Dichotomous Variables: Comparing well-being and depression

Well-Being Variable	Dichotomous Phrasing Variable	no phrasing tendency		phrasing tendency	
		M	SD	M	SD
SWB (z)	try to do	.19 ^c	2.9	-1.11 ^c	2.47
	avoidance	.07	2.24	-.29	2.41
CES-D	try to do	16.05 ^d	9.82	20.07 ^d	9.67
	avoidance	16.51	10.16	17.03	8.5
Life Satisfaction (z)	try to do	.07 ^b	.96	-.44 ^b	1.15
	avoidance	.04	.99	-.18	1.05
Positive Affect (z)	try to do	.04	.99	-.28	.99
	avoidance	-.06 ^a	1.00	.30 ^a	.95
Negative Affect (z)	try to do	-.06 ^a	.98	.40 ^a	1.03
	avoidance	-.08 ^c	.96	.41 ^c	1.10

a, d = difference is significant at the $p < .05$; b = at the $p < .01$ and c = at $p < .005$ (within each dichotomous variable).

Thus there does appear to be wisdom in the adage “just do it” and those who are always trying but not doing are suffering the affective consequences. There were no significant differences in well being for terminal phrasing. Table 3.12 provides the means and standard deviations for the dichotomous variables of interest. Probabilities less than .01 are robust to familywise error, those below .05 should be interpreted with caution and need replication.

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Direct correlations between phrasing variables and well-being show some modest findings, especially for “trying to do” which is associated with lower well being and “habitually doing”, which is associated with higher well being, but there was no clear relationship between telicity and global well being other than a small negative relationship between an overabundance of achievement projects and life satisfaction. Given the findings in chapter three, *it would seem plausible that again action character is more related to well being as a moderator variable, moderating the association between project efficacy dimensions and well being.* Furthermore, as hypothesized *we would expect project domain to moderate the relationship between action character and well being, with greater telic orientation leading to higher SWB in academic and maintenance projects, but not intrapersonal, interpersonal or leisure projects.*

To test the first of these two hypotheses, the ratios of telic and duration phrasing were trichotomized into three equal groups and individuals high and low on telicity were selected. SWB was regressed separately on the efficacy dimensions progress, outcome, competence, then on challenge, difficulty, separately for each of the two groups. Stepwise regression was used to identify which of the dimensions were most central to predicting well-being for each group. For those with a tendency to phrase their projects as telic (accomplishment, achievement) the single efficacy dimension “outcome” best predicted well being, predicting 37% of the variability in well-being in this sample ($R^2 \text{ adj} = .33$, $p < .005$), while for those with a tendency to phrase their projects as atelic (state, activity) the single efficacy dimension “progress” best predicted subjective well being, explaining 34%

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of the variability in well being in this sample (R^2 adj = .31, $p < .005$). Competence was excluded in both cases.

When SWB was regressed on difficulty and challenge, only challenge predicted well being significantly and *only for those who tend to phrase their projects atelicly* (R^2 adj .07, $p < .05$). Mean project difficulty did not predict well being in either instance, nor did project challenge for those who are more telicly oriented. Control appeared to predict well being equally well for those who phrase their projects telicly (R^2 adj = .11, $p < .005$) and those who phrase their projects atelicly (R^2 adj = .09, $p < .01$).

A similar analysis was conducted differentiating those with a tendency to phrase their projects as achievements (non-durative) and those who tend to phrase their projects as activities, states or accomplishments (durative). The efficacy dimension outcome and competence only predicted well being for the former group, with a combined R^2 adj of .41, $p < .001$. Progress did not predict well-being for either group and none of the three efficacy dimensions predicted well-being for those who phrase their projects more duratively. Neither challenge nor difficulty predicted well-being for either group. Control, on the other hand, did significantly predict well-being for those who phrased their projects non-duratively (achievement action character) (R^2 adj = .15, $p < .001$) but not for those who phrased their projects duratively (as activities, accomplishments or states) (R^2 adj = .02, ns).

Finally the same procedure was used to explore whether there might be any differences in how the affective dimensions (mean project stress and project enjoyment)

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predict well being. For those who tend to phrase their projects as atelic, only enjoyment predicted SWB significantly ($R^2 \text{ adj} = .18, p < .001$); however for those who tend to phrase their projects as telic, lower stress added significantly to the prediction of well-being. Semipartial correlations showed stress and enjoyment both accounting for similar variance in global well-being (semipartial $r = -.26$ and $+.26$ respectively). However, both stress and enjoyment combined predicted only 10 percent of the variability in well-being in this sample ($R^2 \text{ adj} = .10, p < .05$).

A similar, but not identical difference emerged between those who phrase their projects as durative and those who see them as instantaneous (achievement action character). For the high durative group, both project enjoyment and project stress combined to predict overall well-being significantly ($R^2 \text{ adj} = .29, p < .001$) with each contributing significantly to the prediction (enjoyment semipartial $r = .43, t = 4.02, p < .001$ and stress semipartial $r = -.27, t = -2.51, p < .02$). However for the high achievement group only the absence of stress significantly predicted well-being ($R^2 \text{ adj} = .14, p < .001$). Taken together, there appears to be a shift in the centrality of the two affective dimensions as one moves along the telic continuum. Those who are most atelic appear to derive well being more from enjoying their projects, while well-being for those who are in the mid range is best predicted by both enjoyment and stress (negatively). For the most telic individuals it is the lack of stress that is most associated with well-being. (see Figure 3.1).

Figure 3.1

**Action Character as a Moderator in the
Prediction of Well-Being**

Thus it seems safe to accept the first hypothesis that indeed action character does serve a moderating role at the individual level in the prediction of global well being. The happy telic individual is one whose projects are likely to succeed and are perceived as both enjoyable and not too stressful, while the happy atelic individual is one whose projects are progressing well, are not too challenging and are enjoyable. In contrast those who tend to phrase their projects as durative actions are happier when the projects are not very stressful and highly enjoyable, while those who see their projects as instantaneous achievements are happier when they are likely to succeed and not too stressed as well as when they feel competent and in control.

Domain Specific Well-Being

Project-level analyses in chapter two showed a potential domain by action

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character interaction for academic and maintenance projects. At the individual level we will explore five of the six project categories by action character in association with domain specific life satisfaction scales. A subset of subjects in the concatenated database also completed domain specific life satisfaction scales which correspond to the project domains: academic satisfaction for school projects, physical life satisfaction of health/body concerns, social life satisfaction for intrapersonal projects, emotional life satisfaction for intrapersonal projects and recreational life satisfaction for leisure projects. Although some also completed a “home” life satisfaction, this was not deemed sufficiently closely linked to maintenance projects in a student population to allow for a meaningful comparison. The five life satisfaction scores were correlated with the continuous phrasing variables in the expectation that more process oriented individuals (habit, doing more of and atelic, durative orientations) would score higher in recreational, social and physical life satisfaction, while more outcome-focused individuals would show positive associations with academic well being, mirroring the findings in chapter 3 at the project level. No hypotheses were made for emotional life satisfaction, given the only partial correspondence between the project domain and the outcome measure.

These predictions were correct in only two out of five cases. Individuals with more of a telic orientation appear to enjoy higher overall academic life satisfaction ($n = 174$, $r = .22$, $p < .005$), while individuals with more of a process orientation (including activity, state and accomplishment action character project phrasing) tended towards higher recreational life satisfaction ($n = 68$, $r = .32$, $p < .01$). There were no associations of note

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between health/body, intrapersonal or interpersonal projects and physical, emotional and social life satisfaction, perhaps because of the less clearly demarcated association between the projects and the outcome measure. For instance many individuals may derive emotional satisfaction not from intrapersonal, but from interpersonal project pursuit (the two scales were correlated at .49, $p < .001$) or from health/body projects, especially image related ones (the two scales were correlated at $r = .34$, $p < .001$). Other correlations with the continuous phrasing variables did not reach significance, although both “doing more of” and habitual project pursuit were associated with recreational life satisfaction in the direction expected.

T-tests were conducted on academic and recreational life satisfaction to compare the three dichotomous phrasing variables. Those who phrase their projects as “try to” showed significantly lower academic life satisfaction ($t_{(172)} = 2.86$, $p < .005$), while those who phrase their projects avoidantly showed lower recreational satisfaction, although only marginally given the limited power ($t_{(66)} = 2.33$, $p < .05$). “Finishing” was once again not significantly related to life satisfaction.

Conclusion

Evidence adduced in this study points to the ability to characterize individuals by the language in which they chose to phrase their doings, particularly along the lines of action character, that is, more or less telic and more or less likely to phrase actions in durative terms, as well as several other dimensions including a tendency to “try to” do, “do more of”, “do less of or not do at all” and do habitually. Of the several phrasing

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variables investigated only the inchoative (start) and terminal (finish) distinctions appeared to have little predictive validity and in the case of the latter, low stability over time.

Pennebaker and King (1999) noted in terms of lexical differences and personality that , “the ways people express themselves in words are remarkably reliable across time and situations” (p. 1308) and this study has shown that the same can be said of at least one category of syntactic and grammatical distinctions, action character. Not only are the phrasing variables stable, but modest construct validity emerges when they are compared with major trait dimensions and theoretically relevant individual differences.

The unmitigatedly telic individual

Those who phrase their projects in “pure” telic form (primarily as achievements) are indeed more likely to score higher on the telic dominance scale (Apter, 1983), particularly in planning orientation and a desire to avoid arousal, which is perceived negatively. The saliency of negative emotions is supported by the findings that their projects engender greater fear and anxiety than for their counterparts. In terms of project pursuit, they tend to see their projects as more difficult and thus as progressing poorly, but seem to be less concerned with progress in their projects than the control they wield over them and their eventual successful outcome. Overall subjective well-being for these individuals tends to be lower, possibly because it appears most associated with the amount of stress in their lives. Lower stress for the “pure” telic individual is more likely to predict well being than higher enjoyment. Perhaps this is why, in part, individuals with this

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orientation tend towards the lowest recreational life satisfaction. Although it is not unreasonable to suggest these individuals seem to enjoy life less, this appears to be offset somewhat by the finding that, at a global level, they perceive more meaning in what they are doing. Thus for these individuals, the meaning-manageability tradeoff appears to be in favour of meaning (Little, 1989).

The telic personality

The telic individual is a slightly more balanced fellow, with a project system that is made up of both instantaneous achievements and durative accomplishments, thus he seems to be able to derive some enjoyment out of the process aspects of the latter. For this individual, both high enjoyment and low stress help to predict global well being, although the latter is not noticeably higher or lower than the norm. Overall he tends to be less agreeable and, if male, more conscientious as well as being someone with his feet planted solidly on the ground. In his project pursuit, he sees himself as in control and competent, but his projects are not particularly challenging and not progressing as well as he would like. Ultimately, though, he tends to believe they will succeed, which is fortunate since the likelihood of their success appears to best predict his overall well-being. In the academic arena it is this individual who is most satisfied, suggesting that a balance between achievement and accomplishment project types may be that best suited to academic pursuits.

The atelic individual

The atelic individual is more agreeable, but less conscientious and has a tendency towards daydreaming and fantasy, if male, and impulsivity, if female. Unlike the telic individual, the atelic sees his projects as less under control, less likely to succeed and ultimately has some doubts about his own competence, but this is offset by his perception that, while challenging, his projects are progressing well. This is fortunate, since both higher challenge and progress are most predictive of overall well being for the atelic individual. Stress seems to be much less a factor in the experience of well-being for these individuals, for whom high enjoyment in project pursuit is most associated with the good life.

As well as these three personality orientations derived from action character propensities, some variations were evident as a result of certain individuals' particular tendencies to phrase their actions along specific dimensions:

The habitual doer

Also atelic, the habitual "doer" is particularly tender-minded and, if male, tolerant if somewhat lacking in the ability to weigh his options. He finds his projects more difficult and challenging and perceives himself to have lower self efficacy, but despite this, enjoys greater positive affect at the project system level than his counterparts.

The trying personality

Also atelic, the individual who is always trying to do is (if female) frequently also somewhat neurotic. She tends to hesitate in acting, perhaps because of projects which are

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perceived as more difficult, challenging and that still have a long way to go. Unlike her more general atelic friends, she who tries does not perceive her projects as progressing any better, but on top of that is very dubious about their successful outcome. Her academic life satisfaction is distinctly lower and overall she is more likely to suffer from depression. Her global well-being is also lower as a result of significantly greater negative affect and lower life satisfaction than her non-conatively challenged friends.

Perhaps more than any other single phrasing cue, an overabundance of “try to” in the project system would appear to be a clear signal of problems. Further research will need to clarify if this is due to a mismatch between effort and outcome or perhaps it is the nature of the projects towards which the individuals tries that is at issue. While it may be true in some cases to say that “it is better to have tried and failed than never to have tried at all”, this is clearly not so for these individuals. One hopeful finding was that the stability of this variable is low, so perhaps individuals go through “try to” phases, but move on.

Doing more: A mixed blessing

In still another atelic subcategory, women whose systems contain many “do more” projects tend to be particularly agreeable and altruistic, but also have a decided tendency towards depression. Moreover evidence suggests a trend towards greater hesitancy in their actions. For men, however, doing more is related to lower preoccupation and less hesitation. Both genders find their projects systems challenging and difficult and still far from done and perceive themselves as less competent. No differences between those who “do more” and those who “do other things” appeared at the level of global or domain

specific life satisfaction.

The avoider

Perhaps the only surprise with regard to this category which is the only one researched in the literature is that the findings were not stronger. Overall it appears less problematic to be avoidant than to be trying most of the time. The male avoider tends to be neurotic, but conscientious. Both he and his female counterpart see their projects as progressing less well and still in their early stages. They too feel marginally less competent in their projects. This appears to be reflected in higher negative affect and lower positive affect at the global level.

Clearly these characterizations are very preliminary and this study requires replication. The consistency and logical compatibility of the findings, however, both at the individual and at the project level, suggest these are real differences and that if we wish to look at personality through the lens of doing, we may need to draw distinctions in action conceptualization that have hitherto not been addressed. In this first look at what the verb offers in terms of different ways of looking at the individual, it would seem fair to suggest that it has provided no small insight into patterns of action construal and appraisal.

Endnotes

1. For the most part this was indicated by the use of a term “often” or “more” or by the use of a plural complement: buy a CD (achievement, non-habitual) buy CDs when I can (activity, habitual). In a few cases (student) world knowledge was necessary to correctly classify projects as habitual (see chapter 2).
2. Indeed many projects were not the same in the two elicitations. More work is required to track project pursuit over stages and to identify at which stage projects are most salient for inclusion in a rating matrix.
3. A not unrelated factor may be the time of the second administration which was just before term was finishing, hence imposing a social ecological “finish” to many projects for many individuals no matter what their orientation.
4. Facet-level traits were not compared given the high possibility of type one error.

CHAPTER FOUR

Projects Past, Present and Future: Tense and Personal Action

“It is not the series of instant after instant which is essential in music, but the fact that the present instant contains the past instant and the future instant: an interpenetration rather than a succession... interpenetration of simultaneous occurrence and serial occurrence.”

Zukerkandl in Jaques (1988)

Introduction

Study one examined the potential insight that action character, one of three fundamental properties of the verb related to time, has to offer into how we construe our actions. In study two the insight that language brings is less subtle. If not consciously aware of action character, humans are often painfully aware of their present, past and future actions and our love-hate relationship with time (used in its more limited sense of tense) has been the focus of philosophers for millennia and psychologists for over a century (Benjamin, 1966; Fraser, 1975). Although language offers many subtle distinctions with regard to tense, few of these appear central to our construal of personal action, in part because many seem to relate most to the retelling of past events and actions (narrativity, remoteness systems, referential tenses). Conative psychology, by its very name refers to the striving, volitional nature of action which is absent when discussing past action except by adopting a past deixis, that is, reporting on how one feels as if the action were now unfolding. This is evident in the psychological literature on action and motivation, which for two decades now has focused primarily in terms of variables

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associated with future time perspective (Nuttin, 1984; 1985; Nurmi, 1989; Zaleski, 1994), largely ignoring the past and present.

The major contribution of language to this study, then, is to reinforce the fact that time as tense is three dimensional (although see qualification below) and that intentional personal action of the sort studied here cannot be regarded as solely related to the future. Actions are embedded not only within a current social ecological context, but an extended temporal ecological context which links the choice and perceptions of current actions with past successes and failures and future desired outcomes or self representations (Little, 2000b; Lewin, 1942). At the broadest level, the purpose of this study is to determine which among the temporal variables now differentiated in psychology are most central to well-being. Based on the literature and pilot work we hypothesize that temporal extension (a future-only variable) and temporal attitude (a three tense variable) will best predict well-being. In the first case, shorter-term projects (Palys & Little, 1983) and, in the second, more positive future attitude (Scheier & Carver, 1992) are thought to lead in general to higher well-being and an absence of depression.

Tense distinctions in language are reviewed briefly below and then the major psychological temporal variables, first those encompassing all three tenses (Chapter 4) and then those restricted to future conceptions (Chapter 5), are explored individually in the context of personal projects. A summary discussion at the end of chapter 5 includes a comparison of all variables and their combined impact on well-being

Linguistic perspectives on tense and implications for personal action

Tense is not as ubiquitous in human language as one might deduce from a cursory glance at European languages. Indeed many languages, including some widely spoken, such as Mandarin, place greater emphasis on aspects of action (studies 1 and 3) than on whether the action is current, past or future. However it is widespread in major Western languages and the lexical denotation of past, present and future possible in all other languages (Wierzbicka, 1996), even if only by metaphor (e.g. In Hopi, Malotki, 1983).

The Past

There is relatively little contention regarding the past tense in language which is represented grammatically or lexically in all languages. Some, however, offer distinctions in the form of near vs. distant past (remoteness systems, Dahl, 1985); indeed some African languages have up to five past tenses (Comrie, 1985). For the purposes of this study, however, the past will be dealt with as a single tense, leaving these more subtle distinctions for future research. Since past actions are generally not the focus of study in PPA, a small sample of past projects was elicited to provide scope for examining past tense in personal action. It is expected, however, that the past may manifest itself rather differently in the context of specific personal action than in a more general past orientation or attitude.

The Present and Future

St Augustine (Confessions, XI) pointed out that we have but three times: the present of things past, the present of things present and the present of things future, in

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short we are always in the present, although the experienced present is likely very much constructed and constricted as a result of our past (Freud, 1917; Bowlby, 1969) or as a result of our anticipations and expectations of the future (Kelly, 1955; Nuttin, 1984). It is tempting to see the present as a rather meaningless entity if restricted to the objective measurement of time in that the present is always just past as a result of the time it takes to register; however for most of us the present is a continuum that comprises more than the immediate now. In pilot research in 1999, I asked 93 university students to define the present, the near and distant future and the near and distant past in units of time (seconds to years) (using a measure derived from Cottle & Klineberg, 1974). For the majority ($n = 87$) the present was construed in terms of days, some even weeks and months. Very few ($n = 7$) saw the present as fleeting.

In language the present reflects the ongoing nature of the activity or state and implies it began before and will continue after, even if only very briefly. The present is thus very closely linked with state and activity action character, since something that is ongoing cannot be seen clearly in relation to its beginning and its end in time.¹ Conclusions drawn with regard to present tense action, therefore, have implications for action character.

In much of language the present tense is often used to denote future action, so the distinction between the present and the future is blurred somewhat: *Ich komme bald zurück* (German: I am coming back soon); *Wo mingtian qu kanjian wo de jiejie* (Chinese: I am seeing my elder sister tomorrow). We see a similar blurring in our construal of action. Although we tend to talk about the projects respondents have listed as their current

activities, in many instances the project is still at a pre-actional stage, that is, it is a planned action. Dahl notes in his study on tense in sixty-four languages that “it seems fairly clear from the data [...] that the most typical uses of FUT [the future tense] involve actions that are planned by the agent of the sentence... This suggests ‘intention’ is part of the prototype of FUT [future tense]” (1985, p. 105). If we define as “present” all four stages of project pursuit (inception, planning, action and termination, Little, 1983), we are, in fact, excluding the possibility of specific future projects. The only true “future” projects would be those that we have not yet conceptualized, a less than useful construct. In this study, then personal projects are redefined as both present and future action, with the former reserved for those projects in the last two of the four project stages (action, termination), while the latter reflecting those that are currently still in the first two (pre-actional) stages (inception and planning).

It is this blurring of present and future that is probably the most significant insight language gives us into personal action. In many major languages, including English, the future has been argued to be not a tense but a mood (Fleishman, 1982). “I will receive a Ph.D.” (or the less emphatic “I shall”) is a statement of desire, expectation, determination but is not verifiable at the moment uttered. It may or may not be true and thus cannot be viewed in the same way as the equivalent past expression “I received a Ph.D.”, which is either true or not true right now. In still other linguistic formulations the past and present are lumped together as fact (realis) and juxtaposed with that which is not yet known (irrealis) (Comrie, 1985). We would expect that, in the context of personal action, the

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former conceptualization is more relevant to personal action and that present/future action will be more homogeneous than past/present action.

The fact that so few languages have a clear and definitive future tense (Comrie, 1985) points to the uncertainty we have traditionally faced in looking to the future; however as our lives become more stable, particularly in the West and we can with some confidence envisage tomorrow, the future appears to imply tense rather than modal meaning. Nonetheless there may be instances where we can gain more from a dichotomous look at tense (that which has taken place vs. that which is unfolding) and future research into modal perspectives on personal action (conditional, emphatic etc.) may shed greater light on action that has not yet been enacted.

Psychological perspectives on tense: the past, present and future

Over the past century of research into the psychological properties of time, aperiodic reviews offer strikingly consistent conclusions about the state of the art. Nichol's (1898) review spans Plato to James at a theoretical level and Weber to Wundt at an experimental and his conclusion foreshadows, albeit more eloquently, many similar if somewhat more narrowly focussed reviews that decry the lack of clarity of definition of the construct and the ensuing methodological confusion (Gilliland, Hofeld & Eckstrand, 1946; Wallace & Rabin, 1960; Mönks, 1969; Hoornaert, 1973; DeVolder, 1979; Nuttin, 1985; Nurmi, 1989; Thiébault, 1998).

Casting an eye backward, we can but be struck by the wide variety of explanations offered for the time-mystery. Time

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has been called an act of mind, of reason, of perception, of intuition, of sense, of memory, of will, of all possible compounds and compositions to be made up from all of them...It has been assigned as a separate, special, disparate sense, to nigh a dozen kinds of 'feeling,' some familiar, some strangely invented for the difficulty. It has been explained by 'relations', by 'ear-marks', by 'signs,' by 'remnants', by 'struggles', and by 'strifes', by 'luminous trains', by 'blocks of specious-present', by 'apperception'. It has been declared *a priori*, innate, intuitive, empirical, mechanical. It has been deduced from within and from without, from heaven, and from earth, and from several things difficult to imagine as of either. (Nichols, 1898, p. 502)

As to the state of empirical research, which in Nichol's early days was limited to the single concept of time estimation, he found "with difficulty, if indeed at all, can the results of any two [studies] be harmonized..." (p. 527). The title (and content) of Thiébault's (1998) review a century later "Time Perspective: a concept in search of an operational definition" might suggest we have not made striking progress in this area. Such a conclusion is not entirely fair, however, for the marked differentiation in the now many variables that make up research into questions of time has expanded our conception of the field considerably, resulting in what it might be fair to call a more molecular level of confusion. Although researchers are not consistent in their usage of terms, most would agree that the study of time, in terms of past, present and future, involves a focus on several different variables: time orientation, time density, time perspective, time coherence, attitude toward time, time extension, time integration and time clarity. If we have made some progress in defining what we are studying, this clarity through differentiation has

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added to methodological problems in that instruments do not always capture precisely the new constructs. In exploring these constructs in the context of personal action and well-being, it is hoped that some clarity of definition and operationalization will emerge.

Although many psychological constructs imply temporality, we have adopted the view of Zimbardo and Boyd (1999) and focussed directly on temporal variables as “the foundation on which many more visible constructs are erected or embedded” (p. 1272).

Although some of the psychological variables investigated in this study have been tentatively linked with well-being, many have been associated rather with behavioural indices or motive dispositions and thus the primary thrust of this study is, like study 1, exploratory. Hypotheses have been made where possible based on the literature, in some cases on language usage and in some cases folk psychology, but findings other than those anticipated can be seen as contributing to the psychological understanding of action and well-being by prompting new and more precise hypotheses.

For the sake of clarity and brevity, after the general methods section below which describes the sample and procedures used, each temporal variable will be discussed separately in terms of its background, operationalization, variable-specific results and discussion. These will be followed by a brief general results section dealing with the combined relations among the variables, PPA and well-being. A general discussion completes the chapter.

Method

To explore the relationship of tense and action with well-being in both a university

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and older population, 276 participants were asked to complete several questionnaires including a modified PPA package, several outcome measures (see chapter 2) and a series of temporal measures described below. The university sample was given course credit for their participation and of the 123 packages handed out 106 were returned, a return rate of 86 per cent. The older sample were solicited using newspaper advertisement (see Appendix A) with packages mailed out to those who called expressing interest. Of the 153 packages mailed out, 103 were returned, although not all of these were fully completed, a return rate of 67 per cent.²

In the university sample four packages were incorrectly completed or insufficiently complete to be used, while there were 13 such packages among the older sample, leaving, in total a sample of 103 university age respondents ranging in age from 17 to 36 ($M = 20.51$ $SD = 3.43$) and 90 older individuals from 40 to 82 ($M = 57.23$ $SD = 8.1$).

In addition to the data collected expressly for this study, one archival data set (Chambers & Little, 1999) was used to augment the data available for analysis in the case of those variables for which project category was to be examined. Since there are six project categories and many are not necessarily represented in each project system, power was significantly reduced in the base sample. Given that the project elicitation used for this study was exactly the same as that used in the archival data set, the two could be merged with no confound. This also allowed for an initial comparison of action character coding and certain temporal variables, given that Chambers & Little (1999) was also used as the third component of the concatenated database in study 1.

Demographics

University sample

Of the 102 students in the sample 74 (72.5%) were female and 28 (27.5%) male. English was the native tongue of 82 (80.4%), 11 (10.8%) spoke an Asian language, 8 (7.8%) a European language and 1 (1%) a Middle Eastern language. All respondents were asked before completing the package if they considered themselves to have near native fluency in English, given the evidence from previous data collections using PPA that those with poor language skills have difficulty following the instructions. Of the 102 respondents, 90 (88.2%) indicated they currently used English in the home.

Almost all of the students were single ($n = 98$; 96.1%), only three (2.9%) married and one divorced (1%). The majority ($n = 75$; 73.5%) were first-year undergraduate students, 12 (11.8%) second year and 4 and 2 (3.8% and 2%) in third and fourth year, respectively. One had previously completed a BA and the remainder did not indicate year of study. Slightly under one half of the student sample did not work ($n = 47$; 46.1%) while the remainder ($n = 55$; 53.9%) worked from 4 to 60 hours per week ($M = 19.60$ $SD = 10.89$). Most ($n = 91$, 89.2%) were full time status, 2 (2%) part-time status and 6 (5.9%) special students. Three did not indicate student status.

With the possible exception of the gender split favouring female respondents, although this mirrors past research experience using PPA, there appeared to be no unusual characteristics associated with the sample that would preclude generalizability to the university student population. It should be stressed however, that such a sample is not

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necessarily a reflection of the entire population of young adults, since the student role may channel personal action in clearly defined ways (Seldon & Little, 2000).

Older Sample

Of the 90 respondents in this sample 62 (68.9%) were female and 28 (31.1%) male. All but four of the respondents were English speaking with those four listing European languages as their native language. Only one indicated that English was not currently used at home. 15.56% of the older sample reported that they had suffered a major illness or disability, principally diabetes, fibro myalgia or high blood pressure. Only one indicated trauma that was likely to impair responding and he was excluded previously on the basis of having incorrectly completed the package.

Over one half the sample were married ($n = 47$; 52.2%), 21 (23.3%) divorced, 9 (10%) widowed and 13 (14.4%) single. Level of education included 19 (21.2%) who had not completed high school, 21 (22.2%) with grade 12 or 13 education. 24 (26.7%) with a college or vocational school degree/diploma, 19 (21.1%) with a bachelors degree and 8 (8.9%) with a Masters degree. Six were currently enrolled in a university degree programme, five part-time, one full-time and one listed herself as a special (non-degree programme) student. Approximately the same percentage were working in this sample as were in the student sample ($n = 46$, 51.1%) with the remainder unemployed or retired ($n = 44$, 48.9%). Among the employed, hours per week ranged from 4 to 60 ($M = 35.33$ $SD = 13.15$) with the average approximately double that of the students.

The principal rationale for including two age groups in this sample was not to

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compare both, but to provide an indication of the generalizability (or not) of the findings in the university sample outside of the student population, hence there was no attempt made to match the younger and older sample on any specific demographic characteristics. The older sample was probably more literate than the norm and there is a strong likelihood that, at least, among the retired (70+) the cognitive abilities required to complete this package are not representative of the average individual of that age. There also may be a slight bias created by the higher number of unmarried individuals (over 50%) in the sample, suggesting they may have more time or initiative to fill out such questionnaires. Nonetheless a review of the personal projects of this sample suggest they are engaged in activities that would appear to be representative of their age group (Bouffard & Bastin, 1993).

This same review suggested, however, that this sample may be somewhat too heterogeneous to be considered as a group. The personal projects of those who were retired or not working appeared qualitatively different than those who were working, so an initial analysis was conducted on project system and principal outcome measures to determine if there were significant differences between these two groups. At an alpha level of .05, no clear differences emerged, although trends were evident that may have been significant given greater power. Given the complexity of the study and the low power associated with further splitting the older group, it was decided to consider the older group as a single whole; however future research in personal projects may wish to distinguish the older retired and the older working as distinct subsamples.

Archival Sample

Of the 85 students in this third-year psychology class sample, 62 (72.9%) were female and 23 (27.1%) male. English was the native language of 69 (81%)³, 8 (9.4%) spoke a European language and 4 (4.7%) an Asian language; 88% (n = 75) spoke English at home. Although slightly older than the student sample above ($M = 24.27$ $SD = 5.22$ yrs) most students were still not married (n = 69, 81.2% single vs. n = 14, 16.5% married). Two (2.4%) individuals indicated they were divorced. The majority of the students were in their third year (n = 56, 65.9%) with 7 (8.2%) in second year and 19 (22.4%) in fourth year. The remainder listed themselves as 'other' (3.6%). Most were full-time status (n = 66; 77.6%) with 19 students indicating part-time status (22.4%). A greater number of these students were employed (n = 61, 71.8%) than in the student sample above, working from 5 to 42 hours per week ($M = 21.6$ $SD = 11.92$). Only four individuals in this study were over 40, so 95.3% fell into the younger group, as defined above.

Procedure

University sample

Students in first-year psychology were recruited using an announcement posted on the first year psychology board (see Appendix A) which directed those interested to pick up a package and return it within a week. They were given a phone number to call if they did not understand any items and were fully informed regarding the confidentiality and

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anonymity of the data. They were told they may skip any items they considered too personal or sensitive. Data collection began in early October and was complete by late November 1999. While most students did return the package within seven days, some took up to 20 days, citing academic commitments. No qualitative differences were detectable between those completed within the set time period and those students who took longer. Upon returning the package students were given a written debriefing (see Appendix A) and asked if they had questions, concerns or comments.

Apart from some (legitimate) concerns that the package was rather long, most comments were favourable. Some that were included on the final page which provided a opportunity for general comments on time and on the study include:

- respondent #83: “ I enjoyed doing this survey and thought the timeline was really a good idea.”
- respondent #74: “You have definitely gotten me thinking about time and my goals. This has given me the knowledge of what aspects of my life I need to spend more time on.”
- respondent #104: “this survey really made me think. I feel it has brought me back to reality. It was touching [sic] but interesting”
- respondent #9: “This was a very good survey; it helped me look back on my past and forward to my future.”
- respondent #37: “I don't think I take the time to appreciate the little and big things that happen. This questionnaire has really made me think about that. Thank You”

These responses and those students provided orally on handing in the package, as well as the fact that most of the packages were complete despite the option to skip items suggest that students were interested and involved in responding to the questions. This has generally been the case with previous PPA research (e.g., Omodei & Wearing, 1990) but may have been heightened given the innate curiosity that most of us have regarding time.

Older Sample

Advertisements were placed for two months in the weekly Ottawa Pennysaver and the monthly senior's newsmagazine Forever Young explaining briefly the nature of the study and asking interested individuals to call and leave their mailing address (see Appendix A). Participants who returned their completed package were offered a chance to win \$250 by the end of the year in a lotto draw⁴. Addresses were noted and packages sent out with an explanatory covering letter, informed consent form and a return stamped envelope, in which was secreted the debriefing form. Subjects were asked not to read the form before completing the package and it was deemed unlikely that if they should do so, that it would influence their answers, given the candid nature of the questions and the impossibility of knowing which measures related to which questions. A number was provided for the respondent to call should there be any questions or any items that were not clear. Several availed themselves of this service.

Subjects were asked to return the package within ten days; however if they did not (either completed or uncompleted) a reminder letter was sent out (see Appendix A) explaining that even the blank package could be recycled and asking them to return it. Only 13 respondents did not return a package either blank or completed in some form. Packages were received from early November 1999 through mid January, 2000.

Much like the student population, the senior sample found the questionnaire to be interesting, although certain items were more problematic for some. Subject #120 found "the money game was too ridiculous to answer", while several commented that some of

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the questionnaires were tedious. Overall the length of the package was a problem, with some respondents indicating they had taken up to 8 hours to complete it. Despite this, there were many positive comments:

- respondent # 167: "I appreciated doing this survey because it made me look at my life history as a whole and do some thinking regarding my plans for the future."
respondent # 170: "Thank you for this opportunity to learn a little more about myself."
respondent # 139: "This project was very rewarding: it helped me to reflect on the things I have already accomplished in my life. I am well pleased."
respondent # 207: "This questionnaire made me question my motives, direction and I am pleased."

Again these comments together with the perseverance of those who complained the package was too long but completed it nonetheless, suggest the measures were taken seriously and responses were thought out. The abundance of ancillary comments, stories, even newspaper clipping and copies of personal diary entries that accompanied the packages also attest to this. Apart from the importance of having committed respondents to provide valid data, this positive feedback provided evidence that the study complied with the philosophy of the Social Ecology Laboratory that considers research participation should be beneficial not only for the researcher, but for the subject (Little, 1972; 1987a).

Results

Action Variables: Project Factor Structure

Before discussing the specifics of the various temporal constructs, it is important to characterize succinctly the personal projects appraisals of the participants in this study that will be used to understand how they see their actions. The factorial structure of this

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data set is expected to be different from that of the PPA data used in study one, given that several new dimensions were used, particularly the affective dimensions and the temporal dimensions, and several of the more traditional dimensions were excluded to avoid making the task overly onerous. Respondents were asked to rate their personal projects on 15 cognitive dimensions⁵ and 14 affective dimensions. These were factor analyzed separately given the strong underlying theoretical basis distinguishing cognitive and affective variables (Frijda, 1986; Lazarus, 1991).

Hakistian, Rogers and Cattell (1982) have shown that factors selected on the basis of the Kaiser criterion (eigenvalues >1) for which the ratio of factors to variables is less than .3 are more likely to accurately reflect the key variability in the data set. In both the cognitive and affective factorial analyses, which yielded three and two factors respectively, the factor/variable ratio is .2 and .15, well below their recommended cut off. In the data set as a whole ($n = 185$), .38 was adopted as the cut-off for interpreting variable loadings (Cliff & Hamburger, 1967, in Stevens, 1996). For the two smaller subsamples .42 was used as the cut-off, using the more liberal criterion of 1.5 times the critical value for the correlation coefficient (Stevens, 1996, p 371).

Not surprisingly a principal components analysis (PCA) of the affective dimensions yielded two orthogonal principal components representing positive and negative affect, both for the data set as a whole and for the two subsamples. It is noteworthy that the two highest loading dimensions are 'stress' for negative affect (supporting the traditional use of the dimension as a proxy variable for negative affect, as was done in study 1) and

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'joyful' for positive affect. Happy/enjoyment the traditional positive affect dimension loaded almost as highly on the PA factor (.84), suggesting it too is a good proxy variable. The principal component structure is shown in Table 4.1; no rotation was necessary.

Table 4.1

Principal Component Structure: Project Affect

Dimensions	Factor 1 NA	Factor 2 PA
ambivalent	.73	
angry	.77	
bored	.55	
depressed	.80	
excited		.86
fearful	.72	
guilty	.76	
happy		.84
hopeful		.67
joyful		.86
loving		.67
sorrowful	.74	
stressed	.81	

The factorial structure for the cognitive dimensions in the sample as a whole yielded three interpretable principal components based on a Varimax rotation which converged in 7 iterations. The first principal component reflected more future-focused efficacy, with the core efficacy/ structure dimensions of outcome, competence and control,

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as well as the new temporal dimension, project clarity. The second principal component was more past efficacy with an emphasis on progress-to-date, stage and support, but included self identity insofar as what we have done to date contributes to our sense of self. The third principal component (future meaning) links past and future relevance (how much is this project a logical continuation of your past/who you have been in your life up to now and how much is this project leading you toward the future you hope to have), importance and commitment, as well as autonomy. It would seem for the sample as a whole that the past is linked to the future and there is a sense of continuity in what the respondents are doing. (see Table 4.2 for the full rotated matrix).

In the younger sample temporal clarity loads (non-significantly) with control, competence and responsibility in a fairly clear structure factor, while outcome, progress and stage form a more traditional efficacy factor. The third principal component represents a single strong meaning/identity factor including commitment, importance, self identity and both past and future relevance. This factorial structure is most similar to the four standard PPA (cognitive) factors (Little, 1983; 1988), missing only community (support loads on meaning/identity) (see Table 4.2 for the full rotated matrix).

Finally the factorial structure of the older sample includes four components, with clear future and past efficacy factors like the sample as a whole, a future meaning factor, including primarily commitment, future relevance and importance, and also a separate identity factor, which links past relevance, self identity, responsibility and autonomy. In the older sample rather than loading on the same general meaning factor as future relevance,

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past relevance appears to be associated with a greater sense of self and identity, reminiscent of Eriksonian integrity in later life (Erikson, 1968). (see Table 4.2 for the full rotated matrix.)

The five principal components together (six for the older group) including the two affective factors cover much the same ground as the traditional five-factor model of PPA, with the exception of the single community dimension (support) which here loads variously on other factors and the addition of a positive affective factor as distinct from meaning. The inclusion of three temporal dimensions has provided an interesting, more temporally-based perspective on how we see our projects, as discussed above. Factor scores were computed for the samples separately and for the group as a whole to be used in the relevant analyses.

Table 4.2

Principal Components Structure: Cognitive Dimensions

PPA Dimensions ↓	Whole Sample			Younger Sample			Older Sample			
	1 ^a	2 ^b	3 ^c	1 ^e	2 ^d	3 ^f	1 ^a	2 ^e	3 ^c	4 ^b
Principal Component →										
anticipated success (outcome)	.53				.51		.74			
clarity	.64			.42			.62			
competence	.71			.56			.83			
control	.66			.69			.63			
responsibility	.57			.72				.76		

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PPA Dimensions↓	Whole Sample			Younger Sample			Older Sample			
	1 ^a	2 ^b	3 ^c	1 ^e	2 ^d	3 ^f	1 ^a	2 ^a	3 ^c	4 ^b
Principal Component→										
difficulty	-.53	-.45	-.46		-.70		-.66			
autonomy			.53					.53	.45	
commitment			.66			.65			.78	
importance			.78			.72			.81	
past relevance			.44			.68		.64		
future relevance			.72			.77			.61	
self identity		.43				.58		.46		
support		.55				.57			.46	.47
stage		.60			.55					.73
success to-date (progress)		.79			.71					.83

a = future efficacy; b = past efficacy; c = future meaning; d = efficacy; e = structure; f = meaning/identity; g = self identity

Temporal Variables: Background, Operationalization and Implications for Personal Action and Well-Being

Time Perspective: How is time relevant to you and your actions?

The term “time perspective”⁶ has been defined variously over the years, but stems largely from Lewin’s (1951) field theory in which temporal aspects of the life space were characterized as “the totality of an individual’s views of his psychological past and psychological future existing at a given time.” (1951, p. 230). Not long after Wallace and Rabin’s (1960) review in which they highlighted the varying connotations and usages of

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the term, Wohlford (1964) suggested that the term had been misused so frequently as to warrant discarding; however Hoornaert (1973) proposed that it be retained as a molar term that includes more specifically defined variables. His suggestion has not been heeded; however, and the reader is often left to deduce which “time perspective” an author means. In this thesis it will be used as an umbrella term true to Lewin’s definition⁷, but only meaningful in the context of research into its specific dimensions described below.

Time Orientation: Do you think more about your past, present or future action?

Background

Often used as a synonym for time perspective (Nurmi, 1991; Trommsdorf & Lamm, 1994) or time attitude (Shmotkin, 1991), time orientation⁸ in its narrower sense is one of the earliest of the subjective time dimensions to emerge. Israeli (1932) notes in one of his experiments that his subjects (college age) rated the present as negligibly more important than the future but as 12.7 times more important than the past. This captures the essence of time orientation (also referred to as dominance [Cottle & Klineberg, 1974] or directionality [Hoornaert, 1973]) which is the direction of focus towards one of the three time periods. Zimbardo, Keough and Boyd (1997) define time orientation as “a unique cognitive style of processing information and acting based on a learned preferred focus on one or another dimension of the temporal environment, past, present or future [which can] function as a personality trait.” (p. 1020). DeVolder (1979) clarifies in his review that the underlying assumption in time orientation is that thought content analysis reflects an influence on future action; in short, if one thinks frequently of the future, one’s actions are

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liable to be more significantly influenced by the future. How often one thinks about the past, present and/or future, then, is the key marker of time orientation.

This construct was used most extensively in the middle of this century which saw an exponential growth in trait concepts as predictors, but still emerges aperiodically in applied studies. Particularly frequent were comparisons of target with normal comparison groups, e.g., delinquent adolescents (Barndt & Johnson, 1955; Davids & Parenti, 1958; Davids, Kidder & Reich, 1962; Ricks, Umbarger & Mack, 1964); mentally handicapped (Roos & Albers, 1965); lower economic status (LeShan, 1952; Ellis, Ellis, Mandel, Schaeffer, Sommer & Sommer, 1955; Trommsdorf & Lamm, 1994); socially inept (Banisconi, 1968); high achievers (Davids & Sidman, 1962; Barabasz, 1970; Goldrich, 1967) highly anxious subjects (Krauss & Ruiz, 1967; Achamamba, 1988) as well as more recently, alcoholics (Hulbert & Lens, 1988b; Breier-Williford & Bramlett, 1995; Lennings, 1996); high HIV risk (Rothspan & Read, 1996); age (Shmotkin, 1991; Rappaport, Fossler, Bross & Gilden, 1993; Powers, Wisocki & Whitbourne, 1992); future expectations (Jason, Schade & Furo, 1989); suicide risk (Lennings, 1992) and even participation in leisure activities (Philipp, 1992) and risky driving (Zimbardo et al., 1997). It is difficult to form any consistent picture of the relationship of time orientation to these individual differences, given the many different methods used and the discrepant findings where ever more than one investigator has studied the same question (DeVolder, 1979). Overall there seems to be a general although far from universal trend towards future orientation as more beneficial than present and past orientation (Zimbardo & Boyd, 1999).

and the latter as rare, even among the elderly (e.g., Hulbert & Lens, 1988a).

In this study we are interested in the operationalization of the construct, which has been so problematic, its relationship to well-being, tested directly, and its link to personal action. In short, is temporal orientation solely a trait (Zimbardo et al., 1997) and if so, is future orientation the preferred orientation, and if not, does it also influence how we think about our projects? From a social ecological perspective, it would seem intuitive that the benefit of temporal orientation may depend on the context, with future orientation beneficial in the pursuit of academic/ occupational projects, while the same orientation detrimental in interpersonal, intrapersonal or possibly health/body projects. For instance, while I may succeed in my studies and take greater enjoyment from them though focussing on their meaning and purpose for future goals, my continual focus on the sort of individual I must be (in the future) may impede any enjoyment I could derive from being fully in the now (Rogers, 1961). Similarly, eating healthily to feel better about self now would seem to be more likely to offer immediate positive reinforcement than eating healthy to be thin (in the future). In other words a flexibility in temporal orientation as a result of contextual sensitivity may be essential to well-being. There is a marked lack of differentiation in domain in the literature, which may account for some of the discrepancies in findings over and above the many rarely equivalent measures used. While this study does not allow for the examination of domain-specific temporal orientations, it does permit the prediction of both domain-specific well-being and project domain-specific satisfaction (affect) as a function of specific temporal orientation (past-present-future).

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Individuals with a future orientation in those domains in which planning is central to success, particularly occupational or academic project domains, are hypothesized to show enhanced domain specific well-being, whereas individuals with the same orientation in contexts such as intrapersonal, health body and interpersonal are more likely to show lower domain specific well-being in these categories. As well as the substantive questions regarding well-being, *the study will examine the convergent validity of the measures that have been used to measure temporal orientation to determine if they provide cross-instrument consistency.* Based on previous finding cited above, it is expected they will not, so alternative measures of orientation are suggested that may reflect a more personally salient and valid way of representing temporal orientation.

Operationalization

None of the standard measures of temporal orientation stand out as psychometrically more robust than others⁹. Given the paucity of good or clearly interpretable temporal measures, five were included in the hope that an underlying common factor would provide a valid measure of orientation. Among these were Rapaport's (1990) time-line, which asks the respondent to note major points in their life along a linear continuum and then delineate which they consider are past, present and future. Individuals with a greater number of events in one time period are coded as oriented toward that time period; Cottle and Klineberg's (1974) "money game" in which individuals are given a sum of hypothetical money and offered the choice of

buying time at some point in the past or future. Individuals who chose not to “play the game” are coded as present, with the others defined by the period in which they chose to buy time; Cottle’s (1969) experiential inventory which asks subjects to list the ten most important events of their life, past, present and future. Individuals with more events in one time period are coded as oriented towards that time period; and, in the tradition of Burisch (1984) and Kelly (1955) before him, a simple query about which time frame the individual considers he/she thinks about most often, the past, present or future (see Appendix A for the measure; high scores indicate no time spent thinking, low scores a lot of time spent thinking about a given time period). Cottle’s (1967) projective circles test in which respondents are asked to draw three circles to represent past, present and future, was also included as a measure of temporal integration and can be scored in such a way as to provide a temporal orientation score (whichever circle is drawn larger), hence was included as well.

Since PPA is much more present-future focused as a methodology, temporal orientation that includes the past is not easily measured. Although subjects were asked to list three past projects, a review of the data shows that the projects selected tend to be positively valenced and successful. Not surprisingly, few chose to list past failures. In this context, the salience of positive past accomplishments can be viewed as important and perhaps an accurate reflection of the way in which most people like to think of their past actions. A tentative measure of temporal action orientation was therefore derived by summing mean project importance, commitment and self-identity within each individual

for the three groups (past, present and future projects) and using the highest sum to identify the temporal orientation of the individual. Differences less than 1 were not considered sufficiently distinct to warrant categorization. Present projects were those listed at stage 3 or 4 (action and termination); future projects, those that were still in the inception and planning stages (stages 1 and 2), that is, those including both Gollwitzer's predecisional and post decisional (but pre-actional) phases (Gollwitzer, Heckhausen & Steller, 1990).

Correlations among these six measures were low enough to confirm the methodological problems alluded to earlier (Lessing, 1967; Wohlford, 1964) . Appendix J provides the zero-order correlations among the variables for both the younger and older sample. A principal components analysis on the six measures for the sample as a whole yielded two marginally interpretable factors: one including Cottle's Circles test, Cottle's Experiential Inventory (EITO) and Rappaport's Time Line temporal orientation measure (RTLTO) and the other including the self-report temporal orientation (SRTO), the "Money Game" (MGTO) temporal orientation and, surprisingly the PPA temporal orientation (PPATO) negatively. Tentatively one might allude to the first as life-experience temporal orientation, given that both the EITO and the RTLTO focus on life events and the circles test is projective and therefore not clearly focussed on any conscious mental content. The second appears to be less concrete, with both the SRTO and the MGTO relating to perceived or fantasized use of abstract time. The negative loading of the PPA measure suggests that individuals with a particularly negative past may wish or need to

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elicit past accomplishments that are particularly positive, or put another way, that those with more positive general perspectives on the past may be more willing to consider some of the negative aspects of past actions. Thus the elicitation of PPA past projects may possibly serve a compensatory function. If true this would distinguish the comparison of past action with current action from past selves with current selves; in the latter Wilson and Ross (2000) have found negative past selves are more frequently used for comparison purposes. The difference may be that past actions, especially if recent, may be seen as reflecting current identity, whereas past selves may not, i.e. my new self is different and better than before.

The overall factor structure disintegrated when the groups were split, however, with four separate factors emerging for the younger group and three for the older sample, none of which were adequately robust to interpret. Furthermore over one-half the sample ($n = 103$) either did not complete one of the measures or emerged with scores that indicated a symmetrical orientation to two or three of the time periods, making any combination of scores impossible.

Based on a credulous Kellian approach, temporal orientation will be explored using the SRTO measure since this most directly taps the construct of interest, has high face validity, and any results can at least be interpreted as relating to *self-perceived* temporal orientation given the unambiguous nature of the question/measure. Temporal orientation will also be explored using the action-focussed PPATO.

Results

Self-reported temporal orientation and global well-being

Correlations between the SRTTO and subjective well-being for the younger group were all non-significant, that is the amount of time thinking about past, present or future did not seem to be associated with how life was going or positive and negative affect. For the older group, however, both those who spent less time thinking about the past and those who reported spending more time thinking about the present enjoyed higher well-being than their counterparts ($r = -.37, p < .001$ and $r = .26, p < .01$, respectively). Regressing SWB on all three variables using a stepwise method, only the amount of time thinking about the past predicted SWB negatively, accounting for 13 per cent of the variability in well-being ($R^2_{adj} = .13, p < .001$). Heterogeneity of variance was not a problem.

Shmotkin (1991), in one of the few temporal orientation - life satisfaction studies, found in a large Israeli sample that while the tendency to focus on past events does not increase with age, the positive association between past focus and life satisfaction does. He interpreted his finding as a way in which past accomplishment can allow “the elderly to reconcile themselves to the hardships of the present and their diminishing resources in the future” (p. 248), noting that the past became more positive than the present at the average age of 51. Shmotkin also found that older individuals tend to think less about the future as they age ($r = -.19$). Certainly in this sample, self-reported temporal orientation does not appear to support his findings. Here, the older the individual the more likely he or she is to

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think about the past ($r = .22, p < .001$) or the future ($r = .37, p < .001$) and the less likely to think about the present ($r = -.36, p < .001$). The discrepancy in the results may reflect different methodologies, different constructs (life satisfaction is only one of the variables used to reflect SWB in this sample), cultural differences, or possibly the greater heterogeneity of his sample. It may also reflect a very real difference that the average Canadian in 2000 has a long life expectancy, good health care (for now) and may not at all be suffering “the hardships of present”. Indeed the high number of leisure and travel projects in the project elicitation would suggest the sample was rather enjoying their present and looking forward to their future (see time attitude below), putting into relief the few who were past focused.

In the self-report measure used in this study frequent thinking about the past (globally) is not only clearly negatively related to SWB ($r = -.24, p < .001$) for the older group, but somewhat more strongly positively related to depression ($r = .35, p < .001$). The gerontological literature, however, (e.g., Osborn, 1989; Havinghurst & Glasser, 1972; Haight, 1988) suggests that reminiscence (thinking about the past) can be quite positive and indeed it has been developed into a therapy for elder depression. Bachar, Dasberg, Shapira and Lerer (1990) for instance, report that depressed patients reminisced far less frequently than “normals” ($p < .001$) in their study and that ECT treatment increased the tendency to reminisce ($p < .01$), which they interpreted as positive! Structured reminiscence, particularly that which is elicited by specific questions should not, however, be confused with a tendency to think about the past spontaneously which

may reflect more appropriately the construct of past rumination (Martin & Tesser, 1996; Mears, Chambers & Little, 2000). This difference between a negative past focus and a positive past focus emerges in Zimbardo and Boyd's (1999) new ZTPI (Zimbardo Time Perspective Inventory) as two distinct past factors. In this sample at least, thinking about the past seemed to tap more closely what Martin and Tesser (1996) label "regret" (past, negative rumination) (see also Lecci, Okun & Karoly, 1994).

Within the context of action, increased past temporal focus may reflect the sense of incomplete striving or a preoccupation with past events that hindered the completion of desired past action¹⁰. The individual finds him or herself unable to disengage from the original goal(s) and thus valuable cognitive resources are tied up that cannot be used to work on current and future projects (Klinger, 1975, 1977). Indeed the finding reported below that Personal Project (future) efficacy for the older sample is negatively associated with thinking more about the past would seem to offer support for this view. Qualitative data provided by two subjects who scored high in thinking about the past and responded to the "Money Game" also suggests a preoccupation with a past gone wrong:

Subject # 206 (57 yr old female):

"I'd buy this time because I regret the past. I would use this time to undo any hurt and change [family] relationships. Be the person they needed and be the person I've grown to become."

Subject # 233 (58 yr old male):

"I would spend any amount of money to buy past time to correct the errors in my youth that gave my parents problems and I would tell my parents how much I love them and would appreciate the effort that they were putting out."

Personal Project Temporal Orientation and Global Well-being

In the context of self-reported temporal orientation, it would appear that time spent thinking about the past is particularly detrimental to well-being. To compare this with a measure of temporal orientation operationalized as the value/meaning associated with key personal action in the three time periods, the newly derived PPATO measure was first tested for gender and age differences. In a mixed design (repeated measures ANOVA for the within-subject factor (tense) and a two between subjects factors (age and gender)), neither age nor gender was found to moderate the differences in project temporal focus (Wilkes λ $F_{(2, 146)} = 2.01$, ns and Wilkes λ $F_{(2, 146)} = 2.01$, ns, respectively), although the main effect for age was significant, that is across the three tenses the older sample generally reported more meaning (importance, commitment and self-identity ($M = 25.17$ $SD = .35$) than the younger group ($M = 23.42$ $SD = .32$; $F_{(1, 147)} = 13.5$, $p < .001$). Although the effect for gender reached absolute significance ($p = .045$), the sharply different group sizes, heterogeneity of variance together with the large variability in the small group, suggested the likelihood of a type I error, so the effect was considered non-significant. Since we are more interested in any potential interaction with temporal focus, the between-subjects factors were excluded and differences in tense explored in a one-way repeated measures ANOVA.

There was a marked difference in meaning (importance, value) assigned to the three tenses, with the present tense clearly less important and associated with lower commitment and less self-identity (see Figure 4.1; $F_{(1.88, 296)} = 46.92$, $p < .001$; $\eta^2 = .24$)¹¹.

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Thus in terms of action there appears to be a quadratic trend in strength of temporal focus, with past and future action seen as more important than the present. Since we have operationalized present-tense action as that in the action and termination stages, this suggests that individuals may be more focused on those tasks they are planning or deciding upon, than those they are actually doing, at least in so far as importance and value are concerned. This may also reflect that individuals are more likely to be at the early stages of major long-term projects, suggesting the greater meaning may be associated with project molarity (Little & Chambers, 2000). However in the present-future dichotomy, the modal focus is certainly future-oriented in this group.

Figure 4.1

**Temporal Orientation as Higher Past Present or Future
Importance, Commitment and Self Identity:**

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As suggested above in a different context, the surprisingly high meaning associated with past projects is likely the result of somewhat selective recall. If the past is most important in terms of how it helps guide the future, the recall of successfully completed, identity enhancing important projects is much more likely to enhance future action planning and current action engagement than recall of past failures. The frequency with which the past was recalled (SRTO measure) and the meaning associated with the past (PPATO measure) are not related at all ($r < .10$), suggesting that temporal focus in action in terms of whether past, present or future action is most central to one's identity (and hence assumed to be guiding action) is not related to simply thinking about a specific time frame. Indeed research has shown that an agentic distinction in regret is important, in that individuals tend to regret most inaction rather than what they have done (Gilovich & Medvec, 1994), something Blake foresaw in the previous century (see quote at the head of the chapter). Thinking about the past in general may be associated more with events that have happened to me or action I have not taken (non agentic, passive: negative) than actions I have taken (agentic, active: positive, even if not always successful).

In examining the relationship among action, temporal focus and well-being (for the sample as a whole), we find only a future focus predicts well-being significantly but modestly ($R^2_{adj} = .02$, $p < .05$), that is, those with greater meaning/value attached to their future actions enjoy slightly higher overall well-being. However, both future and past focus significantly predict the absence of depression, with a future focus accounting for 6 per cent of the variability in depression ($R^2_{adj} = .06$, $p < .001$ and a past focus an

additional 3 per cent ($R^2\text{change} = .03$, $p < .05$).

The fact that a greater future focus negatively predicts depression is consonant with the clinical literature which views depression as a block to the future (Melges, 1982; Lennings, 1994, 1996; Klinger, 1977); however the fact that a past focus does so also appears counter-intuitive and contradictory with the SRTTO results above until one recalls that in the PPATO past focus reflects a tendency to recall past projects as more important, valued and related to self identity. Depression is regularly equated with tendency to recall negative memories from the past (Bower & Cohen, 1982; Beck, Rush, Shaw & Emery, 1979) so the ability to focus on positive meaningful completed action is clearly different than the tendency to focus on uncompleted or problematic goals that do not allow one to disengage. Perhaps in the context of reminiscing as a therapeutic tool discussed above, the focus on *voluntary* recall of positive *personal actions* may be more central to the therapeutic effect than the recall of past events, many of which may not have been under the control of the individual.

Self Reported Temporal Orientation and Context-Specific Well-Being

To examine temporal orientation and context specific well-being, a one-way ANOVA was conducted for academic, emotional and social life satisfaction using a trichotomous split (past, present and future oriented individuals based on the SRTTO measure) maintaining a familywise error of $p < .05$. While in all three cases in the younger sample domain specific life satisfaction was higher for those who were more future oriented, only social life satisfaction was significantly predicted by temporal orientation,

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with students who were more future oriented enjoying higher social life satisfaction ($M = 7.09$ $SD = 1.99$) than those who were more past oriented ($M = 4.82$ $SD = 2.36$); ($F_{(2, 44)} = 5.02$, $p < .015$). Thus the hypothesis suggesting greater future orientation would predict higher academic well-being and greater present orientation would predict higher social well-being was not supported, although for the former results were in the direction expected. Present temporal orientation was very rare among students, with only three individuals clearly categorized as such (using this measure); thus within the student context, it is may be more appropriate to speak of past vs present-future orientation. Perhaps an inability to extricate oneself from the present precludes academic performance as was argued earlier in the temporal literature (Teahan, 1958; Davids & Sidman, 1962; Barabasz, 1970). This would suggest that the sample may be sufficiently truncated (future oriented) so as to preclude a fair test of the present temporal orientation hypothesis. (For descriptive statistics, see Table 4.3)

For the older sample, there was a much more even split among the three groups with 12 past, 15 present and 25 future classified individuals (For descriptive statistics, see Table 4.3). The remainder were either symmetrical or did not respond to this measure. Only emotional life satisfaction was predicted by temporal orientation for the older group, with both the present oriented ($M = 8.05$ $SD = 1.81$) and future oriented individuals ($M = 7.29$ $SD = 2.49$) enjoying higher emotional life satisfaction than the past oriented ($M = 5.25$ $SD = 2.77$); ($F_{(2, 56)} = 5.34$, $p < .01$). Post hoc differences were not significant between present and future orientation, thus again it would appear that it is rather the

presence of a past orientation that is more detrimental to well-being than either a present or future orientation.

Table 4.3

**Domain Specific Life Satisfaction
by SRT0 (Descriptive Statistics)**

	Temporal Orientation	Academic/ Occupational Life Sat.		Social Life Sat.		Emotional Life Sat.	
	(Tense)	M	SD	M	SD	M	SD
Younger Sample	Past (n = 11)	4.82	3.16	4.82a	2.36	6	3.35
	Present (n = 3)	5	3	6.33	1.53	2.33	2.08
	Future (n= 33)	6.09	1.99	7.09a	1.99	6.3	2.83
Older Sample	Past (n = 12)	5.25	2.73	5.92	3.23	5.25bc	2.77
	Present (n = 19)	7.2	2.37	7.68	1.38	8.05b	1.81
	Future (n = 28)	7.4	2.52	7.21	2.31	7.29c	2.49

a = $p < .02$; b,c = $p < .01$

It would seem then, that in speaking of temporal orientation as how often individuals report thinking about the various tenses, it is primarily a past orientation that should be of concern. This may be reflected in the linguistic argument that tense is really dichotomous, that is the difference between what has been and therefore is perceived as fixed and what is still malleable (Comrie, 1985). Those who fixate on what they believe cannot be changed are likely to enjoy life less. Yet it is not really true that the past is fixed in that it may be possible to reconstrue past events in a new light and thereby disengage

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from past goals (Klinger, 1977; Johnson & Sherman, 1990); however phenomenologically this may be perceived more as replacing one “true” past with another, rather than changing a single mutable past.

Personal Project Temporal Orientation and Context-Specific Well-Being

Reconceptualizing temporal orientation as the value and importance attached to personal action in one of the three tenses (PPATO) we find that very few individuals across the sample see their present projects as more important, valued or prototypical ($n = 6$), with the majority past focused ($n = 79$) and the remainder future focused ($n = 53$). In this other-than-present tendency action-oriented TO is similar to the more abstract TO measure above. Because of the imbalance in the number of projects in each category for each individual, only the association between temporal orientation in academic or occupational projects and academic/occupational life satisfaction, as well as temporal orientation in interpersonal projects and social life satisfaction was explored, based on the relatively high frequency of these projects. Temporal orientation was operationalized as above, but rather than drawing on the sum of commitment, importance and self-identity associated with an individual across all projects, only those projects that were academic/occupational or interpersonal were aggregated to provide two temporal orientation categorizations.

To test whether temporal orientation measured by context is largely the same as global temporal orientation, the global PPATO, academic/occupational PPATO and social PPATO categories were correlated with each other. Social temporal orientation was not

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significantly related to either academic or global temporal orientation ($r = .11$, ns and $r = .18$, ns) while only academic temporal orientation was associated with global temporal orientation, perhaps because of the many academic/occupational projects, particularly within the younger sample ($r = .29$, $p < .005$). Even this correlation is not particularly strong, suggesting as hypothesized, that temporal orientation is better thought of as domain specific, at least insofar as action is concerned.

Neither academic-project specific temporal orientation nor interpersonal project-specific temporal orientation, however, predicted academic/occupational or social life satisfaction respectively. That is to say individuals with higher focus (importance, value and identity) tied to past academic, present academic or future academic projects were no more likely to report higher life satisfaction in that domain. The same was true of social life satisfaction, suggesting overall that the relation between action, temporal orientation and well-being is more global. If I have sufficient future projects or can recall many successful past projects, no matter what the domain, I am liable to experience overall higher SWB and lower depression, while the ratio of past to present to future projects within any single domain is not as central. A domain specific elicitation and rating in both fields which would allow for a more representative sample of projects in each category is needed to verify these initial findings¹².

Trait and Project System Associations

Correlations with trait and project-system level variables were examined to shed light on whether temporal orientation is more specifically a trait-level or conative level

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variable. Indeed significant associations were found at both levels and with project-system variables (PPSRS). More time thinking about the past was associated with greater conscientiousness ($r = .21, p < .005$) and (surprisingly) lower self rated neuroticism ($r = -.21, p < .005$) as well as lower project system structure ($r = -.23, p < .001$) and higher stress ($r = .26, p < .001$). More time thinking about the future was also associated with greater stress ($r = .20, p < .005$) and with lower extraversion ($r = .15, p < .05$). In terms of the project factors, more time spent thinking about the past was associated with reduced future efficacy ($r = .26, p < .001$), a result consistent with the assumption set out above that a past focus can reflect the inability to disengage from previous goals and therefore impede progress in current and future undertakings.

Time spent thinking about the present was also associated with project system stress ($r = .18, p < .02$) and with lower conscientiousness ($r = -.18, p < .02$). For the older group, thinking about the past was also related to lower meaning ($r = -.26, p < .01$) lower extraversion ($r = -.26, p < .02$) and less openness to new experience ($r = -.22, p < .05$). For the younger group, time spent thinking about the future was associated with higher agreeableness ($r = .23, p < .02$) and greater meaning ($r = .23, p < .02$).

Correlations between the PPA temporal measure with trait and project system variables showed no significant relations, suggesting that the PPA measure is more conative and less relevant to a trait or system level characterization of personality.

Conclusion

Time orientation, meaning the preferred (although not necessarily voluntary)

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temporal directionality of cognitive focus remains a psychometrically elusive construct.

Although Zimbardo and Boyd (1999) provide evidence for the psychometric soundness of their recent scale, it is not clear that what they are measuring is, strictly speaking, time orientation (indeed they call it time perspective) and conflate the distinction made by Hoernart (1973) between time directionality and time attitude. The authors admit that they are biased towards future orientation as preferable and both the items and the resultant factor structure of their measure demonstrate this, with the latter showing a positive and negative past and present factor, but only a single (positive) future factor. The SRTTO, in contrast, is entirely neutral affectively, basing time orientation solely on the amount of time spent thinking about a particular time period. The link from thinking to concern/ orientation is well established in the literature (De Volder, 1979; Klinger, 1975).

The hypotheses made with regard to temporal orientation were primarily related to the benefits of future orientation in the academic or occupational domain, with little focus on the past given evidence that a past focus is not that common (Hulbert & Lens, 1988a; Murrell & Mingrone, 1994). Perhaps by allowing individuals more than a single dominant orientation (noting one thinks a lot about the past did not preclude also noting one thinks a lot about the future) the impact of past focus became more salient, since it was certainly the presence of self-reported past focus that was most pernicious, at least in the context of older individuals. Drawing on cognitive theory we have suggested this is primarily because of the cognitive energy and attention tied up in reviewing past events (failed action or more likely action not taken) rather than in enjoying the present or refocusing on new

future goals.

In addition to the generalized negative association between a past focus and well-being, findings revealed a modest relationship between future orientation and social life satisfaction, as well as context-neutral SWB. This ran counter to our hypothesis that social life satisfaction would be enhanced by a present focus, but was the only significant domain specific result. Although the impact of temporal orientation on well-being appears to be more generalized than context specific, support was forthcoming for the hypothesis that temporal orientation is not best thought of as a trait. Correlations among global and two domain specific temporal orientations were either insignificant or modest at best. Also evident was the fact that temporal orientation can be operationalized in so many ways and that current measures of the construct do not correlate strongly; therefore, researchers need to be very careful that the measures they chose do not in any way bias their results. The neutrally phrased self-report measures introduced here offer two perspectives on temporal orientation, both with high face validity and personal saliency, although again appeared to be measuring different aspects of the construct: temporal orientation in the abstract vs. (concrete) temporal orientation in action (Kastenbaum, 1961). Future research may require a more subtle elicitation of past actions, both complete and incomplete and a more contextually specific SRTTO that asks about tendencies to think about actions (within a given tense) rather than thinking about an abstract, non-contextualized tense.

Temporal Coherence: How is your future linked to your present?

Wallace and Rabin (1960) distinguished temporal coherence as “the degree of

organization of the events in the future time span “based on earlier work by Wallace (1956) who found significant differences between normals and long-term schizophrenic patients in the ability to “order the contents of the future time span logically and meaningfully” (p.244). Positive relationships have been found between future coherence and intelligence (Kastenbaum, 1961) and age (Klineberg, 1967; Nurmi, 1989b), although not consistently (Nurmi, 1989a). Again, methods vary widely and the differing results may reflect different operationalizations of the concept. For Nurmi (1989a), coherence is conceptualized as an aspect of planning, while in the earlier literature it conveys a less dynamic connotation, largely based on an ability to order life events. Construed narrowly it is not clear whether this is a meaningful construct in the context of personal action. Does the ability to order hypothetical future events relate to how one undertakes current action in the context of hierarchically arranged future goals? Construed broadly as planning, the independence of coherence and temporal integration (see below) begins to blur since an ability to plan entails integrating current behaviour into future possible action plans. For this reason, this variable will be explored in this study as a facet of temporal integration, that is, the ability to integrate one’s current actions with future identity (see temporal integration below). We are conceptualizing temporal coherence as the future time perspective segment of the broader temporal integration which extends both forward and backward linking the past, present and future into a single coherent stream of action (and identity).

Temporal Integration: My past structuring my future guiding my now

Background

Hearnshaw's (1956) seminal article on temporal integration provides a good overview of the scope of the construct, which he suggests underlies human consciousness, human speech, even our musical ability, in short much of what separates humans from animals of lower intelligence and ability. In his view temporal integration "implies perception of the present, memory of the past and expectation of the future -- stimulus patterns, traces, and symbolic processes -- integrated into a common organization" and that it has been "...implicit from the beginning and potentially of central importance throughout modern psychology." (p. 8). His own experimental work follows the paradigm of the sort of psychological experimentation that examined time estimation and duration, that is, molecular or short-term abilities to integrate recent and current perception to allow for pattern prediction. Although recognizing the wider implications of his research, :

...the behaviour of the normal human adult takes place in an extended temporal framework. A promise made years ago, and nowhere objectively recorded, may influence a man's actions for the remainder of his days; long-term goals and aspirations may be major regulators of his day-to-day conduct. The whole aspect of the world can be changed by a future event known to be immanent -- the certain knowledge, for example, that one has not long to live. About the hardest thing for the adult to do is to immerse himself wholly in the present; even in his relaxations he tends to be goal-directed and time-conscious, to be imbued with some sense both of history and of futurity. (p. 17)

Hearnshaw does not extrapolate on the processes involved. His work however shows

clearly that there are wide individual differences in the ability to integrate material temporally at the molecular level, which makes it not unreasonable to assume such differences exist at a more macro level. Sadly, with the mid-century turning away from subjective experience, little progress was made on teasing out the mental processes involved in integrating memory with anticipation to control action. Indeed even with advent of the cognitive revolution, experimentation remained at the more micro information processing level and it is only in the past few years that action control has emerged again as a central focus of psychology (Kuhl, 1994a; Heckhausen, 1990; Carver & Scheier, 1991).

Hearnshaw (1956) quotes Lashley in lamenting that “it [temporal integration] has been largely ignored; it is not even mentioned in recent text-books, nor is there any significant body of experimental studies bearing on the problem” (p. 8). In reviewing the literature on the construct it may be that, at all but the most molecular levels, it is too broad to allow for the rigour of operationalization required in psychology. In their recent review of temporal focus in motivation, Karniol and Ross (1996) do not mention the term, yet, in a sense, their entire article is about human variations in using future expectations and past experiences, as well as current environmental exigencies, to direct action, the quintessence of temporal integration: “We have shown... that motivation reflects an interweaving of one’s present into the fabric of one’s past and the prospects of one’s future... ‘time present and time past are both perhaps in time future, and time future contained in time past’” (p. 613, quote from T.S. Elliott).

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Thus, modern psychology has chosen to break down the construct and look at the impact of the past on the present (e.g., Salovey, 1992; Pennebaker, 1990; Freeman, 1993) and future (e.g., Kahneman & Miller, 1986; Lecci et al., 1994; Dalglish & Watts, 1990) and on the impact of the future on the present (Kelly, 1955; Markus & Nurius, 1986; Strathman, Gleicher, Bonninger & Edwards, 1994; Kahneman & Lovallo, 1993) and the past (memory retrieval, e.g., Ross, 1989; Holmes & Boon, 1990). Yet, as Johnson and Sherman (1990) suggest in their analogy between time and Japanese origami, separating the parts can lead to a loss of the sense of time within the individual as an integrated whole. For the purposes of this study, we will attempt to explore the role of temporal integration, operationalized as a recognition of current action stemming from past identity and tied to future possible selves, in promoting well-being. ***We would expect those who have projects rooted both in the past and guided by the future to experience greater well-being, while individuals with projects that are more disconnected, either not linked to the past or not guided by the future or both, to experience lower well-being in general.***

Operationalization

Temporal integration has been operationalized in this study through self-report ratings of the extent to which current and future projects are consistent with past identity and future possible selves as elicited by two new *ad hoc* project appraisal dimensions (past relevance: how much do you see this project as a logical continuation of your past and who you have been in your life up until now? and future relevance: how much is this

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project related to or leading you toward the future you hope to have?) An overall integration score was derived by summing the two ratings for each project for each respondent and then using the mean. The mean of each score separately was used to measure past and future integration; the latter could be thought to represent loosely what was described above as temporal coherence. At the project level, past and future relevance are modestly but significantly correlated ($r = .26, p < .001$) suggesting they are tapping different perceptions of the relationship of projects to the two time periods.

As well, subjects were asked how much they would like to forget their past and future, based on the premise that a desire to forget a time period is indicative of an inability to integrate it into one's sense of self. Again correlations between a desire to forget the past and a desire to forget the future were only modest ($r = .27, p < .001$), suggesting integration may be time-zone specific. Cottle's (1967) circles test was included as it was the only temporal measure of integration available, other than Melges' (1982) scale developed for psychiatric patients which was found to be unsuitable for a normal population in pilot work. Correlations between the circle test and project temporal integration, past integration and future integration were all non significant (Pearson r s ranging from .04 to .08). Given that the latter measure is based on personally salient, self-generated units of analysis, while the former involved a coding scheme based on a hypothetical relationship between circle configuration and integration, the project measure was retained for further use. The fact that the circles measure was not completed by many respondents (14%) suggests it was not always well understood.

Results and Discussion

PPA temporal integration attempts to capture how the individual sees his/her actions as linked to past self concept and leading toward desired future self (selves). Totally integrated action would stem from past identity and be leading to a desired future self. Past integrated action may be linked to past identity, but not necessarily be part of the conceptualization of the future and future integrated action may not stem from past identity but is seen as leading to a desired possible self. Descriptives for these three variables are provided in Table 4.4 for the sample as a whole and the two subsamples. The descriptives do not suggest major differences between the two subsamples, although the higher future integration for the younger group and higher past integration for the older group suggests a slightly different emphasis that emerges with age. Older individuals have much more past to integrate, while the younger have much more future.

Table 4.4
(Project) Temporal Integration (Descriptive Statistics)

	Whole Sample		Younger Sample		Older Sample	
	M	SD	M	SD	M	SD
Temporal Integration	7.1	1.5	7.1	1.4	6.9	1.6
Past Integration	6.8	1.7	6.7	1.5	7	2
Future Integration	7.3	2	7.7	1.7	6.9	2.3

Correlations with the outcome measures were generally low for the sample as a whole and the younger subsample, with higher future integration marginally associated

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with SWB ($r = .15$, $p < .05$) overall. In the older sample however, integration appears to be more central, with those whose actions are less connected with their past self identity more subject to depression ($r = .30$, $p < .005$) and those whose actions are generally more integrated or more integrated towards the future enjoying higher well-being ($r = .25$, $p < .05$ and $r = .23$, $p < .05$, respectively). For the older sample, then, discontinuity with the past is distinctly problematic, understandably given the stage of life and the lower likelihood that a new identity will emerge. Although not sufficient on its own to be linked to well-being, the lack of past relevance appears depressogenic. Well-being on the other hand appears to be more closely linked with actions linked to the future and overall temporal integration, perhaps by providing purpose and direction to one's life.

To determine the best predictor of SWB and depression for both groups, both variables were regressed on the temporal dimensions using a stepwise regression. None of the temporal variables predicted well-being for the younger group, while future integration accounted for six per cent of the variability in well-being in the older sample ($R^2 = .06$, $p < .05$) and past integration (negatively) nine per cent of the variability in depression ($R^2 = .09$, $p < .005$). Overall temporal integration (entered separately to avoid multicollinearity) did not predict well-being or depression to an extent over and above the temporally specific past and future integration.

The clear relationship between depression and lack of past integration recalls the earlier finding under temporal orientation that time spent thinking about the past related to depression and raised the question whether it was these same individuals who had not

integrated their past that were so oriented towards it. Correlations between the past temporal orientation measure (I spend a lot of time thinking about my past) and past integration were non significant for the sample as a whole and for both subsamples, suggesting that the influence of these two variables on depression is separate. This is examined further in chapter 5 which looks at all the predictive validity of the temporal variables together.

Moving from a more action-defined temporal integration to a more broadly conceptualized lack of integration captured by the desire to forget about a time period, SWB and depression were regressed on these two self-report temporal integration questions in the sample as a whole and for the subsamples. In the sample as a whole, the desire to forget the future accounted (negatively) for seventeen per cent of the variability in well-being ($R^2_{\text{adj.}} = .17, p < .001$) with the desire to forget the past adding significant unique variance ($R^2_{\text{change}} = .09, p < .001$) for a total explained variance of 26 percent. Predicting depression was the reverse, with a desire to forget the past accounting for 18.3% of the variability in the CES-D scores and the desire to forget the future adding significant explained variability ($R^2_{\text{change}} = .09, p < .001$) for a total explained variability of 26.5 percent. Thus the inability to integrate the future appears to hinder well-being, while the inability to integrate the past is more associated with depression.

The centrality of time zones in predicting well-being does appear to differ with age, however; in the younger sample, the inability to integrate the past was most predictive, accounting for 18.1 percent of the variability in well-being, while for the older

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sample it was the inability to integrate the future ($R^2_{adj.} = 16.3$, $p < .001$). In both cases the desire to forget the opposite time zones explained significant added variability (see Table 4.5) with a total of 28.6 per cent of the variability in SWB explained in the younger group and 20.4 in the older. This difference is intuitive, given that as we age, the future is inevitably more constricted and we cannot but help see the reality of diminished or at very least changed potential, while for the younger group the future is still something mutable

Table 4.5

Global Integration of Time Zones

	Younger Sample						Older Sample					
	SWB			Depression			SWB			Depression		
	R^2_{adj}	R^2_{cha}	F	R^2_{adj}	R^2_{cha}	F	R^2_{adj}	R^2_{cha}	F	R^2_{adj}	R^2_{cha}	F
Forget Past	.18		23.72 [§]	.18		24.6 [§]	.06	6.72*		0.14		17.08 [§]
'Forget' Future		.11	15.98 [§]		.09	12.4 [§]	0.15		17.75 [§]		.06	6.65*
Forget Both	.29		21.59 [§]	.26		19.85 [§]	0.2		12.8 [§]	0.19		12.37 [§]

* = $p < .05$; [§] = $p < .001$

and, at that age, largely unlimited in its possibilities. It is interesting that Erikson's (1968) conception of old age integrity was primarily in terms of past integration, but we see here the importance in older age of being able to integrate (face and come to terms with) the future.

For depression, however, the results were the same for both groups, that is, an

inability to integrate the past was most predictive of depression, with an inability to integrate the future explaining significant added variability, providing support for clinical views that depression is the inability to disengage from past goals (and events) (Klinger, 1977) to be able to move forward and think about the future (Melges, 1982; Minkowski, 1933).

Trait and Project System Variable Associations with Temporal Integration

The association of temporal integration with trait, project system and project appraisal variables was also explored. Of particular interest were meaning and structure, since both are conceptually linked to the idea of identity and order, respectively, elements provided by a sense of what one is doing within one's extended time frame. Correlations with the system variables were significant for all but project efficacy and particularly so for the older group (see Table 4.6).

Table 4.6
Correlations between the PPSRS and Temporal Integration Variables

	Whole Sample			Younger Sample			Older Sample		
	Future Int.	Past Int.	Temp. Int.	Fut. Int.	Past Int.	Temp. Int.	Future Int.	Past Int.	Temp. Int.
Efficacy	0.09	0	0.02	0.1	0.2	0.14	0.14	-0.2	0.01
Meaning	.28***	.16*	.27***	.23*	.20*	.23*	.34***	0.13	.32**
Stress	0.06	-.18*	-0.1	0	0	-0.1	0.01	-0.2	-0.12
Structure	0.12	.19**	.18*	0.1	0.2	0.15	.28**	0.19	.31**
Support	.30***	.15*	.28***	0.1	0.1	0.11	.42***	0.18	.41***

* = $p < .05$; ** = $p < .01$; *** = $p < .001$

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It is noteworthy that most of the focus on temporal variables in the present study to date has been on the relationship with project efficacy and the control-theory based view of happiness (PA/NA). Temporal integration, operationalized using projects, may relate more directly to longer-term more stable variables, such as those tapped by the PPSRS.

Of all the PPSRS variables, only meaning is consistently associated with temporal integration across both sub-samples, although much more strongly with overall integration and future integration than past integration. In relating time to current action projected into the future, it would seem that while a discontinuity with the past may be problematic, it is primarily a link with our future that is associated with meaning in our lives. For the older sample, integration goes beyond meaning, and is linked to structure, as hypothesized, and support. Although it is tempting to interpret the latter in the context of the importance of family among the older group, which can lead to a trans-personal temporal focus which extends beyond the death of the individual through to the lives of their children (Jaques, 1956), in fact the relationship between support and future integration was considerably stronger for those without children ($R^2 = .24$, $p < .05$) than for those with ($R^2 = .12$, $p < .01$). In general, then, individuals undertaking actions in greater isolation are less likely to feel connected to a longer future than their counterparts embedded in a social context. The very sense of community that is inherent in support may link one's future to that of one's cohort and thus provide for a more stable bridge from the present to the future.

Among the trait variables conscientiousness was associated with past relevance (r

= .25, $p < .001$) for the sample as a whole and the younger sample ($r = .33$, $p < .001$) but not the older sample ($r = .14$, ns). The ability to organize and achieve may be enhanced by the link to past identity. Openness to New Experience was associated in the sample as a whole and in the older group with greater future relevance ($r = .23$, $p < .005$ and $r = .27$, $p < .02$, respectively). The ability to envisage new and different selves may make it easier to link current projects to future self representations. Perhaps this was not as evident in the university group given the somewhat formulaic nature of many of the possible selves at that age, for example, those relating to career, marriage, children, and success.

Temporal integration, then, appears to be more centrally related to meaning and identity in our lives as expressed through our actions than to the successful completion of the actions in and of themselves. This is consistent with Hearnshaw (1956) who stressed the existential centrality of temporal integration in our consciousness and by extension our sense of a continuous self (see also Zaleski, 1988). Although Erikson (1968) stressed the role of integration (integrity) later in life, these data would suggest that it is important for all of us at any age to have projects that both flow from our sense of self built up over past years of being and doing and that are guided by desired future self representations. Action alienated from our past and particularly our future is ill advised.

Conclusion

Temporal integration was hypothesized to promote well-being, with past and future integration expected to additively predict SWB in the now and the lack of both past

and future integration to predict depression. This was indeed found for the general self-report measure of integration, that is, the desire to forget (not integrate) the past and disregard (not integrate) the future. In the case of the projects integration measure; however, it was future integration that was most central to well-being (for the older sample only) and the lack of past integration that was most central to depression (again for the older group only). The somewhat different results suggest yet again the value of exploring temporal variables in the context of action separately from more global measures, which may tap not only personal action, but past and anticipated events beyond one's control. The lack of significant findings for the younger sample in terms of project integration are possibly the result of the still forming identity of that age group. It may be difficult to state categorically that one's projects are clearly integrated with who one has been and who one will be when one is in a state of flux and identity formation.

Temporal Attitude: How do you feel about your past, present and future?

Background

Also termed valence (Zaleski, 1994; Thiébault, 1998) in a somewhat narrower sense, temporal attitude is an individual difference measure that reflects how one reacts affectively to the three time zones in the abstract. Nuttin (1979) notes that it is primarily in the context of the future that this dimension has been studied, principally in the guise of value x expectancy theory and optimism-pessimism. It is important to recognize the distinction between temporal attitude and the causes behind a given attitude, since the

latter touch upon innumerable psychological theories, from psychodynamic and behaviorist considerations of the past through to cybernetic and generalized expectancy theory in the future. While evidence seems good that greater optimism (positive future attitude) is related to higher well-being (Myers & Diener, 1995; Diener et al., 1999), there appears to be no reason to assume a consistent attitude (positive or negative) across personal action domains. Indeed Nurmi (1988;1994) has shown that the central focus of hopes and fears may change across the lifespan, suggesting that optimism and pessimism regarding the same goal (project) categories may have a different impact on overall well-being, depending on how central they are to one's identity. Thus two questions emerge in the context of personal action: do past, present and future time attitudes affect global well-being differently, depending on context and how are these three temporally defined affective measures related to the appraisal of one's personal action?

In assessing future attitude associated with personal action, we may expect a generally positive outlook (Heckhausen, Dixon & Baltes, 1989) even if not always warranted (Taylor & Brown, 1988), but within each project system considerable variability may be expected based on the domain of action. ***For students a negative future attitude in the academic/occupational domain is hypothesized to relate to lower overall well-being, given the central role of these projects in the students' identity. For more senior adults, a negative future outlook in health/body and interpersonal projects is more likely to predict lower overall well-being. Finally, a negative outlook on***

intrapersonal projects at any age is likely related to higher depression and lower well-being in general.

Operationalization

Abstract Time Attitude

Temporal attitude was operationalized at both a global and domain specific level to allow for a clearer test of the importance of context in project pursuit. The primary instrument used was the Time Attitude Scale (TAS; Nuttin, 1985) which was modified to obtain ratings for three contexts across the three tenses: academic or occupational; interpersonal; and, intrapersonal in the past, present and future. Subjects were asked to rate on a semantic differential scale of 1 to 7 to what extent they found their experience in the past, present and (anticipated) experience in the future for each of these contexts to be (positive side): pleasant, full, attractive, a success, exciting, fast, difficult, easy, near, and important. They were also asked for past experiences how satisfied they were and for present and anticipated future experiences how hopeful (see appendix A for the full scale).

Since these choices were only a selection from the original TAS, which would have been too taxing for subjects to complete three times, a principal components analysis was computed by tense to determine the underlying variability of interest. Because of the limited number of subjects who had completed the TAS ($n = 197$) a factor solution for the complete 90 items was not possible. The solution was fairly constant across tenses, with the clearest structure emerging for the past, in which three strong factors representing the

contexts emerged along with three weaker factors representing temporal distance (near, far) for all three contexts, temporal speed (fast slow) for inter and intrapersonal contexts and temporal facility (easy/difficult) for academic and intrapersonal contexts. Virtually the identical three contextual factors emerged for the present, with the exception of “attractive” which loaded on at transcontextual factor easy/attractive. A second transcontextual factor comprising fast and far away (negatively) completed the present factorial structure. The future appeared to be somewhat less contextually defined, with the core intrapersonal factor incorporating as well the affective items “hopeful” from other contexts, as well as importance and success. The core academic/occupational factor incorporated “exciting” from the other contexts, while the core interpersonal factor incorporated “fast” and “full” from other contexts. A fourth and final factor grouped easy and far away (negatively) again (See Appendix H for the full factorial structures).

Items #1,2,3,4,5,9 and 10 appear to represent relatively consistently a time attitude dimension, with the other three items either separately or in groups representing other views on time¹³. For the purposes of this study time attitude was operationalized using the time attitude dimensions only, which were summed to provide nine scores for each individual (3 contexts x 3 time periods). Stepwise regression was used to determine which of the time period attitudes better predicted global and domain specific life satisfaction/subjective well-being. As well, individuals were grouped into positive and negative temporal attitude groups (by context) and their attitudes examined as a

moderator between project pursuit and well-being.

Project Temporal Attitude

The TAS provides an abstract measure of temporal attitude, albeit here within specific contexts. How do you feel about your past, present and future? A more concrete measure of temporal attitude was derived based on affective scores relating to past, present and future projects. In the same way that temporal orientation was operationalized above using a three-tense project perspective, the negative and positive affect dimensions for each project were summed by tense and then compared with the TAS scores collapsed across contexts. Given the 6-way project categorization scheme, there were insufficient projects in each cell to allow for a category breakdown. The two measures correlated only modestly ($r = .22, p < .001$); however for both the younger and older groups the correlations increased moving from past to future (see Table 4.7).

Table 4.7

Correlations between the TAS and PPA Time Attitude Measures

		Young (TAS)			Older (TAS)		
		Past (n = 69)	Present (n = 75)	Future (n = 81)	Past (n = 84)	Present (n = 88)	Future (n = 94)
Young (PPA Affect)	Past	-.01, ns					
	Present	.24*					
	Future	.39***					

	Young (TAS)	Older (TAS)
Older	Past	-.03, ns
(PPA	Present	.20, ns
Affect)	Future	.29**

The modest correlations suggest there is a difference between concrete and abstract measures of time (as suggested first by deVolder, 1979), but that this distinction blurs somewhat in the future where even concrete projects are more abstract in that they are not yet underway. Individuals were categorized into past present and future temporal attitude groups, based on scores from both measures. Individuals with the same or nearly the same ($< .1$) scores in the highest two tenses were categorized as “symmetrical”. Since the two operationalizations appear to tap distinct aspects of temporal attitude (agentic: how do I feel about my past projects? vs. abstract: how do I feel about my past?), both were tested as potential predictors of well-being and as moderator variables in project pursuit.

Results and Discussion

Van Calster (1979) demonstrated that time attitude is domain specific by asking his subjects to express their attitudes toward the three tenses in three different domains: activities (meaning academic or professional activity), social contacts, and personal development. Using a similar design (repeated measures ANOVA for the within subjects factors tense and context), this study replicated his findings with one exception. Although similar main effects were found for both context ($F_{(2,162)} = 40.99, p < .001$) and for tense

($F_{(2, 162)} = 79.02, p < .001$), in this sample there was also an interaction effect ($F_{(4, 160)} = 19.58, p < .001$), due primarily to the more negative academic/occupational future attitude. The same main and interaction effects emerged when the file was split into the two age groups, so the entire sample was examined as a whole.

Although the same interaction effect (a lower positive attitude for future academic or occupational projects) emerged for both groups, it may be due to different reasons. For the younger students, many in their first year of university, the increasing difficulty of their studies may be somewhat daunting, prompting a more pessimistic outlook on their academic future, while for the older group, many of those who were working when they completed the questionnaire were facing retirement within the next five years, certainly a cause for ambivalent emotions among most. What is most central to this study, from the social ecological perspective, is that time attitude is clearly domain specific and needs to be thought of in a person x situation context. One can have a positive interpersonal future attitude, but a negative academic future attitude.

Time Attitude and Global Well-Being

Clearly a more positive attitude towards time is likely to be reflected in more positive SWB and lower depression, indeed the TAS correlates positively with the former ($r = .64, p < .001$) and negatively with the latter ($r = -.51, p < .001$) as one would expect. However in predicting well-being, is there a particular tense or a particular context that is more central? The optimism literature would suggest that a positive future outlook is

important for SWB, if so, in which context? Is social contact more central to well-being for individuals or is it their work? Clearly there are likely to be individual differences, but in this study we would like to ascertain if there are any commonalities in terms of the relationship of time attitude (tense x context) and well-being.

SWB was regressed on all nine context x tense variables using a stepwise procedure to determine which were the best predictors. For the group as a whole, 45 per cent of the variability in well-being was explained by just two time attitude variables, the attitude one has towards oneself in the present ($R^2_{adj} = .38, p < .001$) and the attitude one feels towards one's past social relationships ($R^2 \text{ change} = .07, p < .001$). Depression was also best predicted by one's attitude towards oneself in the present ($R^2_{adj} = .48, p < .001$) in combination with one's attitude towards self in the past ($R^2 \text{ change} = .03, p < .05$). In all, these two predictors accounted for 51 per cent of the variability in depression. At a global level, at least, it would appear that one's time attitude in the intrapersonal context is most central to well-being, while it is one's attitude now that is more important than past or future attitudes, contrary to the future-orientation of the optimism literature (Carver, Reynolds & Scheier, 1981; Peterson & Bossio, 1991; Scheier & Carver, 1987; Markus & Wurf, 1987)).

To investigate whether this holds true for the two age groups, SWB was regressed separately for both on the time attitude variables and, in both cases intrapersonal present attitude accounted for the greatest variability. In both samples it accounted for 38 per cent

of the variability ($R^2_{adj} = .38, p < .001$). Also explaining added variance in the younger sample were academic present attitude (R^2 change = .09, $p < .005$) and intrapersonal past attitude (R^2 change = .03, $p < .05$), which together with intrapersonal present attitude explained a substantial 51% of the variability in well-being ($R^2_{adj} = .48, p < .001$). In the older sample interpersonal past (R^2 change = .09, $p < .001$) and present (R^2 change = .03, $p < .05$) attitudes, respectively, together with intrapersonal present time attitude explained a total of 49 per cent of the variability in well-being in the sample ($R^2_{adj} = .48, p < .001$).

In the case of depression, again, intrapersonal present attitude was the best predictor for both age groups; indeed it was the only significant predictor for the younger group, explaining 18 per cent of the variability in the CES-D scores ($R^2_{adj} = .18, p < .001$). For the older group, the variability explained by the intrapersonal present attitude ($R^2_{adj} = .30, p < .001$) along with intrapersonal past attitude (R^2 change = .06, $p < .005$) and interpersonal future attitude (R^2 change = .03, $p < .05$) together accounted for 37 percent of the variability in depression. Note in all cases the TAS predicted depression negatively.

Thus at a global level it seems clear that the intrapersonal context is most central to well-being and that it is primarily, although not exclusively the present tense that appears to account for the greatest variability. The optimism literature is therefore not supported in terms of contrasting tenses, since only a small portion of variability in depression in the older sample was explained by a future attitude. Instead we find that it is

how we view our current self and current academic or social contexts for the younger and older groups respectively that is more central. Naturally this raises the question as to what defines the present for most individuals. As noted in the context of temporal extension, pilot work suggested that “the present” can stretch for weeks, even months for many individuals, so what individuals seem to be rating in rating their attitude to the present is generally how are things going now. Johnson and Sherman (1990) point out that present extension is likely domain specific, something the context specificity of the TAS should capture. In linking present tense with process (atelic) orientation in study 1, we find again the sense that how things are going is more central to well-being than how things will be once done. Assuming that most individuals do not see their future selves as radically different than their current selves, feeling good about oneself in the now may imply feeling good about oneself in the future.

Time Attitude and Domain Specific Well-Being

Having shown that one’s present time attitude, especially in the context of self seems to predict global well-being and depression, the question is raised as to whether domain specific life satisfactions are best predicted by time attitude within the domain or across domains. Correlations between the temporal variables and the domain specific life satisfactions are given in Table 4.8. From the table below it is clear that domain-specific time attitude is related to life satisfaction in many more domains than simply the one in which time is evaluated. How one feels about one’s self in the past appears closely

associated with current home life satisfaction among the older group, while current occupational time attitude is more closely related to current social life satisfaction than occupational life satisfaction, again in the older group. In the younger group academic life satisfaction appears to have almost as much to do with how one feels about oneself in the present as it does about how one feels about academe. In short it appears useful to identify what are the unique predictors of domain specific life satisfactions.

Table 4.8

Correlations: Domain Specific Life Satisfaction
and Temporal Attitude

T.A.S. ↓		Younger Sample					Older Sample				
Life Satisfaction →		<i>Acc/Occ</i>	<i>Emotional</i>	<i>Home</i>	<i>Social</i>	<i>Physical</i>	<i>Acc/Occ</i>	<i>Emotional</i>	<i>Home</i>	<i>Social</i>	<i>Physical</i>
<i>Past</i>	Ac/Occ	.22*	0.18	0.12	.30**	0.14	.42***	.36***	.33***	.32**	0.2
	Self	.33***	.44***	0.17	.29***	.34***	.43***	.42***	.51***	.42***	.22*
	Social	.29**	.30**	0.17	.40***	.37***	0.22	.24*	.29**	.25*	0.15
<i>Present</i>	Ac/Occ	.65***	.38***	.21*	.22*	0.16	.48***	.49***	.42**	.64***	.34*
	Self	.53***	.51***	0.18	.28***	.26**	.41***	.60***	.45***	.41***	.31**
	Social	0.18	.39***	.28**	.51***	0.04	0.15	.29**	.23*	.33**	.24*
<i>Future</i>	Ac/Occ	.44***	.31**	.22*	.33***	.31**	.40***	.25*	0.08	0.19	0.1
	Self	.44***	.33***	.28**	.29**	0.15	.31**	.40***	.25*	.22*	.29**
	Social	.38***	.27**	.29**	.34***	0.1	0.14	0.13	0.03	0.13	.21*

In both groups, academic/occupational life satisfaction was best predicted by how one feels currently about one's work or school (younger: $R^2_{adj} = .22$, $p < .001$; older: $R^2_{adj} = .41$, $p < .001$), with no other time attitude variables contributing to the equation.

Emotional Life Satisfaction is best predicted by how one feels currently about self in the younger sample ($R^2_{adj} = .35$, $p < .001$) and in the older ($R^2_{adj} = .25$, $p < .001$), although in the latter case how one feels about one's past self also predicts emotional life satisfaction ($R^2_{change} = .04$, $p < .05$) for a combined explained variance of 30 per cent. Finally social life satisfaction was best predicted in the older group both by how one feels about one's self now ($R^2_{adj} = .26$, $p < .001$) and how one feels now about one's social relations ($R^2_{adj} = .05$, $p < .01$) for a total explained variance of 29 per cent ($R^2_{adj} = .29$, $p < .001$). In the younger group only how one currently feels about social relations predicted social life satisfaction significantly ($R^2_{adj} = .10$, $p < .005$).

These cross-over effects show how much our ecology is intertwined and our attitudes about one aspect of life central to our enjoyment of others; nonetheless, it is indeed the attitude of individuals towards how things are going now within each domain that best predicts their life satisfaction in that domain, rather than how things have gone or how things are expected to go. This also may well reflect the subtle and perhaps not consciously recognized centrality of the present in our lives (St. Augustine, Confessions) in that it is in the present that we experience both the past and the future. Thus present attitude not only may encompass just how we feel about now, but how we feel about now

and the past in the now and the future in the now. The centrality of the self context further emphasizes the integrating function (here in terms of attitude) that the self may have in pulling together origami-like our past and future into a current working self identity (Zaleski, 1988; Johnson & Sherman, 1990). Furthermore although we arbitrarily delineate a 'self' or 'intrapersonal' domain, our evaluation of self is based on our experiences in all of the domains of life, thus in this one measurement we have distilled affective reactions to self across domains and across times. Little wonder that it is such a powerful predictor of overall well-being and depression.

Time Attitude and Personal Action

Time attitude is primarily an affective measure (Nuttin, 1985) and thus it is not surprising that it correlates so highly with the well-being outcome measures. Of perhaps greater interest in this study is whether time attitude moderates the relationship between personal project appraisal and well-being. Using the procedure outlined in Baron and Kenny (1986) to test a moderating relationship between a continuous moderator (time attitude) and a continuous predictor (PPA), SWB was regressed on each of the three PPA cognitive factors together with the intrapersonal present time attitude variable in the first block of a hierarchical regression, while the product of the two variables was entered in a second step. If the product predicts significant added variability, a moderator effect is evident. In all three cases, no significant added variability in SWB was explained by the

combined predictor, suggesting that time attitude and project appraisal are linearly rather than multiplicatively related to SWB. In the case of depression, time attitude did appear to serve as a moderating variable in the relationship between present efficacy and depression, explaining an additional three per cent of variability (total $R^2_{adj} = .34$, $p < .001$ + R^2 change = .03, $p < .01$, multiplicative variable, = $R^2_{adj} = .37$, $p < .001$). Thus a poor view of the present time in relation to self compounds modestly, albeit significantly, one's perception of low control, outcome and efficacy in general with regard to one's projects. Overall, though, the relationship between PPA and time attitude appeared to be primarily linear. Table 4.10 shows the added variance in well-being explained by time attitude over and above the five PPA factors (three cognitive, two affective).

Table 4.9

Time Attitude and Personal Projects Appraisal in Predicting Well-Being

Outcome Measures	PPA Cognitive Factors (R^2_{adj})	PPA Affective Factors (R^2 change)	T.A.S. predictors (R^2 change)	Total R^2_{adj}
SWB	.10, $p < .001$	.04, $p < .05$	.38, $p < .001$	.49, $p < .001$
Depression	.18, $p < .001$	.08, $p < .001$	.20, $p < .001$	.45, $p < .001$

Trait and Project System Associations

Among the 'Big Five' trait variables, only agreeableness was not related in some way to the time attitude variables and only current academic time attitude was unrelated to the trait variables. Both extraversion (positively) and neuroticism (negatively) were

associated with time attitude probably as a result of their own affective components.

Conscientiousness was also related positively to past and future academic attitudes as well as past social attitudes, while Openness to New Experience related positively to present and future social and self attitudes as well as past self attitudes and future academic attitude. (See table 4.10 for the specific correlations).

Even stronger relationships, although more tense and context specific, emerged between the time attitude variables and the PPSRS. Project system efficacy was strongly related to present and future academic attitude ($r = .42$ and $.46$, $p < .001$, respectively). Project system stress was negatively related to present academic attitude ($r = -.23$, $p < .005$) and present attitude towards self ($r = -.22$, $p < .005$), while project support and meaning were positively related to all time attitude domains (see table 4.11 for specific correlations).

Table 4.10

Correlations Between Time Attitude Variables and the “Big Five” Self-Report Traits (Whole Sample)

Time Attitude	N	E	O	A	C
Academic/ Occ. Past	-.25***	.21**	.09, ns	-.06, ns	.27***
Academic/ Occ. Present	-.14, ns	.05, ns	.05, ns	.10, ns	.12, ns
Academic/ Occ. Future	-.20**	.21**	.18*	.07, ns	.21**

Tense, Action and Well-Being: Three Tense Variables

Time Attitude	N	E	O	A	C
Social Past	-.35***	.23**	.10, ns	.04, ns	.07, ns
Social Present	-.22**	.27***	.20**	.03, ns	.02, ns
Social Future	-.10, ns	.29***	.25***	-.05, ns	.16*
Intrapersonal (Self) Past	-.37***	.22**	.16*	.05, ns	.09, ns
Self Present	-.16 *	.11, ns	.20**	.01, ns	.02, ns
Self Future	-.09, ns	.20**	.23**	.01, ns	.07, ns

* = $p < .05$; ** = $p < .01$; *** = $p < .001$; N = neuroticism; E = extraversion; O = Openness to New Experience; A = Agreeableness; C = Conscientiousness

In general for both the trait variables and the PPSRS variables the same relationships emerged in the two sub-samples with the exception of the relationship between conscientiousness and time attitude. In the older sample conscientiousness was not at all related with any of the time attitude variables while it was strongly so in the younger sample. Perhaps in a younger sample conscientiousness is still thought of more instrumentally as a means to an end, while it may have become a question of identity rather than attitude in later years. This may also be a cohort effect.

Table 4.11
Correlations Between Time Attitude Variables and the Project System Variables

Time Attitude	Meaning	Structure	Support	Stress	Efficacy
Academic/ Occ. Past	.26***	.22**	.22**	-.14, ns	.06, ns
Academic/ Occ. Present	.27***	.27***	.32***	-.23**	.45***
Academic/ Occ. Future	.45***	.27***	.39***	-.09, ns	.42***
Social Past	.22**	.21**	.29***	-.15*	.08, ns
Social Present	.33***	.06, ns	.39***	-.05, ns	.05, ns
Social Future	.50***	.12, ns	.40***	-.08, ns	.04, ns
Intrapersonal (Self) Past	.34***	.07, ns	.35***	-.02, ns	.06, ns
Self Present	.41***	.32***	.31***	-.19**	.12, ns
Self Future	.62***	.27***	.41***	-.22**	.09, ns

* = $p < .05$; ** = $p < .01$; *** = $p < .001$

These moderate, consistent correlations across context and tense suggest time attitude may relate as strongly to trait level measurement in personality psychology as it does to conative level measurement. Cantor (1990) qualified traits as the havings of personality psychology, contrasting them with the doings (life tasks, personal projects etc.) We also “have attitudes” towards things and attitudes tend to be enduring. Project system variables are probably best thought of as one of the key links between trait and

action level measurement (Little, 1996), in that the systems themselves are liable to be more consistent than the individual projects, but still comprised of them. Indeed we talk about “having” a project system as well, albeit “doing/pursuing” our projects. Given this overlap, the time attitude variables, especially when elicited in specific relationship to project context, perhaps capture variability at both levels and hence emerge as such strong predictors of well-being and depression.

Time Attitude did not emerge as a strong moderating variable between projects and well-being, so the direct association between past, present and future Project affect was examined as an alternative to the TAS. Again this provides a more action-specific rather than abstract-general perspective on the temporal variable. Since the two measures were only very modestly correlated, and that only in the future, it is possible that project temporal orientation may have a different association with both well-being and depression. A repeated measures ANOVA showed that affect did differ significantly across the three time zones, with greater positive affect associated with present and future projects than with past projects Wilkes λ $F_{(2)} = 41.3$, $p < .001$. No interaction with age emerged, although overall, the older group were significantly more positive about their projects in general ($F_{(1, 144)} = 6.48$, $p < .05$).

For the sample as a whole, past project affect and future project affect together accounted for 12 percent of the variability in SWB ($R^2_{\text{adj}} = .08$, $p < .001$ [past project affect] + R^2_{change} [future project affect] = .03, $p < .05$), while present project affect and

past project affect together accounted (negatively) for 14 per cent of the variability in depression in the sample ($R^2_{\text{adj}} = .10$, $p < .001$ [present project affect] + R^2_{change} [past project affect] = $.03$, $p < .05$). Thus to be able to recall positive past projects as well as positive future planned action appears more central to overall well-being than having current positively valenced projects, the lack of which is more related to depression. In the context of the findings on temporal orientation above in which present projects were significantly less important or valued than past and future projects this suggests that they are not important unless one does not have them.

In the subsamples, only the older subjects showed a clear association between past and future project affect and well-being, which together accounted for 25.2 per cent of the variability in SWB ($R^2_{\text{adj}} = .23$, $p < .001$), almost double that of the sample as a whole. Depression was negatively predicted by present project affect only in the older group, which accounted for 22 percent of the variability in CES-D scores for the sub sample ($R^2_{\text{adj}} = .21$, $p < .001$). In the student group project temporal orientation did not predict either SWB or depression significantly, suggesting again that the more fixed role of the student may allow him/her to construe negative project affect as transient. For students my projects may be less “me” in the long run than for the older sample and thus the associated negative affect less detrimental. Indeed, comparing self identity for the two groups, the older group identified somewhat more strongly with their projects ($t_{(188)} = -3.60$, $p < .001$, equal variances assumed).

Conclusion

Overall, modest support emerged for the original hypotheses, which suggested that students' future attitude in the academic/occupational domains would be related positively to well-being, given that for this sub-sample all five domain specific global life satisfaction measures were significantly related to a positive future outlook. The hypothesized importance of a positive future attitude in the social domain for the older group was also found in that, while it did not predict well-being, the lack of a positive future attitude did predict depression. Overall though, these relationships were overshadowed in both groups by the very large variability in well-being explained by a positive attitude towards the present in the intrapersonal domain.

The Three Tenses of Personal Action: Summary

Of the six temporal variables of interest, the three examined in this chapter -- temporal orientation, integration and attitude -- which emphasize different contributions of the past, present and future to temporal awareness have shown strong associations with well-being. The data suggest that an overly strong past focus is consistently associated with lower well-being and higher depression, which we have interpreted to reflect problems disengaging from regrets over either actions taken or not taken. Both previous research (Gilovich & Medvec, 1994) and findings from a specifically action-oriented temporal measure in this study, suggest it is particularly the former that is problematic. Indeed past actions recalled by both the younger and older individuals in this study were

generally positive and appeared to have no detrimental impact on well-being. In thinking about projects past, present, and future, it was more the inability to foresee future action that was problematic, particularly for the younger sample. The association between past orientation and higher neuroticism, reduced future project efficacy and, for the older sample, reduced meaning, all point to the pernicious effects of allowing too much of the past to dominate one's life.

From an affective standpoint (time attitude) we find that it is primarily a positive present attitude, particularly about the self that is most predictive of well-being and a lower likelihood of depression, which is suggested to be the result of the integrative nature of both the concepts of self and present, with the former standing for all our 'selves' in all walks of life, albeit some more salient than others (Linville, 1987) while the present representing, as Augustine suggested, the present of things past, present and future. The significant associations between the view of self in the now and project system meaning, structure and support further attest to the wide ranging import of a positive present attitude about the self. Interestingly for neither of the two samples was future attitude relevant to global well-being. Since there is abundant evidence that how we feel about the future (optimism, positive selves, expectancy) is important to our well-being, we can only interpret this finding as indicating that it is not the future, per se, that is central to well-being, but the future in the present, that is, a future which is seen as immanently and ineluctably emerging from who we are today. Affectively, then, it may be better to think of

present/future as an integrated whole, along the lines argued by some linguists, than as two formally separate tenses.

If a positive attitude about self in the now is highly predictive of a happy life, it would seem the ability to integrate past actions and events, as well as face up to future actions and events is central to meaning in our lives. The inability to integrate past experiences was significantly associated with depression for both the young and older sample, while the ability to integrate one's actions into an identity derived from the past and into future possible selves was significantly associated with meaning in one's actions. In linking temporal integration with time attitude, the positive view of self in the now may only be possible if we have been able to integrate our temporal and contextual selves, hence there is likely a delicate balance between how we feel about our current self and the extent to which the past and future are a part of that self.

In short to the extent that one does not dwell overmuch on past inaction, feels good about who one is currently and sees one's actions as stemming from the past and leading towards a desired future, one is liable to be doing relatively well. The combined ability of these variables to predict both depression and well-being will be examined in combination with the three future time perspective variables to be explored in chapter 5.

Endnotes

1. In some languages, such as English, the (simple) present tense does not exist with a present meaning for accomplishment, achievement or activity verbs. If we say in English: *He writes a letter*, we are either referring to a narrative present which in fact has past meaning (*In 1867, MacDonald writes again to Queen Victoria*) or to habitual action (*He writes a letter every Tuesday*) (Kučera, 1983) or to future action (*(When) he writes me a letter, I'll refuse to reply*). We must use an aspectual distinction *He is writing a letter*, to clearly indicate the present time reference. This suggests that even in English, it is more the phenomenology of being in the flow of action (study 3) or engaged in an activity (study 1) which is central to our construal of the present than the juxtaposition of now with the past or the future.
2. Individuals choosing not to complete the package were asked to return it blank in a stamped envelope provided. Among the reasons given for not completing the package were comments that it was too difficult, particularly for the oldest portion of the sample, not relevant to someone retired, suggesting in some cases the misinterpretation that “personal projects” had to be more formal projects rather than daily activities, or that the individual had simply not had the time they had thought, particularly so for those packages sent out close to Christmas.
3. It is this portion of the data set that was used as the third part of the database in study 1.
4. Subject #179, a sixty-five year old female was the eventual winner.
5. Time pressure was included for reasons not germane to this thesis and will not be included in the factorial structure or the temporal analyses
6. Sometimes called temporal perspective (Tallis, Eysenck & Mathews, 1991). As well as a stable individual difference, the term is sometimes used to reflect a single state relationship between an event and the observer/respondent, often manipulated, as in the references cited above. In this work it is used in the first, far more common, sense.
7. Note Lewin's definition excludes time estimation, which is not concerned with the past, present or future. It also excludes aspects of time related to circadian or diurnal rhythms and what Hoornaert (1973) calls time calculation which is the measurement of time using objective means as opposed to time estimation which uses subjective awareness.
8. This term is also found with reference to the orientation of an organism to daily temporal cycles (e.g., Aschoff, 1989; Hoornaert, 1973), but such usage is not relevant to time perspective and is not addressed in this study.

9. Zimbardo and Boyd (1999) recently published a Time Perspective Inventory (the ZTPI) that measures temporal orientation, but data collection was almost complete when it appeared in the literature. Their findings will be considered in the discussion.

10. It should be pointed out that the association between thinking a lot about the past and lower well-being need not be the result of a negative past. Strack, Schwartz and Gschneidinger (1985) have shown that more distant negative past events tend to be associated with improved current mood as a result of the contrast effect and, conversely, more positive distant past events associated with current negative mood. Data was not collected in this sample to allow for the differentiation between recent and distant past recall, but it seems likely this may be a relevant moderating variable.

11. Since sphericity was not tenable the Geisser-Greenhouse correction was applied.

12. General PPA findings suggest that important projects tend to be brought forward into the matrix for rating over less important ones (Chambers, 1997), as do those that involve greater commitment (Goodine, 1999); hence the small number of projects in each domain may represent a truncated subset in terms of intensity of temporal focus. The many less meaningful projects which could help clarify where an individual's focus lies are excluded from the rating, resulting in limited variability.

13. It is interesting to note that item 8 is listed by Nuttin (1985) with the positive pole represented by "far away" and the negative pole by "near". In this sample the negative loadings of this item suggest it should be reversed. While Nuttin has consistently emphasized the value of a longer future extension (into the more distant/far away future), the loadings in this structure would suggest time periods perceived as closer are more positively valenced.

CHAPTER FIVE

Tense and Personal Action: Future Time Perspective

Sooner murder an infant in its cradle
than nurse unacted desires
- William Blake

Introduction

Given the inherently future-oriented nature of projects (and other action constructs) we would expect variables that differentiate the way in which we see the future to be relevant to our well-being. Although future time perspective has been explored in some great detail, particularly by the Louvain group (Nuttin, 1984;1985), surprisingly little focus has been placed on the implications for well-being. Does having many projects (temporal density) improve life satisfaction by providing a wide range of possibilities in which to be successful or enjoy the process (i.e. not having all one's projects in a single 'basket'?) or is it reflective of dissipation, resulting in a sense of minimal progress on many fronts? Is it advantageous to have long-range projects in one's system (temporal extension) providing stability and direction, or again do too many of these prompt a sense of minimal progress all round and hence lower well-being? These are the sort of questions that have either not been addressed or, if addressed, have resulted in contradictory results, depending on the research paradigm and unit of analysis.

The three variables explored in this chapter, temporal extension, temporal density and temporal clarity, are operationalized using PPA and explored both globally in their

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associations with well-being (i.e. at the individual level) and at the domain-specific level. The general discussion compares the results across all six “tense” variables, the three from chapter 4 and these three, providing an indication, within the context of past, present and future, whether the predominant focus on future tense in conative psychology is warranted and which of the many specific sub-variables explored under each heading best predict SWB and depression.

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Temporal Extension: How far into the future do your projects take you?

Background

Temporal extension¹ refers not to the direction of orientation, but to how far into the past and into the future one’s time perspective extends. Thus, one may have a long or short future time extension and a long or short past extension. It does not appear to be used in the context of the present, although the subjective awareness of present can vary from individual to individual (Rappaport, 1990) and from context to context (Csikszentmihalyi, 1975).

Most associated with this concept is Nuttin (1979; 1984; 1985) and the Louvain Research Group, who have moved away from time orientation as a trait, focussing on time extension as the central dimension of future time perspective (ftp), which is presented as a key motivational construct. Goals, motives, needs and interests are all seen as future focussed in that they involve a cognitive representation of a desired/feared end state

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(motivational object) which organize and guide behaviour. Nuttin's work is also distinct in that he has emphasized the need to study actual motivational objects generated by the participants rather than relying on simple projective or self report scales. In this, his focus brings the study of time much closer to personal action constructs and allows for comparison in content as well as extension and density (see below; Nuttin, 1985).

If Nuttin clarifies *why* future time perspective (including extension) is so important motivationally, Nurmi (1989) has advanced the field by postulating *how* various cognitive processes interact within a future perspective to prompt action. Like Nuttin, he emphasizes the importance of motivation (needs, interests, values) and the construction of mental representations of a desired end state, but stresses in addition the role of planning (the ability to develop and implement strategies for the realization of the goal) and of evaluation (by cognitive attributional as well as affective feedback). This expanded future-time-perspective-as-system approach allows for the integration of ftp within a broader framework of cognitive and action theory, while his focus on the relevance of contextual issues in ftp echoes calls for increased sensitivity to the ecology of the individual in personality studies (Little & Ryan, 1979; Little, 2000a).

In the most recent review of the subject, Thiébault (1998) suggests generally that greater temporal extension appears to be associated with normal to high functioning individuals. Pfötsch (1979) cited in Thomae (1981) found using path analysis in a longitudinal study of 220 older German individuals that future extension is a determinant “of satisfaction with life situation” (p. 264); from the same data Thomae reports that

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“health was consistently better in persons with more extended future time perspective”, later noting that some exceptions do apply (p. 265). Zaleski (1994), however, suggests a very protracted future extension can be related to anxiety. Many studies provide evidence that a foreshortened future is problematic, either related to drug use (Alvos, Gregson & Ross, 1993), HIV risk (Kalichman, Rompa & Muhammad, 1997), delinquency (Stein, Sarbin & Kulik, 1968), or stealing (Brock & Del Giudice, 1963) among other socially less desirable characteristics. Further evidence exists that depression/negative affect decreases with longer future extension (Breier-Williford & Bramlett, 1995; Dilling & Rabin, 1967; Wohlford, 1964, 1966) and that self-esteem, achievement, high standard setting are positively correlated with future extension (cited in Bouffard & Bastin, 1993). Given these findings, it would seem fair to characterize the literature as pointing towards increased future extension as ‘better’.

In a 1999 pilot study, however, I asked thirty third-year psychology students to list their “personal projects”, defined broadly to encompass short-term daily activities to long-term aspirations, and to note how far into the future they envisaged their realization. With the exception of those ongoing projects which students indicated were not expected to end, the times were converted to weeks, averaged across projects and correlated with various outcome measures. The startling result was a very high positive relationship with depression ($r = .75$, $p < .001$), replicating earlier findings by Palys and Little (1983), who found those high in life satisfaction to attach greater importance to shorter term projects, than those lower in life satisfaction, whose important projects stretched further into the

future. Nurmi (1989b) also found that for adolescents future extension was related negatively to optimism (future positive affect). Thus there appears to be a clear contradiction in the literature relating temporal extension to well-being.

These findings may reflect both the positive and negative sides to long term goals, as outlined in study 1. While a longer future extension provides for distant focal points that can provide a sense of stability and continuity in a project system and shorter extension implies a focus on nearby goals and thus involves constant change and instability from one perspective (Hulbert & Lens, 1988a), the affective reward associated with reaching short-term goals may be motivating, while the lack of progress toward distant goals may result in feelings of inefficacy and negative affect, from another (Hyland, 1988; Carver, Lawrence & Scheier, 1996). Data seem to support both theories. In short the benefit of future extension is not universally present in the literature and clearly moderating variables must be involved.

In this study future extension is hypothesized to vary as a function of project domain. Building in part on the findings in study one, *longer future extension is hypothesized to relate to academic life satisfaction, while shorter future extension is likely to be important for interpersonal, intrapersonal and health/body concerns*. No hypotheses are made regarding maintenance projects. A balanced project system may require some shorter-term projects to provide a sense of progress and efficacy, which may off-set slower progress towards longer term, more meaningful projects (Little, 1989).

Based on Bouffard et al.'s (1989) extensive review of demographic variables, we

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would expect no age or gender differences in future extension, although education level may play a role. This study will also test whether extension operationalized using personal action constructs (personal projects) elicits information similar to that elicited using the dedicated temporal measure, the M.I.M. (Nuttin, 1985), which asks individuals about their desires, hopes and fears rather than their planned actions. The categorization schemes of both methodologies and the sample objects provided by Nuttin (1985) would suggest the content should be similar, but certain methodological differences such as the specification of number of objects but not projects and the provision of leading phrases in the M.I.M. but not in PPA may make the latter a more personally salient and ecologically valid instrument.

Although time extension does include both past and future, there has been relatively little focus in the literature on differences between longer and shorter past extensions. Since it is more one's accumulated experience as a whole that is seen to impact action through its influence on the future via the expectations and anticipations that arise as a result of life experience (temporal integration, see chapter 4), variations in retrospective temporal horizon have not been postulated to affect behaviour. Furthermore the effects of past experience on current action may be less likely conscious (Zaleski, 1994) and thus not easily accessible, especially those stemming from our earlier, formative years. Past extension is not addressed in this study as a variable relevant to well-being.

Operationalization

The operationalization of temporal extension in this study is based primarily on

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self-report duration of project. Respondents were asked to estimate in days, months, weeks or years how long into the future their projects would last or how long they would take to complete. For those projects that were not time delimited, subjects were asked to indicate “always” or “ongoing”. Estimates for each project were converted into days and two indices created: average duration, a point in the future that reflected the average number of days until the person’s projects would be complete; and, a temporal horizon (Fraisse, 1967) which reflects the point in time when the longest-term project will be complete, or the furthest future point in the action representation system of the individual. Note this is not the same method used by Nuttin which needs to take into account much unknown information since the temporal placement is made by the researcher not the respondent and is done as a categorical rather than a continuous variable. Having the respondent indicate their future extension (project duration) allows for the analysis of extension as both continuous and categorical. While it may be argued that individuals may not be good at estimating how far into the future their projects will last (see Pychyl, Morin & Salmon, in press) it is precisely this highly idiosyncratic view of the future that is important to capture, given its potential impact on project appraisal, efficacy and well-being. Researcher coding loses this very personal aspect of future extension. Furthermore, it is assumed that not everyone’s projects may follow the standard social clock on which Nuttin’s methodology is based (Helson, Mitchell & Moane, 1984).

As well as global measures of future extension, individual domain-specific scores were calculated for each project domain, so that each respondent, as long as there were at

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least two projects in each category, received a global temporal extension score, a temporal horizon score and six domain specific extension scores. These were used to predict subjective well-being, depression and domain specific life satisfaction, as set out above.

Results and Discussion

Global Temporal Extension

In all 7303 projects were available for analysis, of which only 46.1% (n = 3364) were viewed by the respondents as time delimited, that is as having a definable point in the future when the project would end or be complete. This is somewhat less than Bouffard et al. (1989) found in their sample of 7832 motivational objects (69%) although their sample was restricted to the elderly (65+). In the sample under study, an additional 33.7% (n = 2464) were designated by the respondents as “ongoing” or “always” or “forever” suggesting the project was seen as an activity or state, in action character terms, that is, without a required boundary or end point. It is important to note that many of these projects, designated by the respondent as “always” or “ongoing”, would have been coded by a researcher as belonging to a time period. For instance, under the M.I.M. classification system a university student’s object “get good marks” would be classed as E3 (higher education period) under the assumption that it was a desire relevant only to university. Many individuals however designated this as “always”, that is, more as a way of life and clearly not seen as specific to their current life period. To impose an end point (through coding) would be inappropriate and as shown in study 1, there are affective differences

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associated with whether a project is seen as ongoing/non-ending or likely to end at a particular point.

Indeed projects phrased as states or activities were significantly more likely to be labelled as “not time delimited” and those phrased as accomplishments or achievements more likely to be marked with a specific temporal extension, as shown by the subsample of 1776 projects from the first study that were coded both for action character and temporal extension ($\chi^2 = 496$, $p < .001$) (See table 5.1)

Table 5.1
The Non-independence of
Action Character/Time Delimitation

Time delimited		State/ Activity	Accomplishment/ Achievement	Total
Yes	O	260	859	1119
	E	484	634.5	1119
No	O	509	148	657
	E	284.5	372.5	657
Total	O/E	769	1007	1176

In addition to differentiating temporal extension along process vs. event lines, a third category of project-time delimitation was made necessary as a result of a tendency among some individuals not to talk about the project end-point in relation to now (linguistically speaking, current deixis) but in relationship to what they perceived as the start of the project, which was the initiation of the action phase (future deixis). In other words most individuals considered their projects to be current in that they were already in

the inceptive (conceptualization) phase (Little, 1983) but some individuals did not consider that their project had begun, viewing the start of the project as the beginning of stage 3 (the action phase). For instance, the same project, “clean my room” was rated by one respondent as time delimited 1 week, in other words she saw the project as being complete by the end of the week. Another respondent with the same project listed it as time delimited 2 hours. Since the individual was currently engaged in responding to a 2 hr questionnaire it was unlikely he would have his room clean in 2hrs from now, rather he was focussing on the duration, once started. Another example: “take a trip to Hawaii next Spring” (6 months) and “take a trip to Hawaii next Spring” (3 weeks). Projects that were designated in the latter fashion were included in category 3 (unclear) since clearly they do not represent temporal extension, but rather action duration². In all 1475 projects or 32.2% fell into this latter category.

Bouffard et al. did not distinguish between “ongoing projects/open future” and unclear or non-temporally relevant projects, so the last two categories together comprised only 31% of their sample. The much greater prevalence of time delimited *aspirations* in their sample may be due either to the difference in ages or the difference in coding. However, examining only the 2142 projects of individuals over 50 in the current sample, we find a similar percentage of time delimited projects as in the sample as a whole, with, if anything, fewer among the older set. See table 5.2 for a summary. Thus it would appear that in using a standardized coding system, psychologists may be imposing time periods on desires (or actions) when time is not a central factor for the individual.

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Since only the time-delimited projects have a clearly demarcated time horizon, only these were used in operationalizing temporal extension, as suggested by Nuttin (1985). In terms of the number of time-delimited vs. number of non-time delimited projects and the relationship to well-being, see temporal density, below.

Table 5.2

Frequency of Categorization: Subject vs. Researcher Coding

		Total Sample	Older Sample	Bouffard et al.
Time delimited	(distant future)	46.1	35%	52%
	(near future)			17%
Non Delimited (open future)		33.7	35.3%	31%
Unclear		32.2	29.7%	

A global temporal extension score was calculated for each individual by averaging the number of days into the future the respondent indicated it would take to complete their projects. Any respondents with two or fewer time-delimited projects were not included in this calculation based on the assumption that fewer than three projects was not a representative sample. In all 174 younger individuals had a combined average future extension of 391.12 days (approximately 13 months) **SD** = 507.39 (approx. 17 months) while 95 older individuals had a combined average future extension of 220.30 days (approx. 7 ½ months) **SD** = 356.12 (approx. 1 year). The difference in future extension was significant between the two groups ($t_{(174)} = 3.12$, $p < .005$), based on log-transformed

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scores. In this sample, older individuals appear to have a shorter future extension, indeed age predicted 5 per cent of the variability in extension ($R^2_{adj} = .05$, $p < .005$) even after controlling for education level, which in this sample was non significant ($F < 1$, ns), but which has been shown previously to be associated with future extension (Bouffard et al., 1989).

The literature is not at all clear on age differences, although in their comprehensive review of 20 studies relating time extension and age, Bouffard et al. (1989) come to the conclusion that there is a curvilinear relationship with younger children and older adults showing no age differences, but adults a curvilinear (inverted U) relationship. When this data set was split, no associations emerged and neither group appeared to show even a marginally significant trend, suggesting the association between age and extension was not group-specific. It should be pointed out, however, that the age differences across the data set may be the result of a difference in focal categories in that we have hypothesized (and show below under temporal density) that extension does vary by category and that maintenance projects, which are more frequent among the older individuals are significantly shorter. It is also possible that there are no clear age differences in motivational *objects*, but that the older set are more likely to construe their *actions* in shorter chunks³.

Bouffard et al. (1989) in their review of 23 studies found no compelling evidence for gender differences in future extension and, indeed, no differences emerged in the present data set ($t_{(174)} = -.09$, ns).

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In terms of global future horizon, the 172 younger individuals had an average “farpoint” or horizon of 1681.97 days (approx. 4.5 years) **SD** = 2297.02 (approx. 6.25 years) while the 91 older participants had an average horizon of 733.90 (approx. 2 years) **SD** = 986.28 (approx. 2.5 years). The horizon and average future extension scores were very highly correlated, however, so appeared to be measuring the same construct ($r = .92$, $p < .001$). Further analyses were conducted using the extension score only. Given the highly skewed distribution of the extension scores, analyses were done after a logarithmic transformation which brought the distribution into the normal range.

When both depression and subjective well-being were regressed on future extension scores, no significant relationship emerged either for the sample as a whole or in the subsamples. Given the size of the database, the two different age groups sampled and the coding of all rather than a sample of projects elicited, it would seem to be a relatively robust finding; however, it was certainly not anticipated, given previous findings with PPA noted above⁴. One of the initial rationales for looking at this variable was the discrepancy in the literature between the positive associations with future extension set out by Nuttin (1984) and the negative associations found in the PPA work. At a global level these results did not help clarify this question. At least as far as self-reported anticipated project extension is concerned there appears to be no clear link to well-being. This echoes the call from several researchers to adopt a more context sensitive approach to temporal measures, which we have done below (Schneider, 1990; Lennings, 1992, 1993).

To test whether there were any associations with individual difference measures

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and project appraisal factors, future extension (log) scores were correlated with the self-reported 'Big Five' trait measure, the PPSRS and the five project appraisal factors. Only in the older sample was future extension related to Openness to New Experience ($r = -.22$, $p < .05$) suggesting a rigidity (although possibly a stability) that may accompany having the future mapped too far into the future. At the same time however, for the older sample and the sample as a whole, greater future extension was modestly associated with greater project system meaning ($r = .21$, $p < .05$ and $r = .13$, $p < .05$, respectively), giving support to the first portion of Little's contention that higher order projects are more meaningful but less manageable (Little, 1989). Contrary to the latter portion; however, longer extension was also related (only in the younger sample) to increased project system structure ($r = .19$, $p < .02$). This may well reflect Thiébault's (1998) contention regarding the task specificity of temporal extension (see below) in that the duration of many university projects has an externally imposed time-frame which structures the project system for the student. The lack of any relationship with structure in the older group ($r = .08$, ns) suggests this may be the result of context rather than the individual.

At the project level, only the future efficacy factor for the sample as a whole was significantly and negatively related to temporal extension ($r = -.16$, $p < .05$), providing support for the second half of the meaning-manageability trade-off in temporal terms. The absolute magnitude of the relationship is clearly small, however, and while the same trend emerges in the sub-samples there is insufficient power to reach significance. So if global temporal extension is not related directly to well-being, it does appear to play a small role

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in providing the individual with a sense of meaning (which is positive) if at the cost of efficacy (negative). Many other variables likely impinge on this relationship making it sufficiently subtle so the direct relationship to global well-being is lost.

Domain Specific Temporal Extension

Before calculating domain specific temporal extension scores for each individual by averaging only the projects in any given domain, a one-way ANOVA was conducted at the project level to determine if temporal extension varied by category across individuals as hypothesized, ie, whether certain categories tend to have longer or shorter average durations. Again the logarithmically transformed scores were used (for both the log and untransformed means, standard deviations, see table 5.3) and for the group as a whole, there were significant differences in extension across domain ($F_{(5, 3327)} = 42.65, p < .001$) (see figure 5.1).

Maintaining a familywise error rate of .05 ($p < .003 \times 12$), interpersonal project extension was significantly shorter than academic or occupational project extension ($p < .001$); intrapersonal project extension was significantly longer than all other project categories except academic/occupational (all $p < .001$), while maintenance project extension was significantly shorter than all other project categories with no exception (all $p < .001$). In short maintenance projects tended to have a short future extension, intrapersonal and academic/occupational projects a long future extension, with the remaining groups falling between.

Figure 5.1

Including the distinction between younger and older groups in a 2 (age) x 6 (project category) ANOVA, the main effects due to age as well as those due to category were significant, as well as the interaction of the two, which centred on the shorter duration of social/interpersonal projects among the elderly (See table 5.3 for descriptive statistics, 5.4 for results and figure 5.2 for a graphic representation).

Table 5.3
Temporal Extension by Project Category
Descriptive Statistics (Whole Sample)

Project Category		Temporal Extension (days)		Temporal Extension (log)	
		M	SD	M	SD
academic/occ	n=957	376.24	738.17	1.90	.90
health/body	n=271	180.80	402.92	1.70	.77
interpersonal (social)	n=463	424.27	1102.17	1.68	.98
intrapersonal (self)	n=158	604.04	1532.08	2.14	.83
leisure	n=736	347.80	920.03	1.79	.86
maintenance/admin	n=748	164.62	493.38	1.35	.86

Table 5.4
Differences in Extension Within and Between Samples

	Younger Sample		Older Sample	
	M	SD	M	SD
Acc/Occ	1.89b	.91	1.91BC	.74
Health/Body	1.71cd	.79	1.64	.67
Interpersonal	1.76æef	1.02	1.38aCD	.79
Intrapersonal	2.16cegh	.85	1.98	.69
Leisure	1.82gi	.85	1.74DE	.87
Maintenance	1.34bdfhi	.91	1.35BE	.86

Capital letters = older within group comparisons; small letters = younger within-group comparisons; Greek letters = interaction comparisons; all letters $p < .001$

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In a follow up comparison of interpersonal projects, the younger group had on average longer interpersonal projects ($M = 1.76$ $SD = 1.02$) than the older group ($M = 1.38$ $SD = .79$) ($F_{(1, 182)} = 11.47, p < .001$). An examination of the social projects of the two groups suggest that for the older group, such projects often involve doing something (small) for someone or having coffee with someone, while for the younger group they more frequently include longer-term relationship projects. None of the other interaction comparisons were significant.

Table 5.5

Analysis of Variance:
Project Extension by Project Category and Age Group

	df	F
Project Category	5	28.44, $p < .001$
Age (dichotomous)	1	4.49, $p < .05$
Project Category x Age	5	2.59, $p < .05$

Having determined, as hypothesized, that project category does tend to dictate project extension at least to some degree, *but* also that there is considerable variability within each domain as demonstrated by the large standard deviations associated with the group means, the relationship between extension and well-being was examined for each domain. Contrary to our hypotheses, none of the future extension scores correlated significantly with the corresponding domain specific life satisfaction ratings. For the younger group, overly long health body projects appeared to be associated with lower

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social life satisfaction ($r = -.24, p < .02$). For the older group overly long health body projects also appeared to be negatively associated to global subjective well-being, social life satisfaction and home life satisfaction, however there were few enough individuals with health body projects ($n = 33$) that there was not adequate power to achieve significance ($r = -.34, p < .06$; $r = -.27, ns$; $r = -.33, p < .06$, respectively). Overall, then, the single domain in which temporal extension appears to show a moderate negative effect is with regard to health/body, probably as a function of the fact that longer duration projects likely represent more problematic projects⁵.

Figure 5.2

Trait and Project System Variables

Domain specific temporal extension scores were also compared to trait variables and the system level rating scale for personal projects (PPSRS) to see if there were associations with trait-like or broader domains of action characterization. For the older group, longer interpersonal projects were associated with higher agreeableness ($r = .43$, $p < .005$), while for the younger group longer-term academic projects were associated with higher meaning and higher support ($r = .15$, $p < .05$; $r = .21$, $p < .05$, respectively). Longer term intrapersonal projects were associated with greater stress ($r = .30$, $p < .02$) and longer term health-body projects associated with greater conscientiousness ($r = .36$, $p < .01$).

In general though, despite the large database of projects that was aggregated to form the domain specific temporal extension scores ($n = 7303$) and the relatively large number of subjects studied by PPA research standards ($n = 295$), many of the bivariate correlations were based on relatively small n s (some as low as $n = 9$), suggesting that both for the trait related and well-being related statistics, power was an issue. In only the most modest sense can we say that there is support for the hypothesis that academic projects associated with longer future extension would be conducive to greater well-being, in that, for the younger group, they were associated with higher meaning and support. Similarly there was modest support for the hypothesis that shorter-term health body projects would be associated with greater well-being, since longer term health projects do seem problematic for both the younger and older groups.

Conclusion

It would seem fair to conclude, therefore, that temporal extension should be examined at a domain specific level, since it varies by domain (as a function of the type of project) and within each domain in terms of its positive and negative impact; however, it also would seem that temporal extension, when self reported, does not appear to have as major an impact on well-being as suggested in the literature or in previous pilot work. Only long-term health-body projects were clearly associated with lower well-being, as hypothesized. Further examination of the stability of project extension and its relationship to certain traits and motives (locus of control, n Ach) may provide additional insight.

Temporal Density: How much do you have on the go?

Background

Closely related to temporal extension, density refers to the number of objects⁶ generated within a given temporal orientation, e.g. high density past or low density future. The construct was first used by Kastenbaum (1961) who found it to load on a common factor with temporal extension because the longer one's temporal extension the more "space" one has for future objects. It has been used with the M.I.M. (Nuttin, 1985) and the T.A.T. (Zeissler, 1966, as cited in Hoornaert, 1973) and in spontaneous lists of important life events (Klineberg, 1967). Tormmsdorf and Lamm (1995) offer a more nuanced version which they label *temporal variety*, which stresses the potential impact of having several objects in several categories rather than several in just one. For instance,

having many future academic projects that stretch for many years (high density, long extension) may not be equivalent to having many academic, interpersonal and leisure projects which stretch for many years (also high density, long extension, but with variety).

Platt and Taylor (1967) have linked greater density of future events to lower likelihood of homesickness⁷ but this hardly constitutes solid ground for extrapolating links with well-being. Rappaport (1990), in the context of the clinically oriented life-line, associates high density of future events with highly goal-oriented, ambitious individuals often designated as Type A personalities or “yuppies” and who wind up in therapy because of burnout. On the other hand, recent research with personal projects in occupational therapy suggests a variety of projects can be beneficial if one’s abilities are suddenly curtailed, since there are likely some ongoing projects which may be maintained providing a sense of continuity and efficacy (Christiansen, Little & Backman, 1998). Since there seems to be no clear direction regarding density or variety and well-being in the time literature, we will draw on the self-concept literature (Linville, 1987) and personal construct theory (Kelly, 1955) and extrapolate enhanced well-being from greater density when that density is distributed across project domains, but lower well-being if one’s density is low or all in one ‘basket’ (category) as a result of heightened vulnerability to the social ecology impinging on that one domain. For instance ***we would expect individuals with more projects across academic/occupational, the interpersonal and leisure domains to experience greater well-being than those with more projects only in the academic domain.***

Operationalization

(Future) temporal density is operationalized as the number of (time delimited) projects overall and for each project domain for a given respondent. Only projects lasting a week or more were included as density is argued to affect well-being through providing alternative reference criteria in the same and across different fields against which to measure progress and self-efficacy, hence short-term projects are unlikely to provide any lasting guidance. Regression was used to predict subjective well-being, depression and domain specific life satisfaction.

Other measures of global density include the number of future self-representations (FSR) in the narrative accounts of the respondents' view of their personal futures in five, ten and twenty years; the total number of future events in the RTL (Rappaport Time Line) and the total number of future events in the EI (Experiential Inventory). In correlating these five measures, along with the total number of (time delimited) projects overall, it is clear that these measures are all related with the exception of the EIFE⁸ (see Table 5.6). This was confirmed using a principal components analysis of the five related measures, which resulted in a single factor explaining over fifty per cent of the variability in the data. It is noteworthy that the RTL, while significantly related to future self representations and number of projects for the younger sample, was much less associated in the older sample, where perhaps the projected number of specific life events is curtailed by age, but not necessarily the different (or similar) ways one sees oneself being or doing in the shorter term future⁹.

A second measure of global temporal density (excluding the EI and Projects measures) was derived from a principal components analysis of the four measures accounting for 57.39% of the variability in the data. This second measure was used to complement the global projects measure.

Table 5.6
Correlations among Temporal Density Measures

		Total # Projects	Total # of Twenty Year FSRs	Total # of Ten Year FSRs	Total # of 5 Year FSRs	RTLD
Total Sample	20yr FSR	.28***				
	10yr FSR	.35***	.62***			
	5yr FSR	.31***	.47***	.57***		
	RTLD	.18*	.27***	.35***	.23**	
	EID	-.02, ns	.02, ns	.14, ns	.02, ns	.18*
Younger Sample	20yr FSR	.35***				
	10yr FSR	.28**	.61***			
	5yr FSR	.25*	.48***	.53***		
	RTLD	.26*	.22, ns	.31**	.28*	
	EID	-.09, ns	-.23*	-.03, ns	-.04, ns	-.08, ns
Older Sample	20yr FSR	.21*				
	10yr FSR	.41***	.57***			
	5yr FSR	.36***	.45***	.59***		
	RTLD	.11, ns	.14, ns	.27*	.17, ns	
	EID	-.01, ns	.04, ns	.14, ns	-.02, ns	.07, ns

* = $p < .05$; ** = $p < .01$; *** = $p < .001$; RTLD = Rappaport Time Line Density; EID = Experiential Inventory Density; FSR = Future Self Representation.

Results and discussion

We have hypothesized that greater density across domains (variety) may be more conducive to well-being than either high or low density alone (project overload vs. apathy). In first testing the relationship between global density and well-being, neither the projects nor the composite global density measures significantly predicted subjective well-being; however the number of time-delimited projects did approach significance in predicting depression. A closer examination of the residuals plot suggested that the relationship might be curvilinear and, indeed, a small but significant quadratic trend did emerge ($F_{(2,183)} = 3.35, p < .05$). It would appear that, in taking one's projects into consideration overall, moderation is key and that either too many or too few are mildly associated with depression. The trend, however, was not strong and stemmed in large part from a small number of highly depressed individuals in the data base (CES-D scores above 35). When these individuals were removed, the quadratic trend disappeared and the total number of time-delimited projects did predict linearly greater depression ($F_{(1,256)} = 4.38, p < .05$) for the sample as a whole (there was insufficient power to detect a significant difference when the file was split, although the zero-order correlations suggest this effect was primarily as a result of the younger sample). This provides some support for the findings in study one that focusing on a specific end-point can be detrimental to well-being.

This is also consistent with findings associated with extreme depression in which individuals are barely able to act at all (Kuhl & Beckmann, 1994) and the temporal

literature in which depression is characterized as a block to the future (Melges, 1982; Minkowski, 1933). Milder depression may still allow the formation of plans (density) but these may be piled upon earlier plans not realized and lead to lower self-efficacy as the “to-do” list grows; in extreme depression the entire list is discarded and the individual sinks into low level thinking and inaction (Pennebaker et al., 1992). While supporting these findings, the actual amount of variability accounted for by the number of time delimited projects was small, however ($R^2 = .02$, $p < .01$).

Interestingly the number of non-time delimited projects did not predict depression either in isolation or in combination with those that are time delimited, suggesting that if you have to have a lot on your plate it may be advantageous to think of your projects as ongoing rather than time delimited. Ongoing projects may reflect an ongoing commitment to life and a sense of involvement that is antithetic to the alienation so common in depression.

To determine if a predominance (density) of one or another type of project might be associated more strongly with well-being, individuals were categorized into non-delimited vs. delimited types based on whether they had more projects in one or another of the two categories. In all, 115 younger and 40 older individuals were categorized as having predominately “time delimited” projects, while 47 younger and 43 older individuals as having predominately “non-delimited projects”. The remainder were either missing or unclear (group 3). Only in the younger group was there a marginally significant difference in subjective well-being associated with a predominance of time-delimited vs. non-time

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delimited projects, with those who have non-time delimited projects showing marginally higher well-being ($M = 10.34$ $SD = 2.13$) than those with time delimited projects ($M = 9.59$ $SD = 2.08$), $t_{(154)} = -2.0$, $p < .05$), as well as modestly higher social life satisfaction ($M = 7.02$ $SD = 2.1$) than those with more time-delimited projects ($M = 6.05$ $SD = 2.3$, $t_{(159)} = 2.53$, $p < .02$). Again this appears to offer cautious support to the findings in study 1, although also suggests those findings need to be replicated in an older sample.

Trait and Project System Variables

Given the only very modest associations between density and well-being¹⁰, the density variables were correlated with trait, project system and project appraisal factors, to determine other potential associations of interest. In the group as a whole, total number of projects (of any category) and total number of non-time delimited projects were positively associated with conscientiousness ($r = .15$, $p < .05$ and $r = .21$, $p < .005$, respectively). Conscientiousness thus appears more related to maintaining ongoing commitments (non time-delimited projects) than finishing things. The composite global density measure was positively associated with Extraversion ($r = .21$, $p < .01$) possibly as a result of the tendency of extraverts to list more discrete activities in their future selves characterizations. Finally both the composite measure and the number of time delimited projects were positively related to Openness to New Experience ($r = .19$, $p < .05$ and $r = .16$, $p < .05$, respectively), suggesting individuals may have a tendency to list more projects if they see themselves as having broad interests, as Lecci (1988) found as well.

While the standard outcome measures used in this study did not show a strong

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relationship to density, project system stress was significantly and positively related to the composite measure ($r = .34, p < .001$) and the number of time-delimited projects ($r = .18, p < .005$), but not the number of non-time delimited projects. This appears to support the earlier more modest finding relating time-delimited projects to depression, another facet of negative affect. Project system structure was associated negatively in the same, albeit slightly more modest fashion, with both the composite measure ($r = -.33, p < .001$) and the number of time delimited projects ($r = -.13, p < .05$) reflecting a lack of structure. Thus rather than a meaning-manageability trade-off in this context there appears to be a magnitude-manageability trade off. Project systems that are large as a result of time-delimited projects appear less manageable and more stressful.

Only two sub-sample specific relationships emerged, with those in the younger sample who listed more time-delimited projects also scoring higher on Neuroticism ($r = .20, p < .05$) while in the older sample, the composite density measure was associated with higher agreeableness ($r = .26, p < .05$). The latter may be a measurement artifact, in that those who completed the future selves portions of the questionnaire which required more time and thought may tend to be agreeable. The association between Neuroticism and time-delimited projects is entirely congruent with other findings, given the strong association between neuroticism and negative affect (Costa & MacCrae, 1985).

If, at the project system level, it was the negative association of time delimited projects with structure and attendant negative affect that was most salient, at the project level, it was rather the positive association ($r = .31, p < .001$) of non time-delimited

projects and the future meaning factor (importance, commitment, etc.), again highlighting the different characters of the two types of projects. This association generalized across both subsamples although appeared slightly stronger in the older sample ($r = .32$, $p < .005$) than in the younger ($r = .29$, $p < .01$). Once again, viewing projects as ongoing commitments appears as beneficial. In the sample as a whole, the past efficacy factor (self identity, progress, stage) was also negatively related to the number of time delimited projects ($r = -.16$, $p < .05$) suggesting that one's sense of past progress and self identity may suffer if one has a tendency to see end-points to most of one's projects. Perhaps this reflects, retrospectively, the inevitability that not all the time-delimited project deadlines will have been met.

From a variety of associations between well-being and project variables, trait variables and project system variables, there appears to be converging evidence that too many projects (high density) is not a problem in and of itself, but that too many time-delimited projects can be stressful, depressogenic and antithetic to a sense of structure in life, while more non time delimited projects enhances meaning and appears unrelated to negative affect variables.

Domain Specific Temporal Density.

Having found only modest support for a relationship between global time density and well-being (in this case, depression and stress), it remains to be determined if the density of projects in a given category is more detrimental or conducive to well-being and if, as hypothesized, density in any one category may be detrimental to well-being in other

categories (project system imbalance).

For the group as a whole, an overabundance of academic or occupational projects correlated positively with depression ($r = .22, p < .001$) and negatively with subjective well-being ($r = -.17, p < .005$) while a greater number of leisure projects was associated with lower depression ($r = .17, p < .01$). It was the number of intrapersonal projects that overall appeared to be most detrimental to well-being, correlating positively with depression ($r = .18, p < .005$) and negatively with subjective well-being ($r = -.20, p < .005$). Splitting the groups by age showed that for the younger group, an overabundance of academic projects was detrimental to their well-being ($r = -.16, p < .05$) while for the older group it was a superfluity of intrapersonal projects that was most harmful ($r = -.29, p < .01$). Other associations did not reach significance. While it may not be unusual to have many intrapersonal projects as one navigates the coming into identity of youth, perhaps in an older sample these projects are associated with problematic disengagement, that is, are projects that are stalled or no longer possible to complete, but still figure in the project system.

Subjective well-being was regressed on the domain-specific temporal density measures. For the younger group, number of academic projects was the only significant predictor (negatively) ($R^2 = .03, p < .05$) while for the older group only the number of intrapersonal projects predicted well-being (negatively) ($R^2 = .08, p < .001$). Temporal density did not predict depression at the domain-specific level. This provides initial evidence that temporal density too is domain specific, although in both cases the direction

was the same, that is, the greater the density the lower the well-being.

As noted in chapter 2, the number of intrapersonal projects in an individual's project system has been associated with depression and negative affect in several studies (Salmela-Aro & Nurmi, 1992; Zomer, 2000); however these studies have used the number of intrapersonal projects in the matrix (that is, those among the 10 selected for rating that were intrapersonal). In this study we used the total number of projects for each category listed by an individual in the project elicitation (see Table 5.7). It is perhaps this methodological difference that has led to the poorer association between intrapersonal projects and depression in the age-defined groups. Thus it may be especially the *emphasis* on intrapersonal projects, that is, the bringing forward of these into the matrix for rating, that is most predictive of depression rather than their simple inclusion in the initial list, which seems more predictive (negatively) of well-being.

Table 5.7 also provides comparison statistics recalculated from Bouffard and Bastin (1993). Their original data was split into 10 age groups and coded using Nuttin's (1985) motivational content categories. In some domains the latter were easily transferred into the PPA category coding system (*loisir* = leisure; *réalisation* = academic/occupational; *contact*, *contact de la part d'autrui* and *souhaits pour autrui* = interpersonal), in others the domains appeared somewhat narrower (*santé* = health (but not body)) or broader (intrapersonal was represented by various portions of four categories *self*, *réalisation de soi*, *exploration* and *transcendantal*). Maintenance projects, a major portion of the older sample's project count are not represented in the MIM

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categorization except in the context of possessions. This is one clear difference between a personal project and a motivational object. We may not *desire* to clean the house, pay our bills, do the laundry or walk the dog, but many of us spend a fair bit of our time *doing* these activities. Thus the comparison of means is somewhat forced, but certain patterns are the same, notably in the categories that are similar: academic/occupational projects are more frequent among the younger group, interpersonal and leisure projects are slightly more frequent among the elderly. In the project sample health/body projects are more frequent in the younger group, probably because of the many exercise and body-related (eat healthy etc.) which may be absent from the Bouffard and Bastin category. The higher absolute number of leisure projects may be the result of the higher socio-economic status of the project sample, especially among the older group.

Table 5.7
Temporal Density (Number of Projects) By Project Category
Descriptive Statistics

	Current Data: Younger (17 - 39))		Current Data: Older (40 - 82)		Bouffard & Bastin: Younger (20 - 39)		Bouffard & Bastin: Older (40 - 74)	
n =	188		107		384		452	
Temporal Density	M	SD	M	SD	M	SD	M	SD
Academic/ Occupational	6.4	3.22	4.79	3.85	7.68	n/a	4.54	n/a
Health/Body	2.85	2	2.56	2.04	.26	n/a	1.32	n/a
Interpersonal	4.89	4.89	4.55	3.22	4.25	n/a	5.42	n/a

	Current Data: Younger (17 - 39))		Current Data: Older (40 - 82)		Bouffard & Bastin: Younger (20 - 39)		Bouffard & Bastin: Older (40 - 74)	
n =	188		107		384		452	
Temporal Density	M	SD	M	SD	M	SD	M	SD
Intrapersonal	3.60	4.12	2.86	3.76	8.46	n/a	8.5	n/a
Leisure	4.15	4.15	4.81	4.15	.96	n/a	1.61	n/a
Maintenance	4.52	4.52	5.25	4.70	not applicable			

These results demonstrate that both global and domain specific temporal density measures have an association with global well-being; however this does not address the hypothesis that an overabundance of projects in one domain may affect well-being in another. Correlating the five domain-specific life satisfaction measures with the temporal density measures, for the group as a whole, there appears to be moderate support for the hypothesis. An overabundance of academic/occupational projects was related negatively to emotional, home and social life satisfaction ($r = -.15$, $-.12$ and $-.13$, $p < .05$, all respectively). It was not, however related to academic/occupational life satisfaction. Both a larger number of health body projects and intrapersonal projects were related to poorer social life satisfaction ($r = -.13$, $p < .05$ in both cases). For the younger group a greater number of academic projects was associated with lower home life satisfaction ($r = -.17$, $p < .05$), while a greater number of social (interpersonal) projects was associated with lower academic life satisfaction ($r = -.15$, $p < .05$). For the older group it was too many

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health/body projects that were associated with lower home life satisfaction ($r = -.21$, $p < .05$). Although only correlational, evidence would seem to point to more balanced project systems as less likely to impact negatively domain specific life satisfaction.

Temporal Variety: How many projects in how many domains?

Finally we must address the hypothesis that individuals with a high temporal density within one category to the exclusion of others (low temporal variety) may suffer lower well-being. Initially a project ratio was computed for each individual for each project domain by dividing the number of projects within a category by the total number of projects. Individuals were then assigned to one of seven categories as academic-dominant; health-dominant, etc., depending on which ratio was highest. Those with the same ratios in more than one category were classed as undifferentiated. The frequency distribution is in Table 5.8. Note the imbalance between the younger and older groups, with the younger group generally evenly divided except for a predominance of academic projects, while the older group primarily classifiable into three categories at most: social, leisure and maintenance-dominant. Because of the small number of health (both groups) academic and intrapersonal (older group) focused individuals, comparisons between age groups in these domains were not possible. It is worth noting, though that the four health-focused individuals together had the lowest SWB means of any group ($M = 7.45$ $SD = 2.43$).

Table 5.8
Predominant Project Domains

	Younger Sample		Older Sample	
	n	per cent	n	per cent
Academic/ Occupational	69	37.1	4	3.9
Health/Body	3	1.6	1	1
Interpersonal	23	12.4	12	11.7
Intrapersonal	21	11.3	4	3.9
Leisure	23	12.4	36	35
Maintenance	24	12.9	35	34
Undifferentiated	23	12.4	11	10

For the three domains which had adequate representation in both the young and older groups a 2 (age) by 3 (domain) ANOVA was conducted on both SWB and depression to ascertain if there were age and/or domain differences. For SWB, only the main effect of age was significant, with the older group enjoying higher well-being in two of the three categories, that is, leisure ($F_{(1, 143)} = 10.81, p < .001$) and interpersonal ($F_{(1, 143)} = 6.65, p < .01$). Results were similar for depression, with the younger group scoring significantly higher in depression in all three groups ($F_{(1, 147)} = 33.62, p < .001$), interpersonal ($F_{(1, 147)} = 15.81, p < .001$), leisure ($F_{(1, 147)} = 8.32, p < .01$) and maintenance ($F_{(1, 147)} = 9.51, p < .01$). To see if there were significant differences within the younger group across the five well-represented domains, a one-way ANOVA was

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conducted, but significant differences did not emerge in well-being ($F_{(1, 155)} < 1$, ns) or depression ($F_{(1, 155)} < 1$, ns) associated with domain of focus.

For the older group, the lack of significant differences is misleading somewhat in that it is clear that to be health-focused or interpersonally focused is not recommended with both means significantly below the average of the remaining groups ($t_{(86)} = 2.79$, $p < .01$); however, fortunately, judging by this sample, very few individuals are health or intrapersonally focused, so there was insufficient power to detect differences within the larger data set. This does suggest that temporal density in this context at least may be worth further exploration or useful as a potential flag in a counselling/clinical setting.

The previous analyses explored differences in temporal density with regard to project domain, but did not examine those few cases where the individual had more than 50% of his/her projects in a single category, that is, where the focus was more exclusively in a single domain. In all, for 48 subjects (16.4%), 16 younger and 32 older subjects listed more than 50% of their projects were in a single domain. For the younger group, most were academically focused ($n = 7$), one each interpersonally and intrapersonally focused, with three focused on maintenance projects and 4 on leisure projects. In the older group only one was occupationally focused, with the remainder split between leisure ($n = 17$) and maintenance ($n = 14$). Comparing those with temporal variety in their projects to those with what might be called temporal exclusivity, no significant differences in global well-being or depression emerged for either group (all t s < 2), suggesting that if one is focused on leisure projects, maintenance projects or academic/ occupational projects, even

to the exclusion of most other activity, well-being is not affected. Again the more negatively valenced project categories of health and body and intrapersonal projects were not represented ($n = 1$). One might speculate that an individual overly focused on these project categories may be too preoccupied to complete a questionnaire or perhaps not focused enough on academics to succeed. In short the hypothesis that too many projects in a single category would be detrimental to well-being was not supported in this sample.

Conclusion

The evidence seems clear that for temporal density in the context of personal action, not all domains are equivalent and more nuanced research needs to take into account the context in which the density occurs. Support emerged for the hypothesis that more balanced project systems are associated with well-being, in that an overabundance of intrapersonal, academic or occupational projects was positively related to depression and negatively related to well-being. Overall, though, it is not possible to say that more is worse in all cases, since both context and the tendency to construe one's projects as ongoing can mitigate the depression, lack of efficacy and stress that can emerge in overloaded time-delimited project systems. Indeed, greater numbers of leisure projects were associated with lower depression. As much as or perhaps even more than context, though, it appears to be action character distinctions (time-delimited or not delimited projects) that emerge in the context of this one present-future tense variable that are most central to global well-being.

Temporal Clarity: How Clearly do you see where you are going?

Background

Thiébault (1998) argues that clarity with which future states (goals) are represented is more central than how far these extend into the future. While we have shown that temporal extension varies both as a function of the task (domain) and the individual, it is probable that temporal clarity (in addition to rather than instead of temporal extension) may impact the ability of the individual to follow through with his or her projects. Projects that are defined precisely may allow for the clear recognition and incorporation of affordances or avoidance of potential impediments, allowing for a more streamlined movement toward the desired end state. *Lead a good life* is sufficiently vague so as to call into question the relevance of current action. *Always be courteous to my neighbours* is far more precise and any deviation much more easily noted. Neither project is particularly longer or shorter in temporal extension. Winnubst (1975) found just this in his factor analysis of time measures. Individuals with a vague or fluid idea of their future tended to think negatively about the future. He also found that such individuals tended to have a shorter future extension, but as Nuttin (1979) points out the two constructs are distinct. Locke and Latham (1990) in their work on goal setting in an organizational setting cite as one of their core findings the link between higher performance and specific goal setting. In short, ***it is hypothesized that greater clarity of project outcome will be associated with enhanced well-being and lower depression.***

Operationalization

Temporal clarity has not been operationalized in the literature, so was addressed in this study as a variant of project outcome. In addition to asking how successful a project was likely to be (project outcome), subjects were asked how clear a vision they had of the desired outcome of their project (project clarity). While the two dimensions correlated at the mean level ($r = .32, p < .001$) they clearly tap different aspects of future project representation in that one can easily imagine projects for which the outcome is very clear, but the likelihood of success very low ("win the 649") and vice versa ("have kids", for a first-year university student). Clarity of project ($M = 8.48$ $SD = 1.4$) did not differ significantly between the younger and older sample ($t_{(185)} = -1.7, ns$), nor between men and women ($t_{(185)} = -1.33, ns$).

Results and Discussion

Since project clarity did not differ significantly between the two age groups, analyses were conducted on the data set as a whole. SWB, depression and the two PPA affective factors were regressed on project clarity, first on its own and then in combination with other project dimensions such as stage, self-identity and outcome to determine if it predicts significant added variability over and above the standard project dimensions. On its own, project clarity predicted significantly all four outcome measures, but with only very modest effect sizes. The clearer one can see how one's project is going to turn out, the higher one's well-being ($r = .15$ [$R^2 = .02$], $p < .05$) the higher one's project-related positive affect ($r = .17$ [$R^2 = .03$], $p < .05$), the lower one's project related negative affect

($r = -.19$ [$R^2 = .04$], $p < .02$) and the less likely one is to be depressed ($r = -.21$ [$R^2 = .04$], $p < .005$).

This is consistent with our hypotheses and the theoretical stance of Thiébaud (1998) stressing the importance of project clarity as a temporal variable. Melges' (1982) characterization of depression as a block to the future centres on the individual's inability to make clear plans and then transform them into action and here we see this in the guise of a lack of clarity. Little (1989), Cox, Klinger & Blount (1993) and Emmons (1989) all discuss the problems associated with overly abstract projects (concerns, strivings) in that the inability to break these down into more manageable chunks can be a block to action. "Abstract" has generally been coded on the basis of the project content rather than on the basis of future outcome construal and thus is somewhat more based on the perception of the researcher than the experience of the subject. The dimension clarity allows for the individual to identify which projects are vague or fuzzy for him or her, which may not be those the researcher might think.

Project clarity did not add significantly to the predictive validity of most dimensions, although appeared to complement progress and stage, in that progress on its own predicted well-being only modestly (like clarity on its own) at $r = .18$ ($R^2 = .03$), $p < .02$, but progress x clarity predicted six percent of the variability in well-being ($R^2 = .06$, $p < .001$). This may reflect more the influence of past progress on future clarity, with those projects that have progressed well enjoying a much clearer outcome than those that have not. Similar, but smaller effects were found with stage, which did not on its own predict

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well-being ($r = .13$, ns) but multiplied by clarity did ($r = .16$ [$R^2 = .02$], $p < .05$). The fact that temporal clarity did not add significantly to the prediction of well-being in most cases, suggests it may be implicit in the ratings on other dimensions, since as a whole the project analytic technique is to ask individuals to project themselves forward (where are you going with what you are doing?) and that very projection is dependent on the clarity of future representation.

The lack of clarity did add significantly to the prediction of depression, however, for the dimensions of control, commitment, progress and stage (see table 5.9). Indeed it would appear that the lack of future clarity is more predictive of depression than future clarity is of well-being. Most of us may take for granted the ability to project forward and to see where we are going, while the depressed individual sees little in tomorrow. Lack of control has traditionally been associated with depression (Seligman, 1975; Skinner, 1996) but here we see lack of control compounded by a lack of clarity in what one is doing: a

Table 5.9
Explaining Added Variance in the Prediction of Depression

Dimension	r^2	R2 change (+ clarity)	Overall R^2
control	.02*	.03*	.05**
commitment	.02*	.03*	.05**
progress	.02*	.03*	.06**
stage	.11***	.03*	.13***

* = $p < .05$; ** = $p < .01$; *** $p < .001$

remorseless trudging forward without a clear focus. Similarly a lack of commitment has

been shown to be detrimental to well-being in a projects context (Goodine, 1999) and a lack of commitment may be the result of or may lead to lack of clear focus (temporal clarity).

Conclusion

While the effect sizes in predicting well-being associated with temporal clarity are relatively small, they are consistent and it would appear that, as hypothesized, the construct is relevant to our construal of action and should be explored further as a moderating variable, particularly in depression. Perhaps clarity in all projects is neither necessary nor desirable, but clarity in core projects, those that are most linked to identity, may be most central. Indeed project clarity unlike many of the other temporal variables we have examined, appears to be more of a project level variable, since it does not correlate significantly with any of the trait or project system variables. For the younger group, it is significantly related to all three project factors, efficacy ($r = .27, p < .01$) meaning/identity ($r = .27, p < .01$) and most particularly structure ($r = .42, p < .001$), while for the older group it is associated with both identity ($r = .43, p < .001$) and present efficacy ($r = .61, p < .001$). It would appear to be important not only in the structuring of efficacious project pursuit but in the link between project pursuit and meaning/identity. Clarity may serve as the link between meaning/ purpose and efficacy. The individual with “clarity of purpose” is often seen as effective and determined.

Discussion

The Three Future Perspective Variables: Summary

Overall the results with regard to the relationship of temporal extension, density and clarity with well-being were disappointing, although several useful peripheral findings have provided clarifications for researchers in this area, such as the importance of differentiating idiosyncratic time-delimitation or the lack thereof in the context of extended personal action. Indeed the generally more negative affect associated with time-delimited projects offers additional evidence to the contention in study 1 that construing projects telecally is more stressful and less enjoyable. Also useful was the evidence adduced that projects do differ in extension as a function of domain and that, therefore, research into project/goal/object extension must take the domain into account.

Overall having a lot of projects on the go (time density) was not necessarily a problem, although it tended to lead to greater stress and lower structure at a system level. A plethora of intrapersonal projects was antithetic to well-being, while too many academic projects in the younger sample was also not salutary. Again peripheral findings were in some ways more interesting, such as the clarification that emerged between the motivational object and the personal project as a unit of analysis. The latter was shown to capture a wider range of activity, particularly by being sensitive to contextually imposed requirements to take action rather than solely individual desires, as in the case of Nuttin's M.I.M. Temporal variety was not shown to be particularly important in well-being, although the data suggested that clinically a lack of variety in project pursuit with an

attendant overabundance of health-body or intrapersonal projects is problematic.

Finally temporal clarity was found to interact with other appraisals of project pursuit in predicting well-being, although the lack of clarity in future project planning appears the most detrimental. Overall, though, the relationship between clarity and well-being was not strong. Interactions with extension and project domain may be usefully investigated in the future.

Contrasting the Predictive Validity of Temporal Variables

Considerable variation has thus been shown in the extent to which temporal variables on their own can predict well-being, from what appears to be major associations such as that between a past time orientation and lower well-being/depression and higher intrapersonal present attitude and higher well-being, to the moderate or negligible relations between such variables as temporal extension and temporal clarity and well-being. To determine how much of SWB and depression can be predicted overall from these variables and to show clearly which are the best predictors, all relevant variables were entered into a stepwise regression equation for the two outcome variables separately. Because of the theoretical interest in these variables, $p(\text{IN})$ was set at .10, allowing any variable that would account for approximately one percent of variance in well-being or depression to be included.

For SWB, two temporal variable categories, temporal attitude and temporal integration explained in total 52 per cent of the variability in SWB. Among the temporal

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attitude variables were the way one feels about one's self currently (TA: intrapersonal present), the way one feels about one's studies (or work) currently and the way one feels about past social relationships (TA: interpersonal past). The two temporal integration variables included the desire to forget the past and the desire to forget about the future (both negatively predicting well-being). For depression, temporal attitude and temporal integration were also central, but overall (project) temporal integration, as well as temporal orientation (tendency to think about the past) also added to the prediction of

Table 5.10
Predicting SWB and Depression: Combined Temporal Variables

	Subjective Well-being			Depression		
	R2cha	R2adj	F change	R2cha	R2adj	F change
TA: intra-personal present	0.38	0.38	99.00***	0.23	0.23	52.04***
TI: forget past	0.07	0.45	19.24***	0.11	0.34	27.67***
TO: thinking about past				0.05	0.37	12.42***
TA: inter-personal past	0.03	0.47	10.26**			
TI: forget future	0.04	0.5	11.46***	0.03	0.4	8.03**
TA: academic/occupational present	0.02	0.52	5.758*			
TI: PPA Project Integration				0.03	0.44	9.08**

depression, accounting in total for 44 per cent of the variance in the CES-D scores (see Table 5.10 for the change statistics.).

Looking at the two samples separately, we find somewhat different predictors, although both temporal attitude: interpersonal present attitude, accounting for 37 and 38 per cent of the variance in the younger and older sample respectively, and the lack of temporal integration: future integration (desire to forget the future) explaining an added 7 per cent variability in the younger sample and 6 per cent in the older, are important in both. For the younger sample, interpersonal (social) past attitude and the desire to forget the past also predicted SWB (negatively). These four predictors together explained 52 per cent of the variability in the sample. No other predictors emerged as relevant.

For the older sample there were considerably more predictors including not only the integration and attitude variables mentioned above, but also temporal orientation: time spent thinking about the future (R^2 change = .07, $p < .01$), (project) temporal integration: past relevance (to what extent are my current projects a continuation of my past self (R^2 change = .04, $p < .05$)); and, also two time density variables, the number of intrapersonal projects (negatively) (R^2 change = .23, $p < .001$) and the number of time delimited projects (negatively) (R^2 change = .02, $p < .05$). In all these six temporal variables accounted for 77 per cent of the variability in SWB in the older sample (R^2 adj = .77, $p < .001$)

Clearly stepwise regression is sample specific, so these 'equations' for well-being should be interpreted with caution and replication is needed, but the findings do suggest a

few conclusions. Ultimately it seems the finding in chapter 4 linking how we feel about ourselves in the now and well-being is the best predictor of SWB and depression, whether younger or older. Although we can cognitively place ourselves in the future and the past, emotions are immediate, and it is our *current appraisal* of our future within the context of past experience that gives rise to our emotional experience (Frijda, 1986; Oatley, 1992). Much less central, but still common to both groups is the negative association between wishing to forget the future, that is, the inability to integrate the future we see into our sense of self. Kelly (1955) and others before and after him in different words (Frank, 1939; White, 1959; Fraisse, 1967; Nuttin, 1984) have stressed as a basic tenet of human nature the ability to anticipate the future based on constructs about the now built from past experience. To wish to exclude the future from consideration is, in some respects, to want to stop living since we can only go on living in the now if we successfully anticipate our inevitably changing ecology. The alternative is to retreat into a Haversham-like existence, in which the present is fixed, defined only by the past. This is exemplified by the comment of highly-depressed subject #188: "I am not a happy person and I would like to die now but would never end my life...if I am feeling this depressed [in the future] I hope I will fall asleep and not be here."¹¹. She was able to muster only a few projects and no details at all about future self representations.

Despite the importance of global future perspective, perhaps most central to the overall thesis in this dissertation is the conclusion that it is unwise in the context of well-being and depression to focus overly on future time perspective, even when focussing on

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goals and strivings, which are synonymous with (future) intention. Time variables such as temporal extension, density and clarity, all future time perspective variables, were much less central in the prediction of SWB and depression for both younger and older individuals than the three tri-tense variables, temporal orientation, integration and attitude. Overall it is the present time, perhaps as final common pathway for the past and future or the phenomenological focal point of time's interpenetrations (Kastenbaum, 1977) that is most central to how we feel now. Yet our sense of self in the now appears closely linked with who we have been and how our current actions fit into that identity. In this light the new *ad hoc* dimensions of past and future relevance can help shed light on "project" fit into identity, by clarifying how each project fits into a past identity, into a future identity and how each of these may differ from the current identity (self-identity dimension).

Several methodological refinements have also emerged from this study which may help tighten future analysis of action units/motivational objects. First, it is clear that motivational objects (Nuttin, 1985) although sharing much in common with personal projects (Little, 1983) are not the same construct. The difference in content analyses showed that some of our projects may stem from our desires, wishes and aspirations, but that a goodly proportion are derived from the press of our social ecology. In completing sentences, such as those in the MIM: "I hope to, I really want, I am looking forward to" or negative versions "I really don't want", etc. the researcher is liable to elicit higher order personal motivations but very likely to miss many lower order motivations that are less intrinsic and more ecologically imposed, of the sort that can and do emerge in project

elicitation. The question becomes whether we should explore temporal variables based primarily on hopes, desires and fears or on the actions that embody both these needs and our social “press” (Little, 1999). While no direct comparisons were made in this study, the conclusion (pending further research³) is that, of the two, PPA offers the most comprehensive elicitation of “cognitive-motivational” units of analysis for temporal research.

Direct comparisons were made, however, between project extension and object extension and by both the criteria of personal saliency and ecological validity, the use of PPA to elicit idiosyncratic perspectives on the future extension of projects is superior to researcher imposed coding that relies on a social clock which is liable to be highly culturally specific and, especially in North America, not relevant to the many more temporally idiosyncratic paths the life course takes.

Yet another theme that was addressed several times and received strong support from these data was the importance of context in examining temporal variables. Others have suggested this (Frank, 1939; Nuttin, 1985; Lennings, 1994; Bouffard & Bastin, 1993) but relatively few studies include context when looking at time. The findings here extend and support those of Bouffard and Bastin (1993) who found different variables impact temporal extension in different contexts (and different ages). Although temporal extension was not significantly related to well-being, its relationship to other variables may be clearer if individual extension within a given context is interpreted in relation to the norm for that context, rather than some arbitrary norm. Little’s social ecological model

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(Little, 1998, 2000a) stresses the close interaction of traits and contextual variables that are instantiated in each project. Rather than attempt to tap time variables at the level of traits, we need to consider them within the context of how they impinge on our actions and our well-being, whether directly, as in the case of the PPA variables discussed above (integration, project clarity, etc.) or indirectly as more global dispositions that emerge in certain contexts (interpersonal present) and perhaps influence more the choice, number and diversity of our projects than our appraisal of them.

Although it is hoped that the results reported in this study have in part shed some light on the interrelationship of tense and action by providing a single framework and a common metric across action and temporal variables, the author is under no illusion that they have substantially clarified what is such a complex issue. Further research requires a closer look at the interaction of these variables both among themselves and with other variables and traits to explore the possibility of their moderating potential in the prediction of well-being.

Endnotes

1. Also referred to as length of future time perspective (Lessing, 1967) or time span (Trommsdorf & Lamm, 1994)
2. Although longer projects were easily judged as having been rated for duration rather than extension, shorter projects were somewhat more difficult, especially if it was likely that they could be completed within a few hours or a day. Often the sheer number of such projects made it clear that the respondent was rating duration (with 25 projects all to be complete within a day.) Any projects that were not clearly extension related were categorized as unclear (3).
3. This is a question currently being explored using a small data set in which the same subjects were administered both the M.I.M. and PPA within a single month.
4. The operationalization of temporal extension was different in the data set however, in that projects for which only action duration was given (i.e., from action-onset until conclusion) were excluded, which may suggest that previous findings found shorter-term projects less negatively valenced because these projects were included. In other words, the positive affect may be the result of having a future deixis for action.
5. To see whether it was perhaps the discrepancy from the norm that was more central than the given length of a project, individual domain specific average extension scores were subtracted from the domain-specific group average extension and the discrepancy compared with well-being. In the older group a discrepancy (generally longer extension) in social projects was associated with occupational life satisfaction ($r = .41, p < .02$), while a discrepancy (generally longer projects) in the occupational domain were associated with greater physical life satisfaction ($r = .30, p < .05$). This may capture the distinction between those who are working, still more social and involved in comparison with those who are at home because of illness. Indeed looking at the correlations for both groups separately, those who work and have a high level of discrepancy in temporal extension of social projects (generally longer) enjoy very high occupational life satisfaction ($r = .66, p < .001$) while those with the same discrepancy at home much less so ($r = .23, ns$).
6. I have adopted Nuttin's (1984;1985) broad usage of the word object here to include a mental representation of any (past or future) action, event, place, situation, etc. Project is reserved specifically for personal action representation.
7. It is relevant to note that they distinguished between density as state (who will you be?) and density as action (what will you do?). Only the former was significantly related to lower levels of homesickness, suggesting (again) that it may be important to study time concepts in the context of personal action separately from broadly defined future "objects". Here long-term action was not related to improved well-being as is often found with more general motivational objects.

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8. Likely because the EI format constricts the respondent to 10 responses, so the number of future events is limited by the number of present and past.

9. Examining the relationship between life events and “beings and doings” further in the older sample, there was a marked difference between the older working and non-working sample, with neither number of projects ($M = 11.69$ $SD = 8.04$) nor number of 5 year FSRs ($M = 6.07$ $SD = 4.5$) relating to the RTLD for the non-working sample, but both the number of projects ($M = 16.38$ $SD = 9.09$) and 5yr FSRs ($M = 6.57$ $SD = 3.9$) related significantly ($r = .44$, $p < .01$ and $r = .34$, $p < .05$, respectively) in the working sample. An examination of the FSRs for the two groups showed the non-working group often listing activities that were not substantially different from what they were doing now, while for the working sample those activities were different, at least for the 5 year term, and thus probably also constituted “life events” (retirement, house downsizing, etc.). This suggests that density measured through possible selves or future projects may be more relevant to the entire population, given that they include both the idiosyncratic personal projects along with the socially defined life stages that are liable to be seen as marking future life.

10. To further compare these results with those based on the M.I.M. which frequently uses a future time perspective index (FTPI) which is a composite of temporal extension and density (Nuttin, 1985; Bouffard et al., 1989) an equivalent index was computed for this sample, differentiating near vs. distant future goals (1 yr. +) and then calculating a ratio of one to the other: near future/distant future x 100. Neither well-being nor depression was significantly predicted by this index for either group, suggesting it was not the difference in analytic strategy that accounted for the non-significant results.

11. Although not contactable by phone, this subject was sent a letter encouraging her to talk to someone and providing various resource telephone numbers.

CHAPTER SIX

Being one's project vs. doing one's project: Time and Timelessness (Aspect) and Personal Action

Men's curiosity searches past and future
And clings to that dimension. But to apprehend
The point of intersection of the timeless
With time, is an occupation for the saint,
No occupation either, but something given
And taken, in a lifetime's death, in love,
Ardour and selflessness and self-surrender.

T.S. Eliot, *Burnt Norton*

Introduction

Study 1 examined the different ways in which the character of the action (Aktionsart), as construed by the individual and reflected in the phrasing of personal projects, is associated with both cognitive and affective appraisal of the project, and how individual differences in the tendency to construe action along one or another of the various syntactic/lexical distinctions drawn appear to systematically relate to well-being. In Study 2 the grammatical distinctions between the three tenses were explored using traditional and newly proposed psychological variables that provided insight into which dimensions of tense were most central to well-being. In this final study, aspect, another grammatical distinction common to verbs in all languages, will be explored in the context of the phenomenology of personal action.

Comrie (1976) describes aspect as different ways of viewing the internal temporal consistency of a situation (including, but not limited to personal action), a distinction that is not consistently nor as obviously inflected in English as in many other languages.

Perhaps the most familiar example to most Canadians from their early days in French class is the difference between *l'imparfait* and *le passé composé*: *je lisais*, but *j'ai lu* (*was reading; I read (past)*). This juxtaposition, most commonly seen as one of viewing an action "from within" without reference to the beginning or end (imperfective) with viewing an action "as a whole" (perfective) is presented below as arguably the most fundamental difference in time perspective humans take with regard to action.

Aspect in Language: The Perfective-Imperfective Distinction

There is no widely accepted single view on the meaning of aspectual distinctions in verbal usage (Comrie, 1976; Maslow, 1985). Although most non-specialists are familiar with the "bounded" vs. "unbounded" or "completed" vs "incomplete" action distinction, these have been shown not to apply in all cases and often reflect confusion between aspect and action character (as set out in study 1). In this study we have adopted the views of Thelin (1990c) and Verkuyl (1993) who have linked aspect with time, specifically duration, in which the perfective is associated with time (= duration) relevancy and the imperfective the non relevancy of time, much as nouns are differentiated as definite or indefinite. The time-relevant verbal form provides some marker that clarifies when in relationship to the regular movement of heavenly bodies (and often by extension the moment of speech or reporting) a particular action (or by implication a bounded state or punctate action) occurred or will occur, while the time-irrelevant form makes no such linkage: "time is a measure of the variable extension, i.e., duration, of a movement [action]

between two points [states] according to its velocity." (Thelin, 1990c, p. 101). This more abstract conceptualization appears to explain, at a general level, the variety of uses of the imperfective better than other narrower definitions. The duration of a state (as opposed to an action) can only be measured in terms of its extension between changes (actions) and hence has no time extension, per se, of its own.

Gasparov (1990) from a still broader philosophical perspective suggests the distinction between the two aspects, specifically for Russian, but I am arguing applicable in general, is that of two distinct *Weltanschauungen*. The perfective, he proposes, implies an external perspective on the situation, event, etc., and casts the speaker as narrator, speaking from the position of someone who is not immediately involved in the processes he is describing. The imperfective implies an involvement in, indeed an inextricability from the action described, and thus can never be the voice of a narrator, only a "co-experiencer" (p. 195). The former allows for the segmentation of reality, the latter for immersion in the flow and development of experience and reality with no specific bounds. While the nature of experience poses some limitations on which world view we may take with regard to our actions, Gasparov stresses that aspect offers "a formal instrument with the help of which the speaker is able to place two fundamentally different and mutually complementary points of view onto human experience... either of events or of existential experiences" (p. 209).¹ It is, as such, an underlying dimension of an individual's construct system that temporally and phenomenologically colours the relationship of the individual to the action.

The contentions of Gasparov and Thelin/Verkuyl are not mutually exclusive. The

time-relevance of the narrative stance is clear. In retelling or envisaging, order must be placed on experience and anticipation while in experiencing the immediate to the fullest, time is irrelevant since there is only now. This dichotomy, that between narrative standpoint and existential standpoint, is also reminiscent of the opposition between agency and communion (Bakan 1966) which has been gaining ground in personality and social psychology as a key underlying dimension of human nature. Evidence has been accruing that the two ‘fundamental modalities in the existence of living forms, agency for the existence of an organism as an individual, and communion for the participation of the individual in some larger organism of which the individual is a part’ (Bakan, p. 14-15) emerge as higher order factors in both narrative and trait approaches to personality (Paulhus & John, 1998). Agency reflects the separation from and attempt to master a situation, just as the perfective form of expression separates the speaker from the situation, allowing her to assume the role of narrator, controller, master of the recounting of a situation. Communion reflects the integration of the individual with the other in the formation of couples, communities and wholes from parts, just as the imperfective provides the “view from within”, a doing that is so self-defining as to become being, i.e. existential. It is not mere chance, therefore, that in so many languages the imperfective is expressed through the use of the stative verb ‘to be’: in English ‘*I am* working’ is saying in effect ‘*I am* (for this moment) my work’, in Japanese ‘*taberu shite iru*’ [I am doing eating] is saying that for the moment *I am* the process of eating. It defines me and my existence now and now is all that is relevant. The incompatibility of imperfective forms

with achievement (instantaneous telic) action characters may be seen as another reflection of the incompatibility of the experience of agency (often phrased as achievement, McLelland, 1985; Bakan, 1966) and communion. One cannot simultaneously achieve, master, complete an action and be one with it.

These two views, the perfective as a narrative, duration-relevant and agentic perspective and the imperfective as an existential duration-irrelevant communion stance point to the contention of this dissertation that time as experienced by human beings requires two axes: a temporal continuum of past, present and future and a mutually exclusive bipolar opposition of time-relevancy vs. time irrelevancy that reflects the phenomenological stance of the individual (see figure 6.1). Action character is seen as a nuanced interaction between tense and aspect, as reflected in the fundamental meaning of the verbal phrase. The fact that, in the linguistic equivalent of phylogenetic development, aspect appears to predate linguistic differentiation among the past, present and future tenses (Thelin, 1990b) and that ontogenetically, young children make far fewer errors in aspect than in tense (Brown, 1973; Smith, 1997; Rispoli, 1988) adds credence to the proposition that the bipolar distinction stems from a fundamental phenomenological differentiation of human experience. Language mirrors experience and these two aspects reflect what was, early in the development of man, subjectively experienced as two states of being that were sufficiently distinct that they warranted linguistic differentiation at a fundamental level within the most basic vocabulary, that reflecting action².

The postulated phenomenological origins of these grammatical distinctions are still evident in language usage where the imperfective provides a sense of immediacy, and in the association between the imperfective and state/present usage and between the perfective and past completed or future conceptualized action; however, I am not suggesting that every time we use an imperfective form, we move into a different subjective state, just as I am not suggesting that all love is timeless and all work done according to the clock, but rather I propose that the very early linguistic separation of action into that for which time is relevant and that for which time is not reflects an early patterning of experience — possibly reflected at a biological level but certainly at a cognitive level — that we can now see in literally dozens of complementary but distinct bipolar constructions in differing domains of our existence.

“...[T]he notions of agency and communion must be understood as being on a level of generality which transcends the biological, the psychological, and the social, yet are manifested in each of them.” (Bakan, 1966, p. 179). Harmonics of this duality may be seen in the distinctions made between individualist and collective oriented societies (Berry, 1992; Triandis, 1978) the masculine and the feminine aspects of personality (Jung, 1951; Gilligan, 1982)³, dominance and nurturance (Leary, 1957); field independence and dependence (Witkin, 1959); the analytic vs synthetic cognitive styles (Ornstein, 1977; Cohen, 1973); work and love (Freud, 1912/1962); getting ahead and getting along (Hogan, 1983); Alpha vs. Gamma personality trait ‘superfactors’ (Digman, 1997; Trapnell, 1996; Paulhus & John, 1998); telic and paratelic metamotivational modes

(Apter, 1989), the particulate vs. transcendent mode (Swartz, 1969) and separation/individuation vs. symbiosis (Mahler, 1968). These convergences suggest more than a simple tendency of humans to differentiate their worlds along bipolar lines; the common elements across these dualities on philosophical, psychological, developmental, cognitive and now linguistic levels would appear to reflect a real and meaningful underlying distinction in the way in which we construe our world.

Since the current usage of the perfective-imperfective aspects in language is no longer isomorphic with the broader states of being that I suggest the former originally represented linguistically, some other terminology appears necessary to distinguish the purely linguistic from the underlying phenomenological. Although it is tempting to adopt Gasparov's existential vs. narrative stances, neither term fully conveys the sense of time-relevance and lack of time-relevance central to the distinction. Since the Latin 'temporal perspective', as discussed in chapters 4 and 5, is used widely and with various meanings, it would seem advisable to use an alternative to denote this temporal dichotomy; hence from the Greek "parachronic" (lit. beside time) will be used to refer to an existential, timeless focus (imperfective) vs. "chronocentric" (time-centred) a time-focussed, narrative stance (perfective) (see Figure 6.1)

Aspectual Distinctions in Psychology and Implications for Well-Being

Aristotle began his *Nicomachean Ethics* (4th century BC/1962) with the view that action directed at a future outcome is superior to action for the sake of action, which set

the stage for over two thousand years of Western skepticism regarding the value of subjective experience in the now (timeless enjoyment) and praise for long-range planning and an eye ever to the future. Even in such potentially immanent experiences as that of religion, Christian religions have been predominantly chronocentric⁴, with adherents called upon to suffer through the now with a promise of paradise at a later point. How different from many Eastern religions (e.g., Zen, Vedanta, Daoism) in which paradise is here in the now for all those who care to discipline their mind, to immerse themselves in the immediate and leave aside past hurts and future worries. Cartesian dualism can also, without undue intellectual contortion, be recast as a dichotomy between chronocentric and parachronic experience; reason, a careful consideration of the future based on knowledge of the past, is much preferable to immediate and all consuming (absorbing) passion. The latter in cognitive psychology has begun to take its place as central to action, however, as a disjuncture, a movement out of (*emoto*) action (and time) into a state to allow for subsequent reengagement in changed action (Simon, 1967; Oatley, 1992).⁵ Just as we are adopting an ecumenical stance with regard to reason and passion (Demasio, 1995), so should we consider the advantages of both experiences within time and outside of time, viewing each as complementary and necessary to a fully lived life.

Humanistic psychology in North America and existential psychology in Europe have both stressed the importance of being in the now, with the former adopting a decidedly more optimistic outlook than the latter (e.g., self-actualization vs. *Dasein*). Maslow's (1968, 1971) B-cognition, "peak experiences" and the more fully developed

Figure 6.1

The Interrelationship of Time and Timelessness (Aspect) and Tense

“high-plateau experiences” are examples of a conscious awareness of total timelessness (“witnessing eternity”) and a sense of oneness with the environment, but have not been studied systematically. In the area of perception studies, Schachtel's (1958) differentiation between allocentric and autocentric senses, the former (sight, hearing) focussed on ‘the other’ the latter (taste, touch and smell) in which ‘the other’ plays a negligible role in that it is the valenced experience that is most salient. He characterized these as different “because of the specific type of relatedness between subject and world in each of these senses, because they are different ways of communication between the subject and the world” (p 82).

Although these and other psychological constructs touch upon the timeless nature of some experiences, each construct is distinct and includes other attributes, all the while sharing in common a sense of timelessness (for a description of some of the differences among these, see Stark, 1969; Privette, 1983; Wylie, 2000). Among these, it is Csikszentmihalyi's (1990) ‘flow’ that appears to capture best the linguistic distinction adopted here, as evidence by one of the phrases used to characterize the state for respondents in his research “I am so involved in what I am doing. I don't see myself as separate from what I am doing” (Csikszentmihalyi, 1975; note the progressive/imperfective form). This merger with, attendant loss of self and overarching timelessness of experience is the core of the parachronic stance. Yet flow is also defined in other ways that distinguishes it from parachronicity, particularly the emphasis on high skill, high challenge *activity*, which in some instances is highlighted as *the* central element of the

construct (Csikszentmihalyi & LeFevre, 1989; Massimini, Csikszentmihalyi & Carli, 1987). Study three will examine the sense of timelessness in personal action drawing heavily on the concept of flow, but showing that the more broadly defined time-centred distinction of parachronicity-chronocentricity reflects better the phenomenology of timeless experience than does the very specific 'flow'.

If 'flow' and like constructs offer a sense of parachronicity, what is meant by its complement, chronocentricity? This study will emphasize the former as the distinct (marked) pole, arguing that the latter is used to refer to all action for which a sense of past, present and future is relevant and which is conducted by the self (agentic) for a purpose. This is expected to include the majority of an individual's projects. A significant area of psychological research has centred on an issue relevant only to the chronocentric pole of the aspectual dichotomy, that is, time estimation⁶. Only in cases where the individual is aware of time, does he/she focus on a sense of duration and the experience of the passage of time, hence a century of literature on time estimation sheds light onto chronocentric experience. In this study; however time estimation will not be discussed, not because it is not relevant to personal action, but because it would require a level of detail and focus that would make the already large scope of this work unwieldy. Further exploration of the interaction between chronocentricity and parachronicity at a state-level may shed some useful insight onto some of the persistent problems in relating subjective time awareness to clock time, but that is for future research.

Csikszentmihalyi's Flow

Csikszentmihalyi's (1975; 1988;1990) work on flow is perhaps the best known of the current theory and research into "timeless" subjective experience. His work began with an interest in what activities are enjoyable, particularly in the context of intrinsically motivated 'autotelic' activities, such as those associated with art, music and sports or leisure, that is activities that are undertaken for the enjoyment of the activity not the end result (i.e., atelic action character). In the course of his many interviews he found certain characteristics to emerge that defined an enjoyable or optimal experience that appeared to be separate from the nature of the activity itself. These included: clear goals with quick unambiguous feedback, focussed concentration, a merging of activity and awareness, outcomes that are under personal control, a distorted sense of time and a loss of awareness of self (1988a). This state he called "flow". Since defining the construct, Csikszentmihalyi and colleagues have amassed considerable evidence that support the pan-cultural and psychologically beneficial effects of being "in flow" ⁷ (Sato, 1988; Han, 1988; Carli, Delle Fave & Massimini, 1988).

There is some confusion over the course of Csikszentmihalyi's writings regarding the actual nature of flow in that it is sometimes used synonymously with optimal experience or even mere enjoyment, which can seem tautologic if flow is supposed to lead to such states: "This is the condition we have called psychic negentropy, optimal experience, or *flow*." (Csikszentmihalyi, 1988a). Other researchers distinguish the two (optimal experience and flow): "Subjects who experienced flow as optimal experience

were found to score significantly higher on measures of psychological well-being than those who did not experience flow as highly enjoyable” (Clarke & Haworth, 1994, p. 511). Most frequently it is described as an emergent state that accompanies a careful balance between environmental demands (challenge) and personal abilities (skills) where both are higher than the norm (Massimini, Csikszentmihalyi & Delle Fave, 1988). It is often elicited from respondents by characterizing the state based on three quotes and asking them for similar experiences. Appendix B provides the precise wording of these quotes which will be used in this study, but, in brief, they stress utter concentration, total involvement in activity, lack of self-awareness, and a narrowed field of attention.⁸ In short, with the exception of the stress on doing (as opposed to being) these quotes could refer to what I am arguing is a separate state of being in the world (parachronic), as opposed to a state that is associated with high levels of enjoyment or one that results from a match of skills and challenge. Indeed Csikszentmihalyi (1988b) and other researchers (Clarke & Haworth, 1994) provide clear evidence that what he calls flow (as elicited by these characterizations) is not always experienced in a high skills-challenge match nor is it always associated with positive affect in the short term. So is it flow? A clarification of constructs may be useful.

Flow is perhaps best viewed as one component of the parachronic stance⁹, comprising a subset of timeless experience that focuses on intense high challenge-skill intense activity. In linguistic terms, Csikszentmihalyi is describing only the imperfective aspect in relation to activity or accomplishment action character: his flow is a timeless

process of doing rather than a timeless state of being. Indeed the role of goals in flow is explicit in the centrality of challenge.¹⁰ States imply no activity/change and would be antithetic to this narrower definition of a parachronic stance. Based on the linguistic parameters of the verb, I am suggesting that a timeless essence, in the larger sense, is equally to be found in stative communion (with nature, art or the other) and that Csikszentmihalyi's insight into the commonalities between the subjective states (processes) associated with play, creative experience and religious devotion can be extended further into a superordinate category represented in language as the imperfective, but better expressed as a timeless existential *Weltanschauung* (*Welterlebnis*), the parachronic¹¹.

Perhaps the focus on doing and on goals within Csikszentmihalyi's work is the result of an industrialized preoccupation with work (Wilson, 1981) within a culture where we are from early on socialized into doing (action) as good and not-doing (states) as bad. Clinical accounts note the inordinate difficulty that many individuals have in not-doing and just being with themselves without guilt and severe negative affect. If we are always doing, then it may be little wonder that a psychology of timeless merging such as flow is defined within the narrower parameters of action alone. To quote the Archbishop of Canterbury (cited in Wilson, 1981, p. 286):

Each day a man or a women does so many things, sees so many things, hears so many things, says so many things, and the mind has crowded into it a multiple of impressions, fleeting in and out... because man is so overcrowded in heart and in mind, he is frustrated from being his own best self through a constant servitude to the haphazard... So too man *being enslaved to the temporal flux*, fails to be able to "consider", in the biblical meaning of that word. Remember

the very significant and telling way in which the word "consider" is used in the Bible. 'Consider the lilies, how they grow.' And they grow in a very leisurely way and if you are to consider how they grow you must have some affinity to their leisureliness. (italics added)

Specifically with regard to time, Csikszentmihalyi (1975a;1988a) notes that subjects in flow report little or no distinction between past, present and future or that duration seems either attenuated or foreshortened. In the latter case, if the anomalies were typically in one or another direction, one might argue that the flow experience is not typically timeless rather time-distorting, but given the full range of responses, it seems more likely that reconstruction in the narrative (*post hoc* reporting) may impose the need for some duration, which is constructed by the subject, but which is often at odds with objective time. In other words, while in the experience time is not of the essence and retrospectively this lack of a time-sense, antithetic to a narrative stance, results in wide ranging reports of duration.

With regard to the association between positive emotion (well-being) and flow, the evidence is not incontrovertible for short-term affect, where "channels" of experience other than flow are seen to sometimes correlate with higher ratings of happiness or enjoyment (Csikszentmihalyi, 1988b; Clarke & Haworth, 1994; Csikszentmihalyi & Larson, 1984). The evidence is somewhat stronger for the long term benefit of flow, although as Clarke and Haworth note, this appears to be particularly for those who associate enjoyment with the state. This gives weight to Csikszentmihalyi's contention that there are those with more "autotelic" personalities and that for these, at least, longer and

more frequent experiences of flow seem to provide greater psychological well-being over the long term (see also LeFevre, 1988).

Much of the research and theory appears to ignore the importance of the individual's ecology, however. As stressed in the previous two studies, our actions are rarely carried out alone and the importance of environmental affordances and exigencies should not be downplayed (Little, 1983; 1989; 1999). In one study, (Massimini et al., 1988) several questions regarding the environment, including a lack of distractions, time adequacy, a suitable environment and interpersonal atmosphere were included and were found to play an important role if not in the transition to flow, then in its prolongation. Furthermore the nature of the activity itself appeared to play the strongest role in both when flow was experienced and how long it was maintained, thus there is a clear role for both individual differences and ecological context in accounting for the experience of flow. Csikszentmihalyi (1990) distinguishes autotelic jobs and autotelic workers, clarifying that some jobs lend themselves more easily to flow, just as some individuals find it easier to enter such a state. The strong association between the nature of the activity and the emergence of flow mirrors the association and predisposition of certain action types (Aktionsarten) to be associated with the imperfective aspect (chapters 2,3).

Given the close theoretical association between flow and goals/action as well as its definition in terms of a challenge-skill balance and the importance of the personal salience of the activity for the individual, personal action constructs would seem a highly appropriate level of analysis to explore the occurrence of this phenomenon, defined more

broadly as a sense of timelessness. Csikszentmihalyi's (1985) comment regarding flow is equally pertinent to measuring parachronic experience:

" Yet the important thing to realize is that any activity can produce flow. It is not the culturally sanctioned nature of the activity that determines whether it will be enjoyable or not; what counts are more subtle parameters of the interaction between the objective structure of the activity and the subjective perception of the actor. A game of tennis is not always enjoyable, while working on the assembly line sometimes is" (p. 491).

PPA also serves as a conservative test of the disjuncture of the experience of timelessness and activity engagement suggested in this study, since it is an action-oriented methodology. Nonetheless, even within the action context, it is expected that many projects not rated as high in challenge and competence (skills) will be experienced as parachronic, while many projects high in the skills-challenge balance will not be, providing for what neuropsychologists term a double dissociation, here not of brain function, but of constructs.

Control has proved problematic in some of the flow research to date, where it is often associated with higher short term positive affect (Clarke & Haworth, 1994) than flow itself. Csikszentmihalyi (1988a) also stresses the importance of a sense of control in limiting the stimulus field, finding clear goals and developing appropriate skills in the ability to experience flow; yet, as he (1975b) notes, paradoxically flow "is a feeling which seems to make the sense of control irrelevant, many of the people we interviewed, especially those who most enjoy whatever they are doing, mentioned that at the height of

their involvement with the activity they lose a sense of themselves as separate entities and feel harmony and even a merging of identity with the environment." (p. 194). In the context of a chronocentric-parachronic dualism, we might hypothesize that control is most associated with a cybernetic perspective on action and by virtue of the ability to master or influence the environment is conducive to increased well-being within an agentic/chronocentric context. Positive affect within an parachronic perspective is also related to control, but more control as defined by Antonovsky (1983) as a sense of coherence. One must be confident enough that things are "under control" to be able to relinquish the self and merge with the action. Too much personal control would therefore be antithetic to flow experiences, as would too little a sense of coherence.

Finally certain personality traits would also seem to be more conducive to 'flow' experience or indeed to characterize the autotelic personality (those with more frequent flow experiences). The need for a willingness to risk the self in new endeavours would suggest that openness to new experience may play a large role in the parachronic personality, particularly given associations with creativity that have already been demonstrated (Gordon, 1994). Similarly high levels of neuroticism would be expected to relate negatively to the frequency of flow experiences. Extraversion and Agreeableness which have been associated with communion (Paulhus & Oliver, 1998) may also likely be higher among flow experiencers, given the importance of others and the desire to merge in a group (extraversion) or in a dyad (agreeableness).

Research Hypotheses

Like studies 1 and 2 this research is more exploratory in nature given the paucity of previous work that has looked at a sense of timelessness and personal action¹². At a general level we are interested if individuals can distinguish timeless personal action, if their characterization of certain actions as ‘parachronic’ is systematically reflected in the appraisal of those actions along the theoretical lines set out above (and thus distinct from flow), and, ultimately, whether individuals in general will tend towards higher well-being if they have more parachronic projects. Among the more specific hypotheses to be tested are:

1. Activities identified as reflecting a sense of timelessness will be other than those in which challenges greater than the norm are matched by skills (project competence), while those actions associated with a challenge-skills match will often not be associated with a sense of timelessness, suggesting that the broader construct of parachronicity better captures the personally salient phenomenology of experiencing time in relation to action than ‘flow’;

2. Like flow, activities associated with the loss of time are likely to be associated with greater positive affect than chronocentric activities; however, overall it will be the interplay between the activity and the context that will determine well-being at the individual level, for example, individuals with parachronic projects in the academic context or those with chronocentric projects in a leisure context will enjoy lower well-being than the reverse (note this is virtually the same relationship

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hypothesized in study two as a function of having too many future-oriented (and hence chronocentric) vs. more present focussed (hence parachronic) leisure projects. This reflects precisely the same overlap between tense and aspect as found in most languages: the present is uniformly imperfective (parachronic), with the past and future perfective (chronocentric)

3. The global well-being of those who rarely lose track of time (chronocentric individuals) will be more related to project efficacy than to the number of flow activities they experience; however, parachronic individuals are more likely to experience well-being if they have a higher sense of coherence.

4. Chronocentric individuals who report no parachronic projects and parachronic individuals who report few chronocentric projects are both more likely to experience lower well-being (in other words, either extreme is not ideal).

Method

To explore the phenomenology of aspects of action and their association with well-being in a university sample, 118 participants were asked to complete several questionnaires including a modified PPA package, several outcome measures (see chapter 1) and a number of individual difference measures described below (see appendix B for the full package). Participants were given course credit for their participation; of the 118 packages handed out 102 were returned (86 per cent), exactly the same rate as in the university sample for study 2. Based on previous PPA research, the probable reasons for non-return include lack of interest or (ironically) lack of time. Of the packages returned, 6

did not include a sufficiently complete Personal Projects Analysis package for analysis, so these respondents were excluded leaving a sample of 96.

Demographics

Of the 96 students in the sample 70 (72.9%) were female and 26 (27.1%) male. English was the native tongue of 85 (88.5%), 4 (4.2%) spoke an Asian language, 1 (1%) a European language and six did not indicate native language. All respondents were asked before completing the package if they considered themselves to have near native fluency in English, given the evidence from previous data collections using PPA that those with poor language skills have difficulty following the instructions. Of the 96 respondents, 88 (91.7%) indicated they currently used English in the home.

Most of the students were single ($n = 84$; 87.5%), seven (7.3%) married and five (5.2%) divorced. The majority ($n = 73$; 76%) were first-year undergraduate students, 18 (18.8%) second year and 3 and 1 (3.1% and 1%) in third and fourth year, respectively. One did not indicate year of study. Exactly one half of the student sample did not work ($n = 48$; 50%) while the remainder ($n = 48$; 50%) worked from 6 to 40 hours per week ($M = 17.11$ $SD = 8.43$). Most ($n = 91$, 94.8%) were full time status, 2 (2.1%) part-time status and 2 (2.1%) special students. One did not indicate student status.

The make up of this sample was very similar to that used in study 2, including the gender split favouring female students, age range, etc., adding weight to the contention that the sample is reflective of the student population as a whole, with the exception that

non-native English speakers were encouraged to complete the measure only if fluent in English. As with study 2; however, it should be stressed that such a sample is not necessarily a reflection of the entire population of young adults, since the student role may channel personal action in clearly defined ways.

Procedure

Preselection

Students were selected from a pool of approximately 900 students in first-year psychology on the basis of their responses to a simple 7-point Likert questionnaire (see Appendix B) which asked to what extent they a) lost track of time (time awareness 1); b) tended to feel at one with their surroundings (merger); c) found time passed at noticeably different rates (time awareness 2); and, d) lost themselves in what they were doing (loss of self). Only those students who indicated that English was their native language on the questionnaire were contacted for further participation.

With the exception of feeling one with their surroundings, most students indicated that they had these experiences very frequently (>4), with 79.3% indicating they lost themselves in what they were doing often, 60.7% lost all sense of time frequently; and 94.8% found time passed at noticeably different rates. Feeling at one with one's surroundings was less common, with only 33.8% indicating they experienced this frequently (>4). Descriptive statistics are provided in Table 6.1.

Table 6.1

Pre-selection questionnaire (Descriptive Statistics)

Question	M	SD	High	Low
1.Lose self in action	5.4	1.7	>6	<5
2.Lose complete sense of time	4.8	1.8	>5	<4
3.Lose track of time	6.3	1	n/a	n/a
4.Feel at one with surroundings	3.6	2	>4	<3

Scale range is from 1 - 7

Because of the low variability in question 3, subjects were selected on the basis of questions 1,2 and 4 based on the extreme scores listed in table 6.1. In all 75 parachronic individuals and 42 chronocentric individuals were selected and called at home to offer them the opportunity to participate; however of these only 41 (35%) both agreed to participate and eventually presented themselves at the testing session, and many of these required several recalls. It thus became apparent that it would not be possible to obtain a sufficient number of subjects in both groups for the study. Since a further modification of the threshold would nullify the extreme groups in any case, the remaining subjects were recruited on the basis of a take-home package using the same procedures as set out in study 2 (university sample) in chapter 4 (see Appendix B for sample-specific informed consent, debriefing and recruitment announcement). An additional 61 subjects were recruited using this method, although the responses of six of these had to be discarded as incorrect or incomplete, leaving 55 respondents selected at random and 41 selected on the basis of their responses to the pre-selection measure.

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To ascertain whether the mode of administration (and pre-selection) had influenced any of the key outcome (subjective well-being, depression) or individual difference measures (traits; PPSRS), the two groups were compared using independent samples t-tests. Only conscientiousness among the Big Five trait factors emerged as a significant difference ($t_{(94)} = 3.32, p < .001$), with those who kept their appointment for testing (logically) rating themselves higher on conscientiousness than those who completed the package in a take-home format. Based on the apparent homogeneity of the samples, particularly insofar as the outcome measures (SWB and the CES-D) were concerned, the two groups were collapsed and the pre-selection measure questions used as variables in the analysis rather than as selection criteria.

A manipulation, which involved asking the individual to recall a “timeless” event and write about it in the present tense, did not appear to have any significant effect in that none of the outcome measures, trait variables or project system variables differed either between the group which received the manipulation and the control group, nor between the group which was able to recall a timeless experience and the one that could not. Not central to the hypotheses, the manipulation had been included to try and offset the narrative, chronocentric nature of a self-report package, which requires a self-aware narrative state. The lack of clear differences suggests either that the manipulation itself was not appropriate; that upon completion, individuals reverted to the more narrative stance required by the report format; or, that parachronicity/chronocentricity is a relatively stable feature of personality. Future research will have to explore the experimental

induction of these states in greater depth. For the purposes of this study, therefore, the sample was treated as homogeneous and the manipulation not included as a relevant factor.

Measures

The measures reported in this study include only those listed in chapter 1 as core measures, except for the pre-selection questions outlined above and the Carleton Sense of Coherence Scale (MacDiarmid, 1990), based on the construct as defined by Antonovsky (1983). Certain additional measures were administered concurrently for use by other researchers and for future study; however for reasons of space these are not discussed in the context of this investigation (see Appendix B). The PPA package was modified to allow respondents to identify projects which they considered matched the characterizations of “flow” projects used by Csikszentmihalyi (1975) in his investigations:

My mind isn't wandering. I am not thinking of something else. I am totally involved in what I am doing. My body feels good, I don't seem to hear anything. The world seems to be cut off from me. I am less aware of myself and my problems.

My concentration is like breathing. I never think of it. I am really quite oblivious to my surroundings after I really get going. I think that the phone could ring, and the doorbell could ring, or the house burn down or something like that. When I start, I really do shut out the whole world. Once I stop, I can let it back in again.

I am so involved in what I am doing. I don't see myself as separate from what I am doing.

Subjects were asked to go back and indicate on their original project elicitation list, those projects which they associated with these feelings. For the most part the projects subjects identified were those that one could logically associate with a sense of

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timelessness or of losing oneself, however, in a few instances the projects appeared antithetic to the definition and quotes. For instance one subject (#102) listed “don’t procrastinate” as a parachronic project. Not only is the achievement action character of the project incompatible with a sense of timelessness or flow, but the project is a negatively valenced avoidant project, hardly of the sort one is liable to lose oneself in. On questioning the individual (who had completed the measure in a classroom setting and was therefore available for consultation) it appears that his set for the project “don’t procrastinate” included not only the action he was to take, but the underlying cause of the problem, which he identified as a tendency to daydream (hence the parachronic link). It was therefore assumed that some of the associations between the parachronic experience and project engagement may be peripheral rather than central, which might serve as a confound, given that the project appraisal dimensions may be rated on the core project (action) rather than an associated state or cause.

To offset this, two researchers went through the data independently and coded all projects subjects had indicated as potential flow projects as flow-likely and flow-unlikely, based on the definitions and the project phrasing. (Note ‘flow’ was defined broadly as a project in which a sense of timelessness was conceivable, this included both parachronic projects and more traditional flow projects). Examples of excluded cases were those that clearly had not yet occurred “travel to India”, “plan weekend outing” and those that were very much goal focussed “resolve conflict with John”. Inter-rater reliability was high ($r = .86$) and agreement was reached on those few cases in which there was a discrepancy

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which often resulted not so much from a dispute on whether the item could be timeless, but whether it was really an activity (e.g., sleep, watching TV). Researcher-coded parachronic projects and subject-coded parachronic projects correlated at $r = .82$, showing a clear convergence of conceptualizations. Only those projects categorized by both subject and researcher as flow/parachronic were used in subsequent analysis, based on the assumption that in these cases the focus of the appraisal was on the *core* action rather than any peripheral facet of project pursuit¹³. Multivariate outliers were also examined and an additional 6% of the projects deleted primarily as a result of very low effort, commitment or outcome scores. These projects were, on average, low level, of the sort “spend less on beer”, “take out the garbage” etc., more reflective of isolated acts (Buss and Craik, 1983) than “extended sets of relevant action” (Little, 1983). In all 681 projects were available for analysis. Project category was also coded by both researchers, with inter-rater reliability a respectable $r = .85$. Again differences were discussed and agreement reached on all differences.

Finally it should be stressed that although the conceptual genesis of distinguishing action by aspect is based on language and extant linguistic forms, unlike study 1 these forms are not used to code or to identify which projects are indeed flow. Nevertheless some subjects clearly identified the idea of flow with an ongoing present state in that in first writing down their projects (activities projected into the future) they phrased them as single events; however, when asked to go back and identify which were flow, they put in brackets the ongoing activity form of the project and identified that as flow. For instance,

subject #53 listed projects:

watch more movies (*in the future*)
train and practice for dance class more often (*in the future*)
read more often (*in the future*)

but then “converted” these into ‘parachronic’ activities:

watching a really amazing movie (*activity*)
performing dance (*activity*)
reading a really intense novel (*activity*)

Most subjects made the conceptual leap without rephrasing linguistically; however, so that it would appear that the relationship between aspect (time-timelessness) and linguistic form is not as fixed as in the case of action character. This highlights the contention in this dissertation that the subjective awareness of timelessness is no longer linked to the imperfective form. That the conceptual leap was made was evident in the many explanations that were given (pg. 10 of the PPA kit) as to why a project was listed as timeless. For instance subject 92 listed “organize something to do with friends during the reading break”, a clearly future focussed project that both researchers agreed could not be ‘flow’ or timeless, in that it was a future action in an accomplishment action character form which is goal-oriented (telic) and thus is judged successful not by engagement in the activity but by its completion. Yet the subject rephrased this in her explanation as “planning an activity” (in general) pointing out that one can become so immersed in the planning that time becomes irrelevant. In short language in study 3 has a lot to offer theoretically and conceptually, but is not particularly helpful methodologically.

Results

We have argued that ‘flow’ projects characterized by “high involvement, deep concentration, intrinsic motivation and the perception of high challenges matched by adequate personal skills” (Massimini & Della Fave, 2000, p. 24) are not the same as parachronic projects, which are associated with “loss of self, a sense of timelessness and merger with one’s activity or surroundings”, although the two share much in common. Given the broader linguistic basis for parachronicity, we would expect these projects to be much more common than flow projects and while generally associated with positive affect, to be related in a more nuanced fashion with the context of the project. The sense of high involvement (operationalized as the dimension time relevance, “to what extent do you find yourself becoming so engaged, absorbed or involved in this project that you lose all track of time?”) and intrinsic motivation (i.e. motivation from the self) associated with flow are expected to emerge also in the case of timeless projects, but that high concentration (effort) and a high skill-competence match will not be systematically associated with timeless experience.

To determine which appraisal dimensions best discriminate between parachronic projects and chronocentric projects, discriminant analysis was used to examine separately the cognitive and affective perceptions of individuals of the two types of projects.

Cognitive Discriminants of Parachronicity

In all 14 cognitive dimensions were entered into a discriminant function analysis to predict group membership as either parachronic or chronocentric projects. Because of the lack of normality and heterogeneity of the covariance matrices, alpha was set at a stringent .001 to offset the possibility of type one error. The n to variable ratio was a respectable 51:1 suggesting that the emergent function was liable to be stable (Stevens, 1996). Table 6.2 provides the tests of equality of group means, ranked by F value.

Table 6.2

Equality of Cognitive Group Means: Parachronic vs. Chronocentric Projects

Dimension	F (1, 416)	Significance
Time Relevance	111.51	p < .001
Progress	33.39	p < .001
Self-Identity	32.25	p < .001
Intrinsic Motivation	28.22	p < .001
Control	24.37	p < .001
Competence	24.08	p < .001
Challenge	23.25	p < .001
Effort	15.89	p < .001
Outcome	12.24	p < .001
Autonomy	8.25	ns (p = .004)
Commitment	5.74	ns (p = .017)

Dimension	F	Significance
Responsibility	4.86	ns (p = .028)
Importance	1.48	ns
Support	0.79	ns

In all the 14 cognitive dimensions accounted for a significant amount of the variability between the two groups (Cancorr = .51, $p < .001$) along a single discriminant function characterized by low time relevance (= high absorption or loss of time awareness), high progress, self identity, intrinsic motivation, control and competence, but low challenge and effort (see Table 6.3 for discriminant function coefficients).

Interpreting first the significant univariate differences, the large distinction in time relevance (to what extent do you find yourself becoming so engaged, absorbed or involved in this project that you lose all track of time?) clearly characterizes the difference between parachronic and chronocentric projects, that is, the lack of awareness of time in the former instance¹⁴. Indeed the very term 'absorption' reflects the merger with activity (*absorbeo*, to swallow) noted as central to the imperfective in language: I am working: I am my work, my work has 'swallowed' me so that we are one¹⁵. Intrinsic motivation, like absorption, is characteristic of both flow and parachronic projects in that it is clearly difficult to merge and become one (identify) with a project that is not seen as one's own (Deci & Ryan, 1987; Sheldon & Kasser,

1995; Kuhl, 1994a). Many chronocentric projects are presumably extrinsically motivated (working, completing course requirements etc.), that is, the end goal may be seen as compatible with self, but the sub-projects are more likely experienced as imposed.

Parachronic projects were also associated with greater self-identity, which on the surface would seem to contradict the assertion that parachronicity involves a loss of self. How can parachronic projects be identified with a self that has been lost? This finding has emerged in the sports literature, e.g., Privette & Bundrick (1997) found that a factor 'self in process' which included the item "strong sense of self" predicted flow/peak performance among athletes. However, it is important to recall that judgements (appraisal ratings) about parachronic projects were made *post hoc*, (as were Privette & Bundrick's ratings) not while within that state, as the problematic manipulation indicated. It is therefore likely that in making a retrospective judgement the high self-identity reflects an inability to detect phenomenologically a strong difference between the project and the self. On the one hand this can be interpreted as a loss of self, on the other as a lack of differentiation between self and activity, but the resultant subjective awareness is likely the same. This mirrors the paradox noted by Csikszentmihalyi in the context of control, which he sees as important for flow but not experienced while in flow.

That parachronic projects are seen as having been more successful to date would also attest to their non-linear nature. Study 1 showed that non-telic projects were

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generally rated as having progressed more than telic projects, suggesting that progress may be reinterpreted to mean project maintenance rather than goal achievement (since non-telic projects are by definition non goal-oriented). In this same way, progress in parachronic projects may reflect successful and frequent engagement in these projects rather than a linear movement through stages. Further research is needed to explore the cognitive-affective bases for these judgements, but it is not improbable that progress in chronocentric projects is more cognitive and seen in relation to the end goal, while it may be more affective in parachronic projects and seen as "successful engagement" (outcome vs. progress, as in study 1).

On the other hand, chronocentric projects are seen as more effortful, more challenging and more likely to succeed (future oriented). In this there is a clear distinction drawn between flow and parachronic projects, since high effort (concentration) and high challenge are associated with the former but not the latter (see below).

Table 6.3

Cognitive Discriminant Function Coefficients

Dimension	Function Coefficients
Time relevance	0.71
Control	0.31
Commitment	0.22

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Dimension	Function Coefficients
Intrinsic Motivation	0.18
Progress	0.15
Self Identity	0.13
Competence	0.11
Support	0.06
Autonomy	0.04
Importance	-0.16
Challenge	-0.22
Effort	-0.24
Responsibility	-0.27
Outcome	-0.28

The discussion above centred on the univariate differences, but discriminant analysis provides for a linear combination of variables which maximizes the difference between the two target groups, here chronocentric and parachronic projects. The two dimensions that load most highly on the single discriminant function are time relevance (absorption) and control, each of which characterize parachronic projects. Chronocentric projects were, however, most often more likely to succeed, more effortful and more challenging, as noted above. However, Csikszentmihalyi (1975; 1990) does not argue that high challenge and high skills (competence) are associated with flow, but rather it is the match between the two variables that gives rise to this state. To test whether a skill-challenge match was associated with parachronic projects, which one would expect if the

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concepts of flow and parachronicity are the same, a difference score was computed by subtracting project competence from challenge. Difference scores greater than 2 (in absolute terms) were coded as non-matches, while difference scores of 2 or less were coded as matches. A Chi square test of independence was used to determine if the two constructs are indeed independent on this dimension. Interestingly, the Chi square test was significant, ($\chi^2 = 9.37$, $p < .005$) showing that the two constructs are not independent; however, as Table 6.4 shows, the high skill-challenge match was associated with chronocentric projects more often than by chance, not parachronic projects.

Table 6.4

The Non-Independence of Skills-Challenge and
Parachronicity- Chronocentricity

		Parachronic Projects	Chronocentric Projects	Totals
High Skill- Challenge Match	O	208	103	311
	E	188.6	122.4	
Low Skill- Challenge Match	O	202	163	365
	E	221.4	143.6	
Totals		410	266	676

The most central point from this analysis is that the language-based theoretical distinction as evidenced in verbal aspect, which characterizes a dichotomous stance between activities that are seen as situated in time, directed by the self and thus separate

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from the self (chronocentric), on the one hand, and activities that are experienced as timeless, part of and indistinguishable from the self (parachronic), on the other, better reflects the phenomenological dichotomy as evidenced by individual self ratings of projects *based on descriptions of flow experience* than the theoretical dichotomy between flow and non-flow activity advanced by Csikszentmihalyi. In short, we tend not to associate timeless, selfless action engagement with a high challenge-skill match nor high effort (concentration). This is not to say that such associations are not possible. Csikszentmihalyi and colleagues have shown that they are and have adduced strong arguments for the evolutionary benefit of flow (Massimini & Delle Fave, 2000). But parachronicity is a far more common and fundamental difference between action types reflected in language and our daily experience of the interpenetrations of action and time.

Affective Discriminants of Parachronicity

In all 16 affective dimensions were included in a discriminant analysis designed to clarify group membership (as chronocentric vs. parachronic) based on affective experience. Clearly for flow projects, affect is expected to be consistently positive, as flow and optimal experience are often used interchangeably. For parachronic projects, likewise, we would expect more positive affect than negative, given the absence of goal discrepancy that characterizes negative affect in many formulations (Carver & Scheier, 1990; Frijda, 1986); however, parachronic projects are hypothesized to be most associated with existential emotions, what DeRivera (1977) terms “being emotions” as opposed to

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'recognizing' or 'becoming' emotions. Being emotions he associates with James' (1890) 'spiritual self" and refers to the existence or meaning, essence, of the situation -person dyad for the experiencer; for instance, 'wonder' refers to the existence of something whose essence we do not understand. Traditional emotion theories have a notoriously difficult time accounting for these set of emotions (of which wonder/awe, dread and serenity are included in this study) in part because their proponents postulate emotions to emerge from the appraisal of the situation as separate from the appraiser (Lazarus, 1991; Frijda, 1986; Ortony, Clore & Collins, 1988). 'Being' emotions are hypothesized to be less the result of the appraisal of a separate situation (chronocentric perspective) and more the phenomenology of being one (merging with) the situation (parachronic perspective).⁷ DeRivera's choice of "being' to reflect this class of emotions echoes the linguistic imperfective in which one *is* the activity (and emotion) rather than one *does* the activity (or experiences passively the emotion). Table 6.5 provides the tests of equality of group means, ranked by F value.

Table 6.5
Equality of Affect Group Means: Parachronic vs. Chronocentric Projects

Dimension	F (1, 63)	Significance
Happiness	135.62	p < .001
Joy	119.82	p < .001

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Dimension	F (1, 638)	Significance
Love	113.25	p < .001
Awe/wonder	110.88	p < .001
Serenity	107.12	p < .001
Excitement	88.73	p < .001
Dread	53.37	p < .001
Stress	37.13	p < .001
Uncertainty	29.87	p < .001
Boredom	27.58	p < .001
Depression	19.76	p < .001
Fear	16.23	p < .001
Guilt	6.7	ns (p = .01)
Sadness	6.1	ns (p = .02)
Anger	2.3	ns
Hope	0.4	ns

Interpreting first the univariate statistics, we see stronger and more frequent differences among the positive emotions than among the negative, which is interesting in that if parachronic projects were consistently associated only with positive emotions (as in the case of flow) then the presence of even mildly negative emotions would likely result in significant differences between groups. As well as the positive emotions in general, DeRivera's being emotions "awe, dread and serenity" also figure prominently as distinctive, with all except dread associated more with parachronicity than chronocentricity. The fact that dread is more chronocentric does not support our

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hypothesis, which may mean either that positive emotions are more salient to parachronic projects than “being emotions” or, it may call into question the classification by DeRivera of dread as a “being” emotion. From a temporal perspective dread might be thought of as a negative counterpart to hope, that is, a quintessentially future-oriented emotion. As such it could not be associated with the parachronic, given the immediate existential nature of affect associated with the latter. Clearly more research is needed in the area of the phenomenology of these often ignored discrete emotions.

The single discriminant function (see table 6.6 for the coefficients) accounted for a significant proportion of the variability between the two groups (Cancorr $r = .56$, $p < .001$). We find that hope, the most ‘future’ of emotions is indeed the single emotion which best characterizes chronocentric projects, despite non significant univariate differences. On the parachronic pole, it is not the unequivocally positive ‘happy’ or ‘joyful’ or ‘excited’, although these are closely linked to parachronic experience, but rather the rarer ‘being’ emotion of awe/wonder that is most characteristic of parachronic projects.

It is clear that the most salient affective characteristic of parachronic projects is the positive valence, given that all but one of the negative affect appraisals were associated more with chronocentricity than parachronicity and all but one of the positive emotions were associated with parachronicity more than chronocentricity. Hope, the latter exception, has been addressed already and indeed is frequently referred to in the literature as neither a positive nor a negative emotion (Lazarus, 1991) given that it is in times of

negative affect that we may most experience hope. The other exception, anger, is less intuitive.

Table 6.6

Affective Discriminant Function Coefficients

Dimension	Function Coefficients
Awe/wonder	0.44
Anger	0.28
Joy	0.22
Serenity	0.22
Happiness	0.21
Love	0.11
Excitement	0.07
Guilt	0.02
Stress	-0.04
Fear	-0.06
Dread	-0.13
Sadness	-0.13
Depression	-0.13
Boredom	-0.16
Uncertainty	-0.17
Hope	-0.38

Examining the parachronic projects which were associated with high anger (see Table 6.7) it would seem that again the link between the emotion and the project (action)

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is not always direct. Here we see several cases in which the emotion appears to be more logically associated with a different facet of the project, in some cases the state of affairs that makes the action necessary (homelessness, environmental degradation, adoption, alcoholism) or with events that may be hampering the action (wanting to play more sports) or perhaps a sense of obligation (call family and friends more often). Thus the parachronic aspect of action engagement associated with the flow quotes of merger and timelessness is possibly being associated with an emotion relating to an aspect of the project other than the immediate experience of action engagement. Hence in some cases the individual may not truly be rating the emotion felt *while engaged in the project*, as they were requested to do, but rating the emotion based upon retrospective recall of the whole project space. Again more detailed research contrasting emotions associated with a project and emotions felt while engaged in a project is necessary.

Table 6.7

High anger parachronic projects (a rating of 10)

do volunteer homeless outreach
research ancestry
research autism
enjoy mother earth
play more hockey
play more basketball
[attend] AA
call family friends more often

The differentiation between flow and parachronic projects is less evident in the affective realm, with both constructs associated primarily with positive emotions.

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Although I am unaware of research relating flow to ‘being’ emotions, it would seem less likely that in a high challenge - high skill situation such emotions would emerge. These we would associate more with less active projects, such as “watching a sunset” or “praying” or “listening to music”. A quick review of the high “awe-wonder” projects shows they include the above examples and many projects that involve relating to or being with others, and finally, as well, some that involve leisure activity such as fishing, swimming, hiking, boating. Only two parachronic projects were rated both as high awe/wonder and as a match between skills/competence, both for the same individual: visiting with Mom and visiting Grandma. Neither project would appear the sort intended by Csikszentmihalyi in his characterization of flow (one wonders what exactly the challenge may be? Perhaps finding time to be timeless with loved ones).

While neither of the discriminant functions provided near-perfect classification (71.2% and 76.1% of cases were correctly classified according to the cognitive and affective discriminant functions, respectively), it would seem fair to conclude that there is a phenomenological distinction along the lines set out in the introduction that is intuitive and salient to respondents. Flow and parachronicity have been clearly differentiated at a cognitive level, supporting hypothesis 1, but less clearly at an affective level. The positive affect reflected in parachronic projects also provides initial support for a positive relation between parachronicity and well-being as set out in hypothesis 2.

Parachronicity, Chronocentricity and Well-Being

In classifying individuals as parachronically inclined or having chronocentric tendencies, three separate measures were used: The initial pre-selection measure (Parachronic Trait Measure, PTM), which was only available for 69 of the 96 subjects (72%)¹⁶ from which item 2 was excluded based on low variability (see Table 6.1 above)¹⁷; the two aspectual stances vis-a-vis activity were operationalized as the absolute number of self-identified parachronic projects (in the project elicitation) and a ratio of parachronic to chronocentric projects in the elicitation. To examine whether the number of flow projects within the matrix alone might be used as a surrogate measure, the absolute number of projects in the matrix and a measure of the balance between parachronic to chronocentric projects in the matrix were also calculated and correlated with the more complete elicitation-based measures. Ratio and absolute measures were used since no specific hypotheses were set out as to which might be more central to well-being. In other words parachronicity at this early stage of research may be defined as a minimum of a certain number of parachronic projects or a ratio of parachronic to chronocentric projects. Descriptive statistics for these variables are given in table 6.8

Correlating the five measures, the strongest relationship with the PTM appears to be with the elicitation measures (rather than the matrix measures, which may be artificially truncated due to the limited number of projects brought forward). Based on the same rationale as study 2 (Burisch, 1984), then, the PTM will be used as a simple measure of self-reported parachronicity and the absolute number of flow projects in

the elicitation as the action level equivalent. The relatively high correlation between the ratio and absolute measures in both contexts (.73 and .85) suggest that there is not a large conceptual difference between the two. Simple Pearson *r* correlations between SWB, CES-D and the two parachronic measures do not show significant results, although there is a trend for those who consider themselves parachronic (as indicated by the PTM) to enjoy marginally higher SWB ($r = .21, p < .10$). Given the smaller number of participants who completed the PTM ($n = 69$), it is reasonable to assume the lack of

Table 6.8
Parachronicity at the Individual Level
(Descriptive Statistics)

	M	SD	Min-Max Possible	Min-Max Observed	PC and CC Groups^a
PC Trait Measure	12.9	5.2	0 - 21	4 - 21	0 - 9.33 (CC) 15.67- 21.00 (PC)
Absolute # of PC Projects (Matrix)	2.78	2.2	0 - 10	0 - 9	0 - 1 (CC) 4 - 9 (PC)
Absolute # of PC Projects (Elicitation)	6.71	4.8	0 - ∞	0 - 22	0 - 4 (CC) 8.67 - 22 (PC)
PC to CC Project Balance (Matrix)	1.38	0.3	1 - 2	1 - 2	1 - 1.2074 (CC) 1.5 - 2 (PC)
Ratio of PC to CC Projects (Elicitation)	0.29	0.2	0 - 1	0 - .64	0 - .2159 (CC) .3657 - 1 (PC)

a = based on cut offs for three even groups. PC = parachronic; CC = chronocentric
(No gender differences were found on any of these measures)

significance is a question of power, although the effect size is not a strong one. Of particular interest, though, is the fact that at the project level, parachronicity is clearly

associated with positive affect, this is not as evident at the individual level, potentially because of context-aspect mismatches or extremes.

To examine the latter possibility, two ANOVAs were conducted using the two measures to test significant differences among the three groups distinguished in table 6.8: high PC, balanced, high CC. No significant differences emerged. It would seem fair to draw the conclusion that, unlike flow, parachronicity does not seem to be associated strongly at the individual level with either depression or SWB, either when operationalized as the number of parachronic projects in a system or self-reported tendencies to forget time.

Table 6.9
Correlations among the five Aspect Measures

	PTM	#PC Projects (Matrix)	#PC Projects (Elicitation)	PC Balance (Matrix)
PTM				
#PC Projects (Matrix)	.31**			
# PC Projects (Elicitation)	.46***	.57***		
PC Balance (Matrix)	.30*	.85***	.56***	
PC Ratio (Elicitation)	.45***	.61***	.73***	.59***

Context Specific Well-Being and Parachronicity

It is first useful to determine if parachronic projects are more commonly associated

with a given project category. We would expect, based on the “fit” that interpersonal, leisure and maintenance projects may tend to be more often parachronic, given the relationship/communion orientation of the first, the experiential nature of the second and finally the repetitive or almost automatic nature of the third. Academic, health/body and intrapersonal projects would seem to be more likely to be chronocentric given that in all three categories there seems generally to be a tendency to want to achieve in the future some currently absent state, rather than enjoy the process, e.g., ‘pass my course’, ‘lose weight’, ‘be more assertive’. In a chi square analysis of project category (1 - 6) and parachronic-chronocentric project type, we find that indeed there is an association between project category and aspectual type ($\chi^2_{(5)} = 184.59, p < .001$). Looking more closely at the distribution (see Table 6.10), the imbalances in association are all in the directions hypothesized, except for maintenance projects, which appear to be more often chronocentric (only 17.4% were parachronic, usually ‘cleaning’ projects) and interpersonal projects, which were virtually equally distributed between the two categories. Particularly mono-aspectual are intrapersonal projects, which are almost exclusively chronocentric (it is difficult to lose oneself when the self is the focus of the project)¹⁸ and leisure projects which are rarely chronocentric. Indeed almost half (45.3% of all parachronic projects are leisure-oriented , while 30.3 percent of all chronocentric projects are academic. Here we see again the distinction between parachronicity and flow, in that individuals most often report flow projects in the context of work or school settings (Csikszentmihalyi & LeFevre, 1989; Delle Fave & Massimini, 1994). Differences were not

great in the interpersonal or health/body categories.

Table 6.10

The Non-independence of Aspect and Project Category

Project Category		Chronocentric	Parachronic
Academic	E	104.5	67.5
	O	125	47
Health/Body	E	55.3	35.7
	O	66	25
Interpersonal	E	58.3	37.7
	O	50	46
Intrapersonal	E	27.3	17.7
	O	41	4
Leisure	E	86.2	55.8
	O	22	120
Maintenance	E	80.2	51.8
	O	109	23

Examining domain specific life satisfaction ratings and the two measures of parachronicity, we find that both social life satisfaction and physical life satisfaction are significantly related to self-reported parachronicity (on the PTM), although only moderately, $r = .29$, $p < .02$ and $r = .30$, $p < .02$, respectively. A similar but weaker association between the number of timeless projects in the elicitation and physical life

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satisfaction emerged ($r = .19$, $p = .06$). Physical life satisfaction for this young group is probably more related to sports and leisure activity than to specific health concerns for many and thus the 'fit' between parachronicity and the leisure context appears to have benefits in terms of deriving satisfaction from one's leisure pursuits. The more modest finding with social life satisfaction reflects perhaps the important ability to lose oneself in another (for limited time periods) within the context of intimate relationships and simply be a part of the whole rather than a separate individual in group settings. A very frequent parachronic project was "go out with my friends for the evening" which for most was associated with a loss of time awareness and subsequent surprise on where the evening had gone. Academic life satisfaction was not significantly correlated (negatively) with parachronicity, suggesting that the ability to lose one's sense of time while engaged in academic pursuits is not problematic.

Trait and Project System Associations with Parachronicity/Chronocentricity

The hypothesized positive association between Openness to New Experience and number of parachronic projects was supported ($r = .30$, $p < .005$) suggesting perhaps that parachronic states are conducive or at least concurrent with creative acts, much as flow states have been shown to be. Many creative projects such as "writing a novel", "playing my music" and even "drawing cartoons" were noted by respondents as parachronic. Although a discussion of creativity is beyond the scope of this study, the non-linear existential stance of parachronicity may perhaps allow for the novel realignment and

reassociation of ideas (divergent thinking) that is the essence of creative thought, something that may be more difficult in a time-oriented 'set'. The relationship between Openness to New Experience and trait parachronicity (the PTM) was also approaching significance ($r = .22$, $p > .07$).

As well as greater Openness to New Experience, we find a parachronic tendency (number of parachronic projects) is also associated with lower Conscientiousness, perhaps as a result of the common lament noted for many parachronic projects, that they served to aid and abet procrastination to the detriment of important chronocentric tasks (see Pychyl, 1995). These are likely the non-(typical) flow projects/activities such as "watch TV" "listen to music" "daydream". More work will be required to ascertain if these are the same individuals, that is, if parachronicity can manifest itself both as Openness to New Experience and as lower conscientiousness in the same individual (a rather prototypical characterization of the undisciplined artist) or whether it can be channeled into creativity in some, but into non-action and procrastination in others. Kuhl's (1994a) theory of action vs. state orientation may provide some answers in this regard in the future.

Personal Project System ratings of efficacy are positively associated with parachronicity, not supporting the contention that efficacy is more likely a chronocentric construct ($r = .27$, $p < .05$). Perceived efficacy is traditionally the PPSRS element most associated with well-being, other than the affective 'stress'. Little (2000a) has argued that individuals, particularly those who must because of occupational, academic or family obligations 'act out of character', need aperiodic 'restorative niches' in which to recover

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themselves and their first natures. Although he characterizes these niches as environmental (and therefore spatially defined) it may well be that they are temporal (aspectual) as well, that is, parachronic individuals may be able to find within themselves a restorative niche through timeless merger with or without activity (see below) and e'merge' restored. We suggested above in the context of the higher self-identity associated with parachronic activity that losing oneself in flow may lead to a stronger sense of self upon emerging from that state (although it not evident that this would extend to all parachronic activity, some of which can be self-annihilating over time: long-distance driving, hours of TV watching, etc.) The loss of self in the right context may therefore serve as a restorative niche to promote efficacy upon reengagement in chronocentric projects. The positive affect associated with parachronicity at the activity level may also linger and enhance time-centred work in the associationist tradition (Bower & Cohen, 1982).

The strongest single correlate of self-reported parachronicity is project system meaning ($r = .36$, $p < .005$) reflected also in one of the Sense of Coherence items (to what extent is your life satisfying and meaningful) which correlated significantly with both operationalizations of parachronicity ($r = .30$, $p < .02$ number of parachronic projects and $r = .25$, $p < .05$, self-reported parachronicity). Reker (1997) defines personal meaning as "...having a purpose in life, having a sense of direction, a sense of order and a reason for existence, a clear sense of personal identity, and a greater social consciousness" (p. 710). Extending the idea that one's identity may be strengthened by periods of loss of self, parachronic experience may be identity enhancing and therefore meaning enhancing.

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Similarly becoming one with one's actions, a merging between internal and external awareness may, *upon regaining self*, provide a reason for existence, a sense of direction and purpose through identification with life as a whole... an ultimate state of communion. Like most things though, moderation may be key in that we are dealing here with a relatively well-adjusted university sample. Lengthy periods without self may reflect a breakdown in ego structure and hence difficulty in relating to the world. One cannot simultaneously relate to the world and merge with it.

Finally the construct of control was raised earlier as a potentially key moderator of parachronic and chronocentric activity. The hypothesis that a sense of coherence would be more related to parachronicity and a sense of project and project system control (structure) to chronocentricity was not clearly supported. Although the relationship between a sense of coherence and parachronicity approached significance ($r = .21$ and $r = .20$, $p < .10$ for both measures) it appeared this was due primarily to item 3, discussed above, which is perhaps better interpreted as a sense of meaning in life. Similarly we saw earlier that project control was one of the project dimensions that best discriminates parachronic from chronocentric activity, but like self-identity is more associated with parachronicity. The latter finding suggests a post hoc evaluation of control and self which may be enhanced by the parachronic experience but not necessarily perceived during that experience. There is no way to show this with the current self-report format, so methodological improvements are needed if empirical support is to be adduced.

Conclusion

Of the three studies it is certainly the operationalization of aspect that has proven most difficult and least satisfactory. This study serves as a pilot to future investigation by identifying whether there is any foundation in the contention made earlier that aspect is a fundamental way of seeing and experiencing activity. The ease with which most respondents identified with the key dimensions of parachronicity and were able to link these to activities and projects, suggests that this construct is founded in human perception of personal action, but much more work is needed to develop a precise operationalization that avoids confounds with other constructs.

One of these conceptual confounds which likely impeded a clearer differentiation and presentation of the two aspectual poles was that between an awareness of the variable passage of time *while engaged in the project* (chronocentric) and a *post hoc* reconstruction of variable time suggesting *a lack of awareness of time while engaged in the project* (parachronic). The high mean and very low variability on the Parachronic Trait Measure regarding having experienced time as passing at different rates, suggests that most of us do experience this; however the PTM item and subsequent operationalization may not have differentiated adequately the two distinct ways in which we can perceive time as variable. In other words, there may be a *heightened* awareness of time which does not match our expected rate (seems slow, seems fast) OR it may be in thinking back to the period of time covered by the action and being surprised, *post hoc*, that it took as long (or as short) a time as it did. The former instance is quintessentially chronocentric, in that it

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reflects a heightened awareness of time in the moment. For instance subject #43, in response to the flow quotes and the statement “Are there any situations in which you have experienced the sensation of losing yourself (being totally unaware of yourself), being one with the environment and in which time seemed either irrelevant or to pass very quickly or very slowly...?” writes:

“My summer job last year was being a security guard. This job involved standing for many hours doing what I though[t] was absolutely nothing. This was so boring that all I could think about was time. How much time was left until my shift was over. How much time had gone by. Every day seemed like an eternity at work. Time went extremely slowly.”

while subject #35 in the same context writes:

“I went camping on a small island in the middle of nowhere last summer. Time seemed to crawl by. I was doing very little except for fishing and roasting marshmallows. I checked the time infrequently but when I did it seemed as though the time should be much later than it was.”

Both individuals experienced the slow passage of time, but it is clear their experience was different. In the first case the individual was excruciatingly aware of time (no need “to check”) while in the second, the realization of a discrepancy in time passage emerged only after periods of non-awareness, when the clock was consulted. It was as if for a moment the individual emerged from the parachronic, did a time check, was surprised and then re-immersed herself.

The first individual appears, as did others in this study, to have focused only on the last portion of the description and ignored Csikszentmihalyi’s participant quotes. This may have happened in rating projects as ‘flow’ as well, thereby reducing the magnitude of differentiation between parachronic and chronocentric action. In future studies it will be

necessary to place a much stronger emphasis on the seeming irrelevancy of time *while engaged in the action* and a perception of distorted time *only afterwards*.

Another potential confound that was anticipated and that was addressed by presenting personal projects as both personal projects *and activities* is the sense of parachronic activities as not planned or specifically projected into the future. Although it is possible and likely that a project (e.g., “go to PEI for the summer”) may engender periods of parachronic experience, the determinate nature of the activity in the future means that it is impossible for an individual to tell whether the activity will be parachronic. Examples of this problem were given above at the end of the methods section in the context of the no longer isomorphic linguistic usage and phenomenological experience associated with the imperfective and parachronic. While every opportunity was made to talk about projects and activities rather than just projects, the methodology is quintessentially conative and therefore may bias individuals to phrase and think about their activities as future oriented projects. Although the consistency of methodology across these three studies ultimately will allow cross-study and cross-construct comparisons, it may need even greater revision in the context of eliciting activities associated with parachronic experience.

Despite these drawbacks, some important findings have emerged that would suggest this as a potentially revealing and rich research focus on the interaction of time, timelessness and action. The clear differentiation between flow and parachronicity, the latter’s theoretical basis in language, its association by most respondents with a broad range of common activities, suggests the parachronic-chronocentric distinction may be

more fundamental to human nature than the albeit far more intense and positive ‘flow’.

The introduction of a logical and scientific basis (lack of a sense of time) for what we may experience as anything from mystical changes in consciousness to “zoning out” permits a more rigorous inquiry into the phenomenon, just as the introduction of a cognitive appraisal approach to emotions has provided much insight into many discrete emotions, formerly thought to be too unscientific to warrant the attention of psychological science (Green, 1996). In the short term, methodological improvement to the self-report approach used here as well as the exploration of the phenomenon using the Experience Sampling Method (Csikszentmihalyi & Larson, 1987) should allow for more insight into the way in which individuals experience parachronicity. In the medium term, the possibility of laboratory manipulation of parachronicity should be explored (perhaps along the lines of Apter’s (1984; 1988) research into telic and paratelic states) and finally, in the long term, the neural underpinnings of such a distinctly different experience of the world will need to be addressed.

Two decades ago, Kastenbaum (1977) lamented the absence of a framework that would allow the study of both ‘engrossments’ (parachronic experience) and ‘perspectives’ (chronocentric experience):

“I would like to know much more about the process by which the individual moves from immersion in the moment to become a master of time rituals in which the meanings of families, generations, and nations are preserved and transformed. I would like to know how both orientations, the perspectives and engrossments can be understood and appreciated in proper balance... I am not willing to simplify the complexities, the richness of minds maneuvering with

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time and yet I find no easy, no satisfactory way of integrating all these frameworks and maneuvers within a single encompassing perspective.” (p. 213)

Although far from solving the enigma that is time, this study hopefully has provided a useful integrative framework that may help channel future research into both engrossment in and perspectives on action within our temporal experience.

Endnotes

1. Compare, for instance the subjective experience as reader in the following two (semantically past tense scenarios), the first perfective (narrative/chronocentric) the second imperfective (existential/parachronic). The second provides a much more immanent, moment by moment immersion in the action than the former.

a) We were sitting quietly at our table when an enormous explosion rocked the café and we dived under our chairs. Glass flew everywhere and I heard Maria cry out. There was so much dust in the air I couldn't even see in which direction she lay.

b) We are sitting quietly at our table when an enormous explosion rocks the café forcing us to dive under our chairs. Glass is flying everywhere and I hear Maria crying out. There is so much dust in the air I can't even see in which direction she is lying.

2. It must be stressed, however, that unlike study one in which current grammatical usage was explored as a reflection of distinct perceptions of project pursuit, in study three the quasi-metaphorical nature of the category of aspect is postulated to reflect distinct ways of relating to one's projects. In short, current grammatical usage of aspect is not the focus of study. Given that aspect is thought of more and more in linguistics as a function of integrated discourse (Thelin, 1990), the latter would be most appropriately explored in the context of the narrative.

3. I am not endorsing, nor referring to stereotypes attributed to men and women, rather those two continua which, according to these and other authors and researchers, can be found in each individual to a different extent.

4. Despite exhortations to the contrary from an unimpeachable source, to the effect that Christians would be advised to take no thought for the morrow and to become again like little children (unaware of time) (Fontana, 1988).

5. As such, the disjuncture is seen as one that is out of time. A laughing fit, a fit of sobbing, even longer periods of grief can often seem disconnected from the ongoing flow of time. One moves out (is moved out) of self and time in order to then reconnect in a changed state.

6. Within traditional psychological studies of time, duration has been studied primarily in the guise of time estimation, which fundamentally involves testing divergences between objective (Newtonian) time and subjective awareness of time (Nichols, 1898; Orme, 1962; Gilliland et al., 1946) over short periods. Many such studies appear to assume that objective time is "right" and subjective time, when different is "wrong" or in; however more recently, particularly in clinical circles, there has been a growing recognition that subjective time, that is, the subjective rate of time passing, is central to our well-being and is often distorted in times of psychological distress, particularly in affective disorders (Melges, 1982). A variety of studies have demonstrated that depression is associated with a slowing of the internal clock (see Friedman, 1982 for a review), which Melges (1982)

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suggests is the result of a vicious spiral of feedforward mismatches between desired states and action plans. Discrepancies lead not to the revising of action plans, but the constriction of future images, which in turn slow current action plans. Time seems to stand still as little progress toward goals is made. In this context the constructs of time duration and time extension, discussed above, converge and the contradictory findings cited in relationship to extension (study 2) are equally applicable here.

7. It is interesting to note that this is almost a literal translation of the Daoist "yu", which is the ultimate state of "flowing" along the 'path' (Dao) sought after in that religion. Although later made aware of the reference, Csikszentmihalyi's term came from the spontaneous use of the word by many of his subjects to reflect the subjective sensation they were trying to describe.

8. Csikszentmihalyi (1975) also notes that "flow is broken by the adoption of an outside perspective." (p. 45) reminiscent of the detached narrative perspective associated with the perfective.

9. Hale (1993) offers nine distinct types of "time" differentiated at least in part along by the context/content of the action taking place in (or out of) time. One of these, Promethean time, he equates directly to flow. The remaining eight; however are all easily subsumed under one or another of the two poles outlined here: Parachronic experience includes Gaian, Satyr, Atmen and Icarus (as well as Promethean) time, while chronocentric experience includes Chronos, Faustian, Distracted and Sisyphus Time. If different interactions of action and time can be classified under different names, the list could become endless depending on the individual constructs of the theorist, but the two superordinate distinctions put forward here are based in universal linguistic experience and thus provide for a commonality of construal that neither flow nor other more personal formulations offer.

10. And Csikszentmihalyi and colleagues argue the benefit of flow derives precisely from this human need to strive for ever higher challenges in search of a renewed sense of flow, which is subject to habituation (Massimini et al., 1988). As skills increase, so must challenges, or flow disappears. The implications of such a hedonic theory are, however, rather counter to the traditional humanistic views within which Flow theory is often situated: we do greater and greater things not for the good of mankind, but because we want to keep feeling so good ourselves.

11. Indeed subjects were asked specifically if they associated any of the quotes with their experience of situations in which they were 'doing nothing', since the focus had been on activities and projects. Exactly what constitutes "doing nothing" i.e., no thinking, daydreaming etc., is moot, but 26 of the 96 subjects (27%) were able to think of between 1 and 4 situations in which they experienced a sense of timelessness while "doing

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nothing". These situations included watching a sunset, sitting on a beach, just being with a significant other, staring out a window, as well as externally induced states such as alcohol and drug related 'timelessness'. In short it would appear that timelessness in the broader sense is not dependent upon the intense cerebral activation associated with high challenge doings, nor even doing in all but the most minimal sense of being conscious. We can enter a phenomenologically timeless stance while simply being.

12. Two studies stand out as exceptions. Omodei and Wearing (1990) in a small but elegant study examined the separate but important contributions to well-being of both need satisfaction and involvement, which could be seen as a distinction not dissimilar to the parachronic/ chronocentric juxtaposition, although not isomorphic with it. For instance the need for creativity, play and purpose and meaning they include with need satisfaction, whereas these may be more central to a parachronic stance. The second study (Gee, 1991) was a small sample in which a single project, "complete Psychology 260" was rated on several dimensions including "absorption", which emerged as a predictor of final grades. Absorption in this study (low time relevance) as found to be the single highest predictor of parachronicity (see below). However, Gee did find for this one project that a challenge-perceived skill balance was also predictive of success in the course.

13. Although this appears at first to counter the philosophy of these studies which places paramount importance on the subject's own report and experience (personal saliency and ecological validity), such is not in fact the case. Excluding projects for which the phenomenology of flow/parachronicity was not central is not saying that it was not experienced, rather it simply places a slightly narrower context on the extent of the action (i.e. personal action, not underlying cause or related events) to provide for greater consistency across subjects. This ability to expand and contract the conceptual space relating to a single action is clearly worthy of future study, particularly in the context of affective associations.

14. Here there should be drawn a link with the 'trait' absorption set out by Tellegen and Atkinson (1974) which they defined as 'an openness to absorbing and self-altering experiences' (Pekala, Wenger & Levine, 1985). While undoubtedly related to parachronicity, this author would suggest that it is best thought of as a phenomenological state, which most, if not all, individuals experience from time to time.

15. Absorption is one of the standard 17 dimensions, but was rephrased here to emphasize the time-relevancy/irrelevancy component of the construct.

16. With over 900 responses to the mass-testing questionnaire the assumption was made (erroneously) that most participants completing the take-home package would also have completed the mass testing questionnaire and thus could be matched; unfortunately it seems many of those who had not completed the questionnaire were precisely those short of credits and hence chose this convenient study. This was in part due to a last minute change in mass testing credit assignment (out of the control of the researcher) which made

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it less advantageous for those who took part in mass testing to participate in a 2 credit study such as this one.

17. Initially the “parachronic state measure” (post manipulation check measure) was also included as a potential indicator of parachronic personality, but it did not correlate significantly with any of the other measures, suggesting it is not tapping the construct desired. Perhaps because it was designed for in class use and a minority of the participants wound up taking the measure in a classroom setting, or perhaps because the items, based loosely on the telic state measure, originally postulated to related to chronocentricity/parachronicity, were too specific (e.g. I couldn’t care less about my appearance” representing low self-awareness.)

18. Religious projects are also classified as intrapersonal and these, while rare in this student sample, are sometimes classed as parachronic: a loss of self in timeless merger with something ‘greater’.

CHAPTER SEVEN

The Future of Time and Action

“now if you only kept on good terms with him,
[time] would do almost anything you liked with the clock.

Lewis Carroll
(Alice in Wonderland)

Introduction

The more specific implications for well-being of the dimensions of time and action investigated in this work have been outlined at the end of each chapter and will not be reviewed here. The obvious next stage of research, as well as attempting to replicate the findings above, will be to examine within a single context the combined predictive abilities of action character, tense and aspect. To what extent are they yoked; for instance, is a present focused project most often an activity? Is being unmitigatedly telic the same or similar to being highly future oriented? Are future focused individuals far less likely to be parachronic? Also, to what extent does one moderate the other? For instance is an achievement/future focus less salutary than an accomplishment/future focus? This work cannot answer these questions as they must be explored within a single sample. The one cross-study finding, that activity projects were significantly more likely to be self-reported as ongoing rather than time delimited, suggests a close relation among the various parameters of time/action in our phenomenology in much the same way as these interact closely in speech.

Apart from these narrower considerations, several themes, some more explicit than others, give at least a modicum of coherence to this long work. This include:

- ❖ language as the access-point for individual and collective meaning
- ❖ the importance of grammatical not just lexical meaning
- ❖ the verb as the quintessential conative unit of analysis
- ❖ the multifaceted nature of time and implications for our relationship with time
- ❖ the importance of the ecology of action, both social (spatial) and temporal
- ❖ the methodological advantages of Personal Projects Analysis and the need for new “kairometrics”.

Language, Individual/Collective Meaning and Personality

At the most macro-level, the argument that language is a valuable yet underused tool in the exploration of similarities and differences in human perception of the world gains support not so much from any one of the studies, but from the sum of the parts. Such an assumption is not to be proven nor disproven in any given work, but has been presented here as a potentially useful approach for examining personality which must be tested over the course of many studies in many contexts. Pennebaker and King (1999) have shown that language is a useful individual difference measure at the level of broad lexical differences, while this work provides evidence that grammatical distinction in a single, albeit important, context (time and action) maps onto distinct differences in the way we as humans experience the world as a group, as well as individually.

Many researchers have explored facets of personality based on a tacit recognition

of the value of language, but most often this has been in the context of lexical differences. Trait psychology has a long history of studies focusing on the adjective as the carrier unit for meaning in the psychology of individual differences (Allport & Odbert, 1936; Cattell, 1947; Digman, 1990; John & Srivastava, 1999; Costa & MacCrae, 1999) which has more recently been expanded to include studies of nominal indicators of personality differences (de Raad & Hoskens, 1990) and verbs (de Raad, Mulder, Kloosterman & Hofstee, 1998; de Raad, 1992). It is noteworthy that the underlying five factor structure so characteristic of traits and nouns has not emerged in the case of verbs, supporting another theme of this work, that the verbal phrase is a distinct unit of analysis and one ideally suited to research in conative psychology.

As well as trait psychologists other personality researchers have assumed language carries meaningful differences, for instance, McGuire and McGuire (1986) also used the verb to show differences in ways in which individuals think about themselves in ways different than they think about others. Hoffman and Tchir (1990) explored causality embodied in language, particularly in verbs and adjectives. Emotion researchers have had to turn to language to attempt to tease out the central parameters of emotional experience (e.g. Averill, 1975; Ortony, Clore & Foss, 1987). As well as the centrality of language, these studies share another commonality, they have all made useful contributions to personality psychology, suggesting that the field may benefit from a more dedicated focus on the semantics of personality.

Building on Kelly (1955), the case can be made for both unique and shared

constructs as represented in language, from *personal* construct systems, through family, then societal and ultimately universally shared constructs that unite us as a species (Figure 7.1). This work focused solely on one instance of the latter, or more specifically the interplay between the semantic primes of action and time. Thus two directions for future inquiry are clearly demarcated: one vertical and one horizontal.

Figure 7.1

Overlapping Semantic Circles

A highly stylized depiction of circles of meaning, in which any single individual only ever shares part (sometimes larger, sometimes smaller) of his/her full range of meaning (construct system) with another individual or larger group. Each individual has a unique meaning structure which overlaps considerably with his family and society. Each society is made up of families and subgroups (class, age, etc.) that share some but not all of their unique meaning, and

finally all humans as a whole share some meaning in common. Circles are not meant to be proportionate.

Vertically, a language oriented personality psychology will need to explore nomothetically the extent of overlap between the individual grammatical and lexical meaning systems of like individuals (individual differences) and the emergent core of semantic primes of society and humanity with a view to explaining differences in both behaviour and affect. For instance in study 3 we examined a sense of time and timelessness within the projects of university students and found the distinction to be virtually universal. Is this so of the retired, of the unemployed, among the creative, etc.? Are some segments of society more prone to timeless experience and what are the affective and behavioural consequences?

More idiographically inclined personality psychologists, for both theoretical and applied reasons, may chose to explore the overlap of the language system of a single individual with that of the family or society. Clinicians, particularly those emphasizing narrative therapy (e.g., White, 1986, personal construct therapy (Fransella & Dalton, 1990) and even cognitive therapy (Beck, 1976; 1962) are doing this tacitly by helping individuals tell other stories or recognize inconsistencies in their own stories and construct new systems of meaning, but their work could be augmented by more stringent language-analysis of not only lexical content, but grammatical structures as well. Idiosyncratic patterns of language use, a common heuristic for experts in diagnosing patients, may become more quantified and integrated into the larger personality structure. For instance, a patient who uses the passive voice more then three times as frequently as the norm, may

well have a perception of self as helpless or unable to act. If this is seen as a core issue, a) helping the individual to recognize the implicit meaning in her language by constantly identifying the tendency as it occurs, and b) helping her to learn to reframe the passive into active may provide the individual with a greater sense of agency. At the level of research, however, norms for language usage within given age groups and societies have to be established.

At the horizontal level, studies similar to those undertaken in this dissertation are needed in different languages to test how the same grammatical and lexical differences in meaning are linked with personality in different cultures. To say that a unit of meaning is 'prime' that is, exists across all cultures, is not to say that it has the same place within a culture, nor that personality differences associated with given dimensions of meaning will be the same in each culture. For instance we provided evidence in chapter 3 that there appears to be telic and atelic individuals as defined by the use of language for personal action, and that in a Canadian student population unmitigated telicity appears to be associated with greater stress, lower subjective well-being, but more meaning. These very same dimensions can be coded in Spanish, but we might find a different frequency of students in a Mexican university who are telic and possibly different associations with well-being.

Meaning in grammar: the case of action

Although linguists would not have disputed the issue, study one in particular has shown that small variations in syntax and phrasing can reflect systematic differences in the

construal of how we act. The simple addition of “try to” to a project indicates we are significantly less sure of its successful outcome and significantly less likely to enjoy that particular project. Projects that are phrased as (non-durative) black or white achievements are regularly associated with greater stress and lower enjoyment. A sense of success-to-date in a project only predicts higher enjoyment for that project when it is an on-going activity, not when it is focused on a single telic end-point. These and other such findings elaborated in study 1 suggest that grammatical differences are a useful way personality psychologists may access non-conscious but clearly encoded meaning parameters at the individual and collective level. Our use of the lexicon is very often automatic, but may reflect the situation or the specific subject matter, while grammar offers subtle variations in meaning that frame the words with which we express ourselves.

One of the most encouraging findings in the study was the good test-retest reliability associated with phrasing tendencies, which suggest they do indeed reflect individual differences and not solely the nature of the task. While project category and action character were not independent, it was still clear that some students consistently phrased their projects as goal-oriented and others as activities, despite the homogeneous nature of many student project systems (Seldon & Little, 2000). Within the context of further understanding action character, the current study needs to be replicated in a student population and then expanded to other populations to test whether the action character - affective and cognitive associations are generalizable. Interactions with and moderating effects of traits and needs (n Ach, for instance) need to be explored.

The verb offers many other parameters along which action can be differentiated, so that individuals who use more imperfective than perfective aspect¹, more active than passive voice, more conditional than indicative mood, etc. may differ consistently in their perceptions of their own actions or more generally the world around them. All of these and other differences in verbal usage warrant exploration given the findings with action character.

The Verbal Phrase as *the* conative unit of analysis

Another goal of this work was to make explicit the place of the verbal phrase in personality psychology as the lexical and grammatical unit of analysis in a psychology of action. Krahé (1992) asked whether the field needed several different units of analysis (strivings, tasks, etc.) and we have suggested that each may be appropriate to specific research contexts, yet the conceptualization of the underlying unit of analysis as ‘the verbal phrase’ emphasizes the great commonality among these first cousins. It has also been argued that personal projects are the most inclusive among the conative units, given that they do not circumscribe the respondent in any way, so that if the researcher is interested in variability in phrasing, PPA is the methodology of choice². Work aimed at developing a better understanding of the commonalities and higher-order categories of verbal expression in personal action is to begin this fall in the Social Ecology Laboratory.

Reconceptualizing Time

All three studies that comprise this dissertation have also emphasized the value of

reconceptualizing time as more than past, present, and future and provided empirical evidence to that end. While we have emphasized a broader view of time as useful to the researcher, potentially leading to a better understanding of the implications of time in our lives and for our well-being, this wider view of time may also be of benefit the individual. By recognizing the different faces of time and how our own personality is expressed in temporal contexts, each of us can come to see time not as “the devourer of all things” (Ovid), not as something to be killed (or wasted, spent or saved, not even as filthy lucre to be guarded, bartered or spent), but rather an enigmatic travelling companion that we may call upon to frame our actions when advantageous or that we may take leave of in situations where he is unhelpful, such as when we may wish to be fully with another. This applies not only to our ability to choose the extent to which and the context in which we let *chronos* into our life, when we need deadlines to provide the necessary incentive to accomplish goals and move on, or alternatively in this future-oriented, rushed society, the extent to which we permit ourselves a restorative parachronic niche, but even more to the way in which we structure and represent our intentions, to our own personal *kairos*. Understanding brings control.

Such a temporal flexibility can afford us the latitude to reframe project pursuit as needed in more specific ways as well. Those with a tendency to procrastinate may benefit from reconceptualizing inchoative telic action as ongoing. If the action is seen/felt to be ongoing difficulties in starting should be minimal. The individual with a past deixis, that is whose whole life revolves around a single past event (the earlier example of Miss.

Haversham in *Great Expectations*) may begin to pull her temporal reference point forward and chose to relate new events to “now” rather than “then”. The artist who is perpetually in a parachronic state may more easily recognize the benefits of such a relation with time for his creativity, but may learn to put it aside in stances where a business sense and engagement with the chronocentric world are required. Time, within limits, can be a matter of choice.

All of this suggests the need to explore further how malleable time/action phrasing is: can repeated (self- imposed) rephrasing at the level of language ultimately lead to permanent changes in the construal of time and action, or better, the flexibility to construe time and action as best fits the situation and goals of the individual?

Action in context

Results from this study suggest that time is very much relevant to our well-being and we would do well to remain cognizant in all research into personality-environment interaction that we exist not only in different (spatial) contexts, but in different temporal contexts as well. Little (1987; 2000a) has stressed the importance of studying personal action as temporally extended as well as contextually specific, but the ubiquity of time can so easily lead to it being overlooked. Until more recently, the domain of action was undervalued in the study of time, yet interactions between temporal framing and action context did emerge as significant in this study, so that no single temporal focus or action character is necessarily better than another, but rather may be seen as more or less

appropriate to the intentions of the individual. Telic accomplishments are the order of the day in academic pursuits, while parachronic activities seem much better suited to leisure and interpersonal pursuits. Again the importance of measuring context in looking at an individual's goals reaffirms the value of having a methodology such as PPA that captures so crisply the idiosyncratic convergences and sometimes conflicts between the individual and context. Additional appraisal dimensions such as clarity of project pursuit, the relation of projects to the past and to the future, as well as simple inquiries into the extent of the project all provide the respondent with the opportunity to become more aware of the social and temporal ecology within which she exists.

A Call for Improved Kairometrics

Chapter four provided further support for the litany of concern in the literature that measuring time is fraught with difficulty. It would seem the field of psychochronology would benefit greatly from a psychometric focus on time, particularly now that the field of personality is becoming usefully differentiated into complementary research traditions: trait; conative and narrative psychology. Measurement of time in one research tradition may be complemented rather than superceded by measurement in another. Time orientation may be best construed as a trait (Zimbardo & Boyd, 1999), but in the same way the 'Big Five' have been shown to relate in different ways to project pursuit (Little, Lecci & Watkinson, 1992), so time orientation may be moderated by, for instance, the extent to which future projects are integrated with past identity. A focus on the past

without a connection to future integration may be far more deleterious than a past focus accompanied by past identity-congruent projects. Similarly, while project density has been shown not to relate consistently to well-being, a plethora of projects that can be synthesized into a cohesive future narrative may be far different than a plethora of unconnected projects. Narrative exploration of one's future story may shed light on such differences.

As well as a refocusing away from single methodological approaches, a greater recognition than it is *kairos* that we are often trying to measure in personality, not *chronos*, highlights the logic behind measuring the *perception* of action and time. Much of the earlier measurement of time, confusing the externally measured with the internally constructed, avoided asking individuals how they perceived time, how much time they spent thinking about time periods etc., and focused instead on derived, projective measures as if the individual was not able to report on their own relation with time. In both the study on tense and on timelessness, we have shown again Kelly's (1955) wisdom in exhorting researchers to simply ask when they want to know an answer. The strong and consistent relationships between both constructs and other measures shows that most people can report on how much they think about time and whether or how it is relevant to their actions.

The work of Nuttin, Nurmi, Bouffard and Lens, among others, has provided a foundation for kairometrics, the measurement of time in relation to planned and ongoing action as well as goals. The psychometric properties of the variables explored in chapters

3 and 4 require further clarification and multi-method investigation. We have shown that while useful, the MIM has its limitations (imposed temporal coding, selective elicitation of constructs), so should not be the only tool used to explore future time perspective. PPA too may not always be able to capture the interconnections in more distal future plans, which may be best left for narrative approaches. Recent work by Little (Little 1996; Hunt, Richardson & Little, 2000) promises still another potentially relevant tool for the study of time in the context of highly salient personal images: Personal Context Analysis (or idio-tape method). Are the variations that occur in representing to ourselves future events and actions as images the same as those that occur when we think about them more linearly as projects? Does invoking images over projects allow us greater distance from *chronos*, leading to more immediate, meaning filled parachronicity? This work has only made the smallest of steps in this regard by introducing PPA as an alternative measure of future time perspective. There is much scope for clarification in this area by all psychokairophiliacs (with apologies to Kastenbaum, 1977).

Conclusion

The final and possibly most interesting direction for further inquiry stems from the inevitable question that follows the identification of common parameters of meaning for humanity, such as those relating action and time, and that is why *those* parameters and not others? For example, if we grew into time as we grew into meaning (Bruner, 1990) both phylogenetically and ontogenetically, why do we still have aperiodic episodes of

timelessness? There is a clear evolutionary advantage to being in time in that it allows contingency planning and foresight, the delay of gratification and the ability to persist for higher order values and motives, not to mention the development and maintenance of self-identity. Is there also an evolutionary advantage to timelessness or is it simply a temporal appendix? Massimini et al. (1988) have argued that 'flow' provides an incentive to strive for ever greater challenges. Perhaps the broader sense of timelessness offers us restorative meaning through a sense of connectivity with the whole, that offsets the sometimes shallowness of individual pursuit.

“Unlike most matters of interest to the inquiring mind, the problems of time cannot be exhausted or be expected to lose their puzzling character upon detailed analysis and in due course be replaced by other themes... For the essence of time, like that of man's existence, is only permission to partake creatively in a world whose contents and properties we may experience, contemplate, and share but never completely describe or precisely formulate.” (Fraser, 1966, pp 592 - 594)

These and other questions remain and when they are answered, fortunately there will be still others, as Carleton University's founders were so well aware when they adopted the motto of this academic institution: “Ours the Task Eternal” (a non-telic, durative, non time-delimited stative construction).

Endnotes

1. Note that while we explored aspect in study 3, it was at a phenomenological level, not the level of language usage. Some of these grammatical differences are unlikely to be captured using the PPA methodology because of the form “a project” takes. Longer textual passages are likely necessary for this individual difference to emerge.
2. The flexibility of the grid methodology (Kelly, 1955) underlying PPA also permits modifications that may allow for a still broader sampling of action, such as was attempted in study 3 in which the ongoing-activity as project was stressed.

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Appendix A

Contents:

Sample Package: Study 2

Time, Action and You! (and cover sheets)

Instruments (in order): (variable(s) measured in brackets)

Demographics

CES-D (depression)

PPA (personal action)

SRTO/TI (temporal orientation/integration)

The Money Game (temporal orientation)

Rappaport Time Line (temporal orientation/density)

5 year Future Self Representation (FSR) list

10 year FSR list

'Big Five' trait self ratings

Cottle's Experiential Inventory (temporal orientation)

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A1: Informed Consent

A2: Recruitment Announcement (university sample)

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A4: Debriefing (university sample)

A5: Debriefing (community sample)

A6: Follow-up letter (community sample)

A7: Thank-you letter (community sample)

THANK YOU FOR AGREEING TO PARTICIPATE IN OUR STUDY ABOUT TIME

Please read the following instructions carefully and then proceed:

- Make sure you sign the informed consent form. We cannot use your data, nor give you credit if this form is not signed. Notice it is separate from the questionnaires and once you hand in the package it will be put in a different file, so your name will not be associated with the information you provide.
- Please (please) read the instructions for each questionnaire carefully; especially the personal projects package (which is at the front). If you don't understand what to do, don't guess, call the "projects hot line" 520-2600 ext. 1449 and leave a message. We will get back to you pronto with clarifications. In the case of the personal projects measure it is particularly important that you read the dimension definitions that are attached to this questionnaire package with a paper clip. If you don't read them you won't know what exactly you are rating.
- You will probably find that this package is long. We are really interested in you as a person and your relationship with time, so we have asked you not only to answer yes/no questions, but to write a bit about yourself. If you get tired, please stop and come back to it when you are feeling less tired. If you 'get in to it' and want to write more, just add on sheets. We hope you'll have fun with some of the questionnaires, but we would like you to answer fully and honestly... not just race through without thinking.
- Please return the package to A405 LOEB once you are done to get your credit receipt(s) and your debriefing. Remember to specify whether you need credits for term one (49.101) or term two (49.102) or a credit each for both. If for some reason you decide this questionnaire is not for you, please return it to us anyway, even if blank. We can always recycle.

THANKS AGAIN... AND GOOD LUCK

Thank you for agreeing to participate in our study about time:

Please read the following instructions carefully and then proceed:

- Make sure you sign the informed consent form. We cannot use your data if this form is not signed. Notice it is separate from the questionnaires and once you mail back your package it will be put in a different file, so your name will not be associated with the information you provide.
- Please read the instructions for each questionnaire carefully; especially the personal projects package (which is at the front). If you don't understand what to do, don't guess, call the "projects hot line" 520-2600 ext. 1449 and leave a message. We will get back to you as soon as we can with clarifications. In the case of the personal projects measure it is particularly important that you read the dimension definitions that are attached to this questionnaire package with a paper clip. If you don't read them you won't know what exactly you are rating.
- You will probably find that this package is long. We are really interested in you as a person and your relationship with time, so we have asked you not only to answer yes/no questions, but to write a bit about yourself. If you get tired, please stop and come back to it when you are feeling less tired. On the other hand, if you are really enjoying the process and want to write more, just add on sheets. We hope you'll have fun with some of the questionnaires, but we would like you to answer fully and honestly... not just check off answers without thinking.
- Please return the package in the enclosed stamped envelope within 10 days. If we haven't received your package after two weeks we will call with a friendly reminder. Notice there is a debriefing form in this envelope which you may keep. We would ask that you not look at the debriefing form until you have completed all of the questionnaire. If for some reason you decide this questionnaire is not for you, please return it to us anyway, even if blank. We can always recycle.

Thanks Again... and Good Luck

Time, Action and You!

A Study by the
Social Ecology Laboratory
of Carleton University,
Ottawa, Canada

*Please read the instructions carefully before
completing the questionnaire*

General Background Information

Age: _____ yrs

Gender: M F

Native Language: _____

Language Spoken in the (current) home: _____

Marital Status (circle one):

single (never married)
currently married/living with common law spouse
divorced
widow/widower

Do you have children? Y N

Highest Grade/Educational level achieved (circle one):

1	2	3	4	5	6	7	8	9	10	11	12	13
<i>college/vocational school</i>				<i>university degree (bachelors)</i>					<i>Masters</i>		<i>Doctorate</i>	

Do you work? Y N

If yes, how many hours per week: _____ hrs

Do you have or have you had any severe illness, disability Y N

If yes, please identify _____

(Eg., stroke, heart attack, diabetes, kidney failure, psychosis, clinical depression, etc...)

Below is a list of the ways you might have felt or behaved. Please indicate how often you have felt this way **during the past week** by rating each item on the following scale

- 0 = rarely or none of the time (less than 1 day)
1 = some or little of the time (1 - 2 days)
2 = occasionally or a moderate amount of time (3 - 4 days)
3 = most or all of the time (5 - 7 days)
-

During the past week:

- _____ 1. I was bothered by things that usually don't bother me.
- _____ 2. I did not feel like eating; my appetite was poor.
- _____ 3. I felt that I could not shake off the blues even with help from my family or friends
- _____ 4. I felt that I was just as good as other people.
- _____ 5. I had trouble keeping my mind on what I was doing
- _____ 6. I felt depressed
- _____ 7. I felt that everything I did was an effort
- _____ 8. I felt hopeful about the future
- _____ 9. I thought my life had been a failure
- _____ 10. I felt fearful.
- _____ 11. My sleep was restless.
- _____ 12. I was happy
- _____ 13. I talked less than usual
- _____ 14. I felt lonely
- _____ 15. People were unfriendly
- _____ 16. I enjoyed life.
- _____ 17. I had crying spells.
- _____ 18. I felt sad
- _____ 19. I felt that people dislike me
- _____ 20. I could not get "going".

PERSONAL PROJECTS ANALYSIS®

Part 1: Project Elicitation

We are interested in studying the kinds of activities and concerns that people have over the course of their lives. We call these *personal projects*. All of us have a number of personal projects/activities at any given time that we think about, plan for, carry out and sometimes (though not always) complete.

Some projects may be focussed on achievement (getting my degree) others on the process (enjoying a night out with friends); they may be things we choose to do or things we have to do; they may be things we are working towards or things we are trying to avoid. Projects may be related to any aspect of your daily life, university, work, home, leisure and community, among others. Please think of projects in this broad way.

Here are some examples of projects/activities:

***Get my Christmas cards written
Cut down on my cholesterol
Play with my cat
Clean my apartment/house
Try not to make my spouse angry
Clarify my religious beliefs
Go for walks more often
Go to Europe this summer
Be a better parent (or wife, husband, grandparent)
Save money in an RRSP
Call my children every week
Get my groceries tomorrow
Decide whether to move to an apartment
Get that (work project) completed before my deadline***

We are also interested in finding out what you think and how you feel about these personal projects and activities, how important or stressful they are, and so on.

To start, please take 15 minutes and write down on the following pages as many personal projects and activities you can that you are currently engaged in or considering – remember these need not be formal projects or even important ones – we would prefer you to give us more of the everyday kinds of activities or concerns that characterize your life at present. © Brian Little, Ph.D., 1983

[illegible]

Part 2: Filter Rating

Now please go back to each project and, in the blank column to the right, estimate how long the project will take you to complete. Some projects may be short-term, some long-term and some may be the sort that you never really plan on completing (eg., be a good mother, live a happy life). In estimating how long you expect the project to last, you can use days, weeks, months or years (eg., 2 days or 6 months or 10 years). For those projects that you see as ongoing, just write "always" in the column to the right.

Part 3:Project Rating (A)

Now select 7 projects/activities from your list that you feel are typical of your life and copy them onto the matrix on the next page. If you have many more than 7 "typical" projects, choose those that you expect to be actively working on in the next couple of months.

Once you have written in all 7 projects you may begin to rate each one from 0 - 10 on the series of dimensions listed along the top of the page. If you feel a dimension is not relevant to a project, you may put an X in the space instead of a numerical rating, but please try to rate each project on all dimensions wherever possible. Attached to the back of this questionnaire (with a paperclip) is a list of these dimensions and a more detailed explanation of what each one means.

Please detach the list for easy reference and refer to it as needed while you rate your projects. This is an important part of the study, so be sure to read what each dimension means, otherwise you may not know what exactly you are rating.

Personal Projects Rating Matrix: What do you think about what you are doing?

[illegible]

Part 4: Project Rating (B)

In this last section we are interested in getting a small sample of projects that you have completed. Think back to past projects that have been important to you -- they can be in the recent past or in the distant past -- and note a few of them down here:

Now select three of these projects and complete the rating matrix on the next page, just as you did for your original list of projects. Once you have written in all 3 projects you may begin to rate each one from 0 - 10 on the series of dimensions listed along the top of the page, exactly as you did before. If you feel a dimension is not relevant to a project, just put an X in the box. Note a few have been crossed out for you, as they are clearly not relevant to past projects.

As you read and think about each dimension and how it relates to your past projects, think about it as if it were worded in the past, for example, how difficult was the project?, how did it relate to your past at that time?, did you feel pressured for time? etc.

Please rate the following statements according to how true you consider them to be for you in general.

1. I spend a lot of time thinking about my past.

Very true 0 1 2 3 4 5 6 7 Not true at all

2. I spend a lot of time thinking about my future

Very true 0 1 2 3 4 5 6 7 Not true at all

3. I don't tend to think a lot about either my past or my future:

Very true 0 1 2 3 4 5 6 7 Not true at all

4. Sometimes I wish I could forget my past entirely:

Very true 0 1 2 3 4 5 6 7 Not true at all

5. Sometimes I wish I never had to think about tomorrow:

Very true 0 1 2 3 4 5 6 7 Not true at all

The Money Game

Pretend that you have a lot of money, more money than you could possibly use. Pretend also that someone has the power to sell you time, any time that you want and you would have this time given to you right now to experience, knowing what you know now. Furthermore, once you have the time, you can do whatever you want with it.

The time periods available are an **hour**, a **day** or a **year** in one of the following time periods:

- the period before your birth (1)
- your own personal past (2)
- your personal future (3)
- the period after your death (4)

1. Would you like to buy time? (circle one)	Yes		No			
2. If so, which time period (circle one)	1	2	3	4		
3. And how long (circle one)	hour	day	year			
4. Finally, how much would you be willing to pay for this time period (circle one)						
	\$1,000,000	\$100,000	\$10,000	\$1,000	\$100	\$10
						\$0

Now tell us what you would do with the time you have bought, i.e. why you want to buy that time and how you will use it?

continue on the reverse, if you don't have enough room.

Your Time Line

Below you will find a strip of paper that is meant to represent the span of time which makes up your whole life, starting from the left (your birth/past) and proceeding to the right (your death/future). We want you to think of the most significant experiences that have happened, are happening now and will happen across your entire life span. Of course you cannot know exactly what will happen, but include experiences, events, etc. that you feel are likely or that you are planning on.

For each event mark a vertical line on the strip of paper and indicate the age at which the event happened, is happening or the age when you expect the event to happen.

Finally, when you have put in all the events you can think of or that you consider significant, place a black dot at the spot that represents NOW (and include your current age underneath). Also put brackets around the portion of the time line that you consider includes "your present life".

Remember past is to the *left*.... future to the *right* →→→

My Time Line:

Event

Age

Stop!

You have completed the most difficult and time-consuming portion of the questionnaire and must be tired if you have not stopped since the beginning of the package. Please take a break and then continue with the remaining questions when you are refreshed.

Thank you for your

TIME

This image shows a single sheet of white paper with horizontal black ruling lines. The lines are evenly spaced and run across the width of the page. There are no margins, text, or other markings on the paper.

continue on the back, if you don't have enough room to finish...

NEO (Global Ratings)

Many personality theorists suggest there are 5 broad domains or dimensions of personality. In the following five scales, descriptions are given that capture each pole of these five dimensions. We would like you to look at each description and then circle the number that corresponds to how well you feel the statement describes you. For instance, if you consider yourself to be somewhat "secure, hardy, and generally relaxed even under stressful conditions" you would probably mark 7 or 8 for the first choice, while if you find yourself extremely "sensitive, emotional, and prone to experience feelings that are upsetting", you would probably circle 0 or 1 on the first scale. Circling 5 would mean that you are somewhere in between the two and neither statement is really characteristic of you.

On the whole, I feel I am: (circle one number on each line)

0	1	2	3	4	5	6	7	8	9	10
sensitive, emotional, and prone to experience feelings that are upsetting									secure, hardy, and generally relaxed even under stressful conditions	

0	1	2	3	4	5	6	7	8	9	10
extraverted, outgoing, active and high-spirited. You prefer to be around people most of the time									introverted, reserved, and serious. You prefer to be alone or with a few close friends	

0	1	2	3	4	5	6	7	8	9	10
open to new experiences. You have broad interests and are very imaginative									down-to-earth, practical, traditional, and pretty much set in your ways	

0	1	2	3	4	5	6	7	8	9	10
compassionate, good-natured and eager to avoid conflict									hard-headed, sceptical, proud, and competitive. You tend to express your anger directly	

0	1	2	3	4	5	6	7	8	9	10
conscientious and well-organized. You have high standards and always strive to achieve your goals									easygoing, not very well-organized, and sometimes careless. You prefer not to make plans	

Imagine that it is the Fall of 2009. In the space provided below, we would like you to write about what you think you will be doing, how you will be feeling, in short, who you will be ten years from now:

continue on the back, if you don't have enough room to finish...

Experiential Inventory

Please list the ten most important **experiences/events** of your life. These may be experiences that you have had, you are having, and experiences you expect to have. You need to write only a few word to identify each experience and you may list your experiences in any order you wish:

1. _____

2. _____

3. _____

4. _____

5. _____

6. _____

7. _____

8. _____

9. _____

10. _____

Please turn over

Now that you have listed ten experiences, please familiarize yourself with the time periods listed below:

- 1. Distant Past
- 2. Near Past
- 3. Present
- 4. Near Future
- 5. Distant Future

Please go back to the last page and take each experience and decide if it has occurred, is occurring or will occur. Then choose the number from the time list that best represents the time of the experience and write that number after the experience. Do this for all ten experiences.

Now think of the past, present, and future as being in the shape of circles. Draw three circles, arranging them in any way you want that best shows how you feel about the relationship of the past, the present and the future. You may use different circle sizes. When you have finished, label each circle to show which one is the past, which one is the present, and which one is the future.

This questionnaire consists of nine adjectives which may describe the way you have felt during the past few weeks. Using the scale below each item, please indicate how much each adjective describes how you have felt lately. Indicate your choice by circling the appropriate number.

During the past few weeks did you ever feel:

Happy

Not at all 0 1 2 3 4 5 6 7 8 9 10 **Extremely**

Frustrated

Not at all 0 1 2 3 4 5 6 7 8 9 10 **Extremely**

Worried or Anxious

Not at all 0 1 2 3 4 5 6 7 8 9 10 **Extremely**

Joyful

Not at all 0 1 2 3 4 5 6 7 8 9 10 **Extremely**

Pleased

Not at all 0 1 2 3 4 5 6 7 8 9 10 **Extremely**

Angry or Hostile

Not at all 0 1 2 3 4 5 6 7 8 9 10 **Extremely**

Unhappy

Not at all 0 1 2 3 4 5 6 7 8 9 10 **Extremely**

Depressed

Not at all 0 1 2 3 4 5 6 7 8 9 10 **Extremely**

Full of Fun

Not at all 0 1 2 3 4 5 6 7 8 9 10 **Extremely**

F.A.S.

(Zaleski, 1996)

The statements below concern your attitude towards the future. Read them carefully. If a given statement accurately describes your attitude indicate number "6" on the attached scale. If the statement is not at all a true description of your attitude, indicate "0". Each statement may reflect your attitude to a different degree. Indicate the number which most accurately defines your point of view. There are no right or wrong answers. All answers are valuable, provided they are sincere. The survey is anonymous and strictly for the purpose of academic research.

- 0 Totally False
1 False
2 Somewhat False
3 Hard to Say
4 Somewhat True
5 True
6 Totally True
-

1.	My future is uncertain	0 1 2 3 4 5 6
2.	I am afraid that some catastrophe will soon occur.	0 1 2 3 4 5 6
3.	I tremble with fear at the thought of what the next day, month, year will bring.	0 1 2 3 4 5 6
4.	I am certain that in the future I will not be alone or rejected.	0 1 2 3 4 5 6
5.	I am afraid to plan for the future.	0 1 2 3 4 5 6
6.	I am uneasy about possible mishaps.	0 1 2 3 4 5 6
7.	I fear I will fail to overcome mounting difficulties	0 1 2 3 4 5 6
8.	I worry about the failures which await me	0 1 2 3 4 5 6
9.	I am terrified by the thought that I may sometimes face life's crises or difficulties	0 1 2 3 4 5 6
10.	I get into a state of tension and uneasiness when I think of my future affairs	0 1 2 3 4 5 6
11.	I am sure that in the future I will realize the most important goals (values) in my life	0 1 2 3 4 5 6
12.	I worry that I will not be able to support my family.	0 1 2 3 4 5 6

13	I have the impression that the world is heading towards collapse (an apocalyptic end)	0 1 2 3 4 5 6
14	I fear the moment when I will have to account for the decisions and actions of my life	0 1 2 3 4 5 6
15	The closer I am to death the more I fear it.	0 1 2 3 4 5 6
16	I believe that in the future I will be able to solve my problems myself	0 1 2 3 4 5 6
17	I am afraid that changes in the economic-political situation will threaten my future	0 1 2 3 4 5 6
18	I am frightened by the thought that life is quickly passing away	0 1 2 3 4 5 6
19	I am disturbed by the thought that in the future I won't be able to realize my goals	0 1 2 3 4 5 6
20	I am afraid that the problems which trouble me now will continue for a long time	0 1 2 3 4 5 6
21	Even when things go well, fate will turn against me	0 1 2 3 4 5 6
22	I am worried about the possibility of a sudden accident or serious illness	0 1 2 3 4 5 6
23	Life is worth living in this beautiful ever changing world	0 1 2 3 4 5 6
24	I am not afraid that in the future people will become very aggressive towards each other	0 1 2 3 4 5 6
25	I am afraid that in the future others will have a negative opinion of me	0 1 2 3 4 5 6
26	I am afraid that after several years I will consider my life to be worthless	0 1 2 3 4 5 6
27	I am afraid that in the future my life will change for the worst.	0 1 2 3 4 5 6
28	I am afraid that I won't be appreciated in my career.	0 1 2 3 4 5 6
29	I worry that in my old age I will be a burden to someone.	0 1 2 3 4 5 6

Please check to see if you have answered all the questions. Thank you for your co-operation.

Project Linkages

Most of us tend to have some particularly important goals or values in our lives, things that really matter to us. We'd like you to take a few minutes and write down five such values or goals on the left hand side of the page (these may be the same or different than projects previously listed). Once you are done, follow the instructions on the next page with regard to completing the right hand column:

1. _____

2. _____

3. _____

4. _____

5. _____

Now please go back to each goal/value and list as many strategies, projects or actions as you can that will help you achieve these goals. In other words, what can you do or what are you doing that will help you move closer to realizing your goal or living up to the value(s) in your life?

Please make clear which strategy/project goes with which goal/value.

INSTRUCTIONS: Which of the two possible reactions more closely describes how you feel about the preceding statement? Indicate by checking the space next to that choice.

Please choose one or the other

1. You've won \$10,000 in a contest.

_____ a) Now that I can afford many of the things I've always wanted, I will be much happier.

_____ b) I'm glad that I won the money, although I don't think it will influence how happy I am overall.

2. Does your weight influence your happiness?

_____ a) I am only happy when I am at my ideal weight.

_____ b) It would be nice to be at my ideal weight, but I would be just as happy if I were not.

3. Do you get more happiness out of pursuing your goals or as a result of reaching them?

_____ a) I get more happiness out of striving for my goals; reaching them is just icing on the cake.

_____ b) My happiness comes primarily from reaching my goals.

4. How critical for your happiness is it for you to be in a romantic relationship?

_____ a) It is difficult for me to be truly happy if I do not have someone in my life.

_____ b) I prefer to have someone in my life, but I can be just as happy without a boyfriend/girlfriend.

5. Imagine that over the next six months the following things happen: someone gives you a new car, then you fail two classes, then you go on a great vacation to Hawaii, then someone steals your car.

_____ a) My happiness will swing up and down as events in my life change.

_____ b) These are just natural events in my life and they won't necessarily influence my happiness.

6. One day you realize that you have all the things you want – the job you want, the spouse you want, the free time you want.

_____ a) This will not directly influence how happy I am, because happiness is something I determine, regardless of what happens outwardly.

_____ b) If I have all the things I want, then I will be completely happy.

7. How important is having money to your happiness?

- _____ a) Being able to buy the things I want when I want them definitely makes me happier.
- _____ b) Once I have enough money for the basic necessities of life (like food, clothing and shelter), more money will not make me happier.

8. Your roommate is one of the most annoying, unpleasant people you've ever known.

- _____ a) I am probably going to be unhappy whenever I'm around my roommate.
- _____ b) I can be happy when I'm around my roommate if I really want to be.

9. How does good and bad luck affect your happiness?

- _____ a) How I respond to good and bad luck in my life is more important than the good and bad events themselves.
- _____ b) The best way for me to keep from being unhappy is to keep bad things from happening to me. The best way for me to be happier is to make good things happen to me.

10. What would it take for you to be happy right now?

- _____ a) There are certain things that must happen in my life for me to be truly happy.
- _____ b) The only thing that is keeping me from being happy right now is myself.

11. You just lost the job which you've had for five years and enjoyed very much.

- _____ a) I'll only be happy again if I find another good job.
- _____ b) I can be happy whether I get another good job or not.

12. Does being outgoing affect your happiness?

- _____ a) I would be happier if I were more outgoing.
- _____ b) I would be about as happy as I am now if I were more outgoing.

13. Think about the things in your life that you really want, but just can't get. Maybe you want to be a doctor, but you realize that your grades are not going to be good enough to get into medical school. Or maybe you want to go out with a certain person, but that person won't go out with you. How does this affect your happiness?

- _____ a) The more things I want but can't get, the less happy I am.
- _____ b) Wanting things I can't get does not make me less happy.

The T.A.S. (1: Academic/Occupational)

The following pages contain several scales each that ask you to circle a number closer to the word that expresses how you feel/think about certain domains in your life in the past, the present and in the future. If you are neutral about the two adjectives you should circle 4.

Think about your past experience in the context of school (academics) or work (occupational) and rate how you feel:

1.	Pleasant	1 2 3 4 5 6 7	Unpleasant
2.	Full	1 2 3 4 5 6 7	Empty
3.	Threatening	1 2 3 4 5 6 7	Attractive
4.	Success	1 2 3 4 5 6 7	Failure
5.	Boring	1 2 3 4 5 6 7	Exciting
6.	Fast	1 2 3 4 5 6 7	Slow
7.	Difficult	1 2 3 4 5 6 7	Easy
8.	Far away	1 2 3 4 5 6 7	Near
9.	Important	1 2 3 4 5 6 7	Unimportant
10.	Regretful	1 2 3 4 5 6 7	Satisfied

The T.A.S. (1: Interpersonal)

Think about your past experience in the context of your relationships with other people and rate how you feel:

1.	Pleasant	1 2 3 4 5 6 7	Unpleasant
2.	Full	1 2 3 4 5 6 7	Empty
3.	Threatening	1 2 3 4 5 6 7	Attractive

4.	Success	1 2 3 4 5 6 7	Failure
5.	Boring	1 2 3 4 5 6 7	Exciting
6.	Fast	1 2 3 4 5 6 7	Slow
7.	Difficult	1 2 3 4 5 6 7	Easy
8.	Far away	1 2 3 4 5 6 7	Near
9.	Important	1 2 3 4 5 6 7	Unimportant
10.	Regretful	1 2 3 4 5 6 7	Satisfied

The T.A.S. (1: Intrapersonal)

Think about your past experience in the context of your own personal growth, feelings about yourself, self identity, etc and rate how you feel

1.	Pleasant	1 2 3 4 5 6 7	Unpleasant
2.	Full	1 2 3 4 5 6 7	Empty
3.	Threatening	1 2 3 4 5 6 7	Attractive
4.	Success	1 2 3 4 5 6 7	Failure
5.	Boring	1 2 3 4 5 6 7	Exciting
6.	Fast	1 2 3 4 5 6 7	Slow
7.	Difficult	1 2 3 4 5 6 7	Easy
8.	Far away	1 2 3 4 5 6 7	Near
9.	Important	1 2 3 4 5 6 7	Unimportant
10.	Regretful	1 2 3 4 5 6 7	Satisfied

The T.A.S. (2: Academic/Occupational)

Indicate on the following scales how you experience your personal present in the context of school or work::

1.	Pleasant	1 2 3 4 5 6 7	Unpleasant
2.	Full	1 2 3 4 5 6 7	Empty
3.	Threatening	1 2 3 4 5 6 7	Attractive
4.	Success	1 2 3 4 5 6 7	Failure
5.	Boring	1 2 3 4 5 6 7	Exciting
6.	Fast	1 2 3 4 5 6 7	Slow
7.	Difficult	1 2 3 4 5 6 7	Easy
8.	Far away	1 2 3 4 5 6 7	Near
9.	Important	1 2 3 4 5 6 7	Unimportant
10.	Hopeful	1 2 3 4 5 6 7	Hopeless

The T.A.S. (2: Interpersonal)

Indicate on the following scales how you experience your personal present in the context of your relationships with other people (social relationships):

1.	Pleasant	1 2 3 4 5 6 7	Unpleasant
2.	Full	1 2 3 4 5 6 7	Empty
3.	Threatening	1 2 3 4 5 6 7	Attractive
4.	Success	1 2 3 4 5 6 7	Failure
5.	Boring	1 2 3 4 5 6 7	Exciting
6.	Fast	1 2 3 4 5 6 7	Slow

7.	Difficult	1 2 3 4 5 6 7	Easy
8.	Far away	1 2 3 4 5 6 7	Near
9.	Important	1 2 3 4 5 6 7	Unimportant
10.	Hopeful	1 2 3 4 5 6 7	Hopeless

The T.A.S. (2: Intrapersonal)

The T.A.S. (3: Occupational/Academic)

Indicate on the following scales how you experience your personal future in the context of school or work::

1.	Pleasant	1 2 3 4 5 6 7	Unpleasant
2.	Full	1 2 3 4 5 6 7	Empty
3.	Threatening	1 2 3 4 5 6 7	Attractive
4.	Success	1 2 3 4 5 6 7	Failure
5.	Boring	1 2 3 4 5 6 7	Exciting
6.	Fast	1 2 3 4 5 6 7	Slow
7.	Difficult	1 2 3 4 5 6 7	Easy
8.	Far away	1 2 3 4 5 6 7	Near
9.	Important	1 2 3 4 5 6 7	Unimportant
10.	Hopeful	1 2 3 4 5 6 7	Hopeless

The T.A.S. (3: Interpersonal)

Indicate on the following scales how you experience your personal future in the context of your relationships with other people (social relationships):

1.	Pleasant	1 2 3 4 5 6 7	Unpleasant
2.	Full	1 2 3 4 5 6 7	Empty
3.	Threatening	1 2 3 4 5 6 7	Attractive
4.	Success	1 2 3 4 5 6 7	Failure
5.	Boring	1 2 3 4 5 6 7	Exciting
6.	Fast	1 2 3 4 5 6 7	Slow

7.	Difficult	1 2 3 4 5 6 7	Easy
8.	Far away	1 2 3 4 5 6 7	Near
9.	Important	1 2 3 4 5 6 7	Unimportant
10.	Hopeful	1 2 3 4 5 6 7	Hopeless

The T.A.S. (3: Intrapersonal)

Indicate on the following scales how you experience your personal future in the context of your relationship with yourself (i.e., personal growth, self identity, in general how you feel about yourself):

1.	Pleasant	1 2 3 4 5 6 7	Unpleasant
2.	Full	1 2 3 4 5 6 7	Empty
3.	Threatening	1 2 3 4 5 6 7	Attractive
4.	Success	1 2 3 4 5 6 7	Failure
5.	Boring	1 2 3 4 5 6 7	Exciting
6.	Fast	1 2 3 4 5 6 7	Slow
7.	Difficult	1 2 3 4 5 6 7	Easy
8.	Far away	1 2 3 4 5 6 7	Near
9.	Important	1 2 3 4 5 6 7	Unimportant
10.	Hopeful	1 2 3 4 5 6 7	Hopeless

This image shows a single sheet of white paper with horizontal black ruling lines. The lines are evenly spaced and run across the width of the page. There are approximately 20 lines visible. The paper has a slightly textured appearance, and the lines are thin and dark. There is no handwriting or other markings on the page.

continue on the back, if you don't have enough room to finish...

Consider the different pursuits, activities, commitments and projects in which you are currently involved we call this your "personal project system". **On the whole**, how would you evaluate your current project system: on the following dimensions? Please circle the appropriate number

On the whole, my current activities, commitments, pursuits and projects are:

meaningful (eg enjoyable, valuable)	10 9 8 7 6 5 4 3 2 1 0	meaningless (eg worthless, unenjoyable)
chaotic (eg out of control, not enough time)	0 1 2 3 4 5 6 7 8 9 10	well-organized (eg. under control adequate time)
supported (eg lots of help and affection from others)	10 9 8 7 6 5 4 3 2 1 0	totally lacking support (eg others don't care at all)
very stressful (eg lots of hassle and conflict)	0 1 2 3 4 5 6 7 8 9 10	unstressful (eg no hassle)
progressing well (eg likely to be very successful)	10 9 8 7 6 5 4 3 2 1 0	progressing poorly (eg very likely to fail)

Below are several scales that we would like you to use to tell us how satisfied you are with your life right now. In the first one, if you are completely satisfied with your life as a whole as it is now, you would circle the number ten (10). If you are completely dissatisfied with your life as a whole as it is now, you would circle zero (0). If you are neither completely satisfied nor completely dissatisfied, you would use one of the numbers from 1 to 9 to indicate your current level of satisfaction. Remember, the higher the number, the more satisfied you feel with your life as it is right now. The other scales work the same way.

A. In general, how satisfied or dissatisfied are you with your **life as a whole** right now? Circle the number on the scale below that comes closest to how you feel:

Completely Dissatisfied	0	1	2	3	4	5	6	7	8	9	10	Completely Satisfied
Neutral												
.....												

B. In general, how satisfied or dissatisfied are you with your **academic life** as it is right now?

Completely Dissatisfied	0	1	2	3	4	5	6	7	8	9	10	Completely Satisfied
Neutral												
.....												

C. In general, how satisfied or dissatisfied are you with your **social life** as it is right now?

Completely Dissatisfied	0	1	2	3	4	5	6	7	8	9	10	Completely Satisfied
Neutral												
.....												

D. In general, how satisfied or dissatisfied are you with your **home life** as it is right now?

Completely Dissatisfied	0	1	2	3	4	5	6	7	8	9	10	Completely Satisfied
Neutral												
.....												

E. In general, how satisfied or dissatisfied are you with your **emotional state** as it is right now?

Completely Dissatisfied	0	1	2	3	4	5	6	7	8	9	10	Completely Satisfied
Neutral												
.....												

F. In general, how satisfied or dissatisfied are you with your **physical health** as it is right now?

Completely Dissatisfied	0	1	2	3	4	5	6	7	8	9	10	Completely Satisfied
Neutral												
.....												

The Year 2000

As you know, we are coming up to a major calendar milestone, the turn of the millenium. We'd like you to write a paragraph or so below on how you feel about this event. Do you think it will impact your life in any way? Have you been thinking much about the new millenium? In short, what does it mean for you, your goals and your daily life.

Before answering, please note on the following scale how often you find yourself thinking about the upcoming millenium:

never or
almost
never

1

2

3

4

5

6

7

daily

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continue on the back, if you don't have enough room to finish...

This image shows a single sheet of white paper with horizontal black ruling lines. The lines are evenly spaced and run across the width of the page. There are no margins, text, or other markings on the paper.

continue on the back, if you don't have enough room to finish...

(A1)

INFORMED CONSENT FORM

**Carleton University
Social Ecology Laboratory
Psychology Department**

This form is intended to ensure that you are aware of your rights concerning participation in this study and to ensure you are adequately informed to be able to decide whether you wish to participate. Please read the following carefully and sign below to indicate that you understand your rights as a voluntary participant in this research.

Title of Study: Personal Projects and Time

I understand that this study is examining the kinds of activities and concerns that people currently have in their daily lives and how they think about time. I am willing to complete the questionnaires in the attached package and understand it will take approximately two hours (slightly more or less, depending on the amount of detail you choose to include). I am aware that some of the measures in this package may ask questions of a personal and sensitive nature or may evoke in me stronger emotional reactions, so I may choose not to answer specific questions or I may withdraw at any point in the process for any reason without penalty.

I understand that my name will not be identified in any way on the questionnaire and thus my anonymity is assured. The data, once collected, will be kept strictly confidential and will not be used in any way other than for the research purposes outlined above.

I understand that if I should have any complaints or concerns about this research, I may report them to Neil Chambers, the principal investigator (520-2697), Prof. Brian Little, the research supervisor (520-1097). If I should have any ethical concerns about the research I may contact Dr. M. Gick, Chair of the Ethics Committee for the Department of Psychology (520-2600, ext. 2664) or Dr. K. Matheson, Chair of the Psychology Department (520-2600, ext. 2648).

Date: _____ 1999

Signature of Participant _____

Signature of Researcher _____

(A2)

Announcement for Recruiting

University Sample

Time is one of the most powerful forces in our lives, but we rarely get enough of it to sit back and think about how it affects us and our daily activities. This take-home study asks you about your goals and activities and, using a variety of measures, what time means to you. Once you pick up the package (see below) you have a week to complete it and it should take anywhere from 1 ½ to 2 ½ hours to complete, depending on how much detail you chose to include. You do not have to complete the package all in one sitting, but we would ask that you return it within one week.

Although most of the package is unlikely to cause you any discomfort, indeed we hope you'll find some of the questionnaires engaging, it is possible that certain questions may raise issues in your past or even thoughts about your future that may be troubling. You may chose to skip items or may withdraw from the study at any point without penalty.

We are particularly interested in older subjects, but everyone is welcome to complete the measure, although **you must be either a native speaker of English or have native fluency in written English.** (This is due to the nature of the analysis to be conducted).

If you would like to participate, come to Room A405 LOEB to pick up your package (straight past the computer labs and up the stairs two flights. Turn right and then right again on the 4th floor and you'll find us) There will be someone there from 12:00 - 4:00 every day, but you can try at other times, as there are often lab members around

You will receive two credits for participation

(A3)

Announcement for Recruiting

Community Sample

TIME AND MONEY both!

Are you 50+ yrs old, native English speaker, with 2-3 hours to spare? Students in the Psychology Department at Carleton University are conducting a study on how people think about time, and we would like your help. All you have to do is call the number below, leave your mailing address and a name (you can leave a made-up name if you wish to ensure your anonymity) and we will send out a package of questionnaires to you. Over the course of a week, we would ask that you complete the questionnaires and return them in the enclosed envelope. If you have any questions there is a telephone number in the envelope you can call for help or clarifications.

AND at the end of the data collection (December, 1999) we will randomly select one individual who has returned their package and mail out a cheque for \$250, so you might be the lucky one! (Chances will be approximately 1 in 75 of winning).

Although most of the package is unlikely to cause you any discomfort, indeed we hope you'll find some of the questionnaires engaging, it is possible that certain questions may raise issues in your past or even thoughts about your future that may be troubling. You may chose to skip items or may withdraw from the study at any point without penalty.

If you are interested, please call:

520-2600 extension 1449

and we'll send out your package pronto! Your *time* is very much appreciated.

(A4)

DEBRIEFING

**Carleton University
Social Ecology Laboratory
Psychology Department**

Title of Study: Personal Projects and Time

Background and Purpose of Study: Data that are being collected from this study will be used to explore how your perception of time relates to your daily activities and goals (projects). For instance, previous research has shown that individuals vary in the extent to which they are past, present and future focussed, how far into the future they plan their activities, how clear they are about future activities, etc. . But the relationship between these differences and overall well being is not that clear. Some researchers maintain that it is better to be present focussed, that is, enjoying the "now" and not worry overly about the future; others argue that people who have a long-term future plan feel better about themselves. We hypothesize that it is better to have a balanced system with more shorter term goals that are manageable and a few, key long-term higher order goals that provide meaning in life.

Results: The results of this study will be available in LOEB A405 in May, 2000, if you are interested in the outcome. Thank you very much for your participation. Your time and effort are most appreciated.

Questions and Comments: If you find this study has raised issues of a personal nature that you might like to discuss with someone, feel free to contact Carleton University Health Services at 520-6674.

If you have any questions or comments about this research, please feel free to contact Neil Chambers, the principal investigator (520-2697) or Dr. Brian Little, the research supervisor (520-1097). If you have any concerns about the ethics of this study, please refer them to Prof. M. Gick, Chair of the Ethics Committee for the Department of Psychology (520-2664) or Prof. K. Matheson, Chair of the Psychology Department (520-2600, ext. 2648).

(A5)

(community sample)

DEBRIEFING

**Carleton University
Social Ecology Laboratory
Psychology Department**

Title of Study: Personal Projects and Time

Background and Purpose of Study: First of all we would like to thank you for having taken the time to help out in this research. It is only through the good offices of individuals like you that psychological research on how things are going in daily life can be undertaken and that we can gradually begin to understand ourselves better. This particular study is focussing on how your perception of time relates to your daily activities and goals (projects). For instance, previous research has shown that individuals vary in the extent to which they are past, present and future focussed, how far into the future they plan their activities, how clear they are about future activities, etc. But the relationship between these differences and overall well being is not that clear. Some researchers maintain that it is better to be present focussed, that is, enjoying the "now" and not worry overly about the future; others argue that people who have a long-term future plan feel better about themselves. We hypothesize that it is better to have a balanced system with more shorter term goals that are manageable and a few, key long-term higher order goals that provide meaning in life. Your participation allows us to compare the responses on these many time and activity measures between a university-age sample and a more mature sample (50 yrs +).

Results: The results of this study will be available at Carleton University in the summer of 2000. If you are interested in the outcome, please call 520-2600 ext. 1449 and leave your name and number and we will contact you with a summary of our findings. Thank you very much for your participation. Again, your time and effort are most appreciated.

Questions and Comments: It is possible that even after returning this questionnaire package, you may feel that it has raised issues of a personal nature that you would like to discuss with a qualified professional. Please feel free to contact the Ottawa Distress Centre at (613) 238 - 3311 at any time for support or an appropriate referral.

If you have any questions or comments about this research, please feel free to contact Neil Chambers, the principal investigator (520-2697) or Dr. Brian Little, the research supervisor (520-1097). If you have any concerns about the ethics of this study, please refer them to Prof. M. Gick, Chair of the Ethics Committee for the Department of Psychology (520-2664) or Prof. K. Matheson, Chair of the Psychology Department (520-2600, ext. 2648).

(A6)

Merry Christmas/ Happy Holidays

Neil Chambers,
Social Ecology Laboratory,
Carleton University,
Ottawa, K1S 5B6

nchamber@ccs.carleton.ca
613-520-2697

Dec. 12, 1999

Dear Research Participant:

It is hard to believe but Christmas is almost upon us. We have not yet received your response to the time study package you requested we send you and wanted to remind you that if you wish to be considered in the \$250.00 draw later this month, you will need to get the package back to us *before* Christmas, since the Carleton University mail room is closed over the holidays.

We do appreciate your interest in the study and the time you are investing in completing the questions. However, since this is not a university or publically funded study, the cost of advertising, mailing, xeroxing and the money for the lottery of \$250 all comes directly from students' pockets. For that reason we would encourage you to complete the package if at all possible, or, if you have decided it is not for you, to please return it to us, so that we may recycle and use at least some of the questionnaires in future research.

If by any chance you have mailed your package already, please ignore this note and thank you very much for your participation. We will be informing those who have returned packages regarding the lottery in late December.

Yours truly,

Neil Chambers
Ph.D. Candidate

Neil Chambers,
Social Ecology Laboratory
Carleton University

December 31, 1999

Dear Research Participant:

As of close of business yesterday, 150 time packages (respondents #120 - 270) had been sent out to individuals over the age of 49 who were interested in helping out with the Carleton University Time Study. Of those, I have received at least partially completed packages from 93 participants, ranging in age from 50 to 91. In five cases so few pages were completed that it would seem unfair to those who spent considerable time in responding to include these responses and in one case the participant listed her age as 23 and was therefore not eligible. The draw for \$250.00 was thus made from a pool of 87 research participants. The winner was respondent number 179, a sixty-five year old participant (to preserve anonymity in research participation, the name cannot be released). A cheque is enclosed for the winner. Congratulations.

I would like to thank the rest of you for participating. I was pleased to receive so many unsolicited positive comments on the study, in that we believe in our research laboratory that all psychological research should bring some benefit to the participant, not just the researcher. I have included some of the comments received on the obverse. For the few of you who indicated that the study was frustrating or tedious, I do apologize, but the nature of the psychological study of subjective time has been plagued with methodological problems, so some of the seemingly repetitive questions were included to try and clarify if different tests supposedly measuring the same thing actually do just that (technically known as test validity).

Finally I would like to thank you all for taking the time to participate, especially those of you of a more advanced age, who found the package very long. While many respondents indicated they did complete the package in just a couple of hours, I know several of you needed much longer and we appreciate your dedication and commitment.

I wish you well in the new year and the new century,

Yours truly,

Neil Chambers,
Ph.D. candidate

PS A brief summary of the results will be sent out this coming summer to those of you who requested feedback on your participation. Should any others of you wish a copy of the results, please leave a message (name and address) at 520-2600 ext 1449.

A selection of the unsolicited comments on the study (in some cases shortened somewhat from the original wording):

- #139: This project was very rewarding: it helped me to reflect on the things I have already accomplished in my life. I am well pleased
- #166: Thank you for such an interesting project; it was very long, though the project did give me insight into my self, my motives and stumbling blocks...
- #167: I appreciated doing this survey because it made me look at my life history as a whole and do some thinking regarding my plans for the future
- #170: Thank you for this opportunity to learn a little more about myself.
- #191: This has been a very interesting experience Thank you
- #196: This was fun took longer than 2 hrs; Thank you for allowing me to participate
- #203: This has been an interesting project to do. it has really made me think
- #207: This questionnaire made me question my motives. direction and I am pleased
- #226: There were times when I felt frustrated (that this questionnaire was a waste of time) and others when I felt the segment had caused me to stop and reflect in a positive/meaningful way

Appendix B

Contents:

Sample Package: Study 3

In and Out of Time: Awareness of the Passage of Time (and cover sheets)

Instruments (in order): (variable(s) measured in brackets)

Manipulation: thinking of a timeless experience

PSM (Parachronic State Measure)

Demographics

CES-D (depression)

PPA (personal action)

Snyder's Self-Monitoring Scale

Apter's Telic Dominance Scale (TDS: telicity-paratelicity)

'Big Five' trait self ratings

Global and Domain-specific Life Satisfaction Scales

Kuhl's Action Control Scale (ACS)

PPSRS (Personal Project System Rating Scale)

Carleton Sense of Coherence Scale

Diener and Emmons Affect Scale (positive and negative affect)

Millennium questionnaire

B1 Informed Consent

B2 Recruitment Announcement

B3 Debriefing

In and Out of Time: Awareness of the Passage of Time

- A Study by the Social Ecology Laboratory at Carleton University
- Be sure to read all instructions carefully AND
- IF IT'S NOT CLEAR...
ASK!

Thank you for agreeing to participate in our study about time:

Please read the following instructions carefully and then proceed:

- Make sure you sign the informed consent form. We cannot use your data if this form is not signed. Notice it is separate from the questionnaires and once you ^{hand} mail back your package it will be put in a different file, so your name will not be associated with the information you provide.
- Please read the instructions for each questionnaire carefully; especially the personal projects package (which is near the front). If you don't understand what to do, don't guess. call the "projects hot line" 520-2600 ext. 1449 and leave a message. We will get back to you as soon as we can with clarifications. In the case of the personal projects measure it is particularly important that you read the dimension definitions that are attached to this questionnaire package with a paper clip. If you don't read them you won't know what exactly you are rating.
- Although you do not have to complete this package all in one session, we would ask that you complete the personal projects section (up to the page marked "stop") in one sitting
- One part of this questionnaire asks you about "timeless projects". Please be sure to read the examples (Part 3 B: page 7 and 8) carefully before filling out this section. We are interested in things you do that make you lose track of time.
- Please return the package to A405 within seven days to pick up your debriefing sheet and your credit receipts. We will be checking to make sure the package is completed. If we haven't received your package after two weeks we will call with a friendly reminder.

Thanks Again... and Good Luck

We would like you first of all to think back to an experience in your life where you felt totally unaware of time passing. Whatever the experience was, it made you feel as if time was meaningless, you were one with whatever you were doing and totally unaware of yourself, your past and your future (for the duration of the experience).

If nothing comes to mind, spend at least five minutes trying to think of situations, activities or anything that may have led you to feel this way. After 5 minutes if you still cannot think of any such situation, put an X in the box below and proceed with the rest of the questionnaire.

Once you have thought of an experience, please spend 5 - 10 minutes writing about it on the next page. Try to reimmerge yourself in the experience and write as if you were there now. For instance, instead of writing: *"I got totally involved in this book I was reading last week"* put yourself back to last week as if you are reading the book right now and describe your feelings moment by moment:

"I am reading this great murder mystery and can't put it down. The murderer has already killed twice and I am sure the heroine is the next on his list. My heart is beating and I feel as if I am in the room with her. Why doesn't her boyfriend come in?... he should be there by now..." etc.

If this is at all unclear, please call the "hot line" (520-2600 ext 1449) and we'll clarify for you.

Before you begin, please rate how easy / difficult it was for you to think of such an experience on the scale below:

easy	0	1	2	3	4	5	6	7	8	9	10	hard
I had no problem thinking of lots of such experiences					I had to think a bit before coming up with such an experience					I found it very difficult to think of any such experiences		

Please begin on the next page. Use the back if you don't have enough room.

Parachronic State Measure

Please note how you are feeling NOW (here in this room) in terms of the six rating scales below. Do this by circling the number that corresponds to your feeling:

serious goal-oriented	1	2	3	4	5	6	playful fun-oriented
thinking about the future	1	2	3	4	5	6	feeling spontaneous
thinking about something that happened recently	1	2	3	4	5	6	not thinking about anything in particular
feeling excited, high arousal	1	2	3	4	5	6	feeling low arousal not very lively
oblivious (not aware) of others in the room/my environment	1	2	3	4	5	6	very aware of the others in the room/ my environment
concerned about my appearance	1	2	3	4	5	6	couldn't care less about my appearance

Now continue with the remainder of the package.....

General Background Information

Age: _____ yrs

Gender: M F

Native Language: _____

Language Spoken in the (current) home: _____

Marital Status (circle one):

single (never married)
currently married/living with common law spouse
divorced
widow/widower

Father's profession _____

Mother's profession _____

Do you have children? Y N

Are you a student who is: full time part time special

What is your current year of study at university? 1 2 3 4 5
other _____ (special/qualifying)

What is your academic major _____

What is your approximate Grade Point Average at Carleton to date (out of 12) _____
(use n/a, if this is your first university course)

Do you work? Y N

If yes, how many hours per week: _____ hrs

Below is a list of the ways you might have felt or behaved. Please indicate how often you have felt this way during the past week by rating each item on the following scale:

- 0 = rarely or none of the time (less than 1 day)
1 = some or little of the time (1 - 2 days)
2 = occasionally or a moderate amount of time (3 - 4 days)
3 = most or all of the time (5 - 7 days)
-

During the past week:

- _____ 1. I was bothered by things that usually don't bother me.
- _____ 2. I did not feel like eating; my appetite was poor.
- _____ 3. I felt that I could not shake off the blues even with help from my family or friends.
- _____ 4. I felt that I was just as good as other people.
- _____ 5. I had trouble keeping my mind on what I was doing.
- _____ 6. I felt depressed.
- _____ 7. I felt that everything I did was an effort.
- _____ 8. I felt hopeful about the future.
- _____ 9. I thought my life had been a failure.
- _____ 10. I felt fearful.
- _____ 11. My sleep was restless.
- _____ 12. I was happy.
- _____ 13. I talked less than usual.
- _____ 14. I felt lonely.
- _____ 15. People were unfriendly.
- _____ 16. I enjoyed life.
- _____ 17. I had crying spells.
- _____ 18. I felt sad.
- _____ 19. I felt that people dislike me.
- _____ 20. I could not get "going".

PERSONAL PROJECTS ANALYSIS[©]

Part 1: Project Elicitation

We are interested in studying the kinds of activities and concerns that people have over the course of their lives. We call these *personal projects*. All of us have a number of personal projects/activities at any given time that we think about, plan for, carry out and sometimes (though not always) complete.

Some projects may be focussed on achievement (getting my degree) others on the process (enjoying a night out with friends); they may be things we choose to do or things we have to do; they may be things we are working towards or things we are trying to avoid. Projects may be related to any aspect of your daily life, university, work, home, leisure and community, among others. Please think of projects in this broad way.

Here are some examples of projects/activities:

Pass my psychology course
Cut down on junk food
Play with my cat
Clean my apartment
Try not to make my parents mad
Clarify my religious beliefs
Exercise more often
Go to Europe this summer
Be a better parent
Break off with Bob
Climb the Matterhorn
Ask Susie for a date
Find a part-time job
Canoe in Algonquin Park
Stop putting off studying until the last minute

We are also interested in finding out what you think and how you feel about these personal projects and activities, how important or stressful they are, and so on.

To start, please take 15 minutes and write down on the following pages as many personal projects and activities you can that you are currently engaged in or considering -- remember these need not be formal projects or even important ones -- we would prefer you to give us more of the everyday kinds of activities or concerns that characterize your life at present. © Brian Little, Ph.D., 1983

[illegible]

Part 2: Project Rating (A)

Now select 7 projects/activities from your list that you feel are typical of your life and copy them onto the matrix on the next page. If you have many more than 7 "typical" projects, choose those that you expect to be actively working on in the next couple of months.

Once you have written in all 7 projects you may begin to rate each one from 0 - 10 on the series of dimensions listed along the top of the page. If you feel a dimension is not relevant to a project, you may put an X in the space instead of a numerical rating, but please try to rate each project on all dimensions wherever possible. Attached to the back of this questionnaire (with a paperclip) is a list of these dimensions and a more detailed explanation of what each one means. Please detach the list for easy reference and refer to it as needed while you rate your projects.

Part 3: Project Rating (B)

In this last section we are interested in whether you sometimes experience the feelings that are described in the following student quotes while engaged in your projects/activities. Please read them carefully to get a sense of what we mean:

- *"My mind isn't wandering. I am not thinking of something else. I am totally involved in what I am doing. My body feels good. I don't seem to hear anything. The world seems to be cut off from me. I am less aware of myself and my problems.*

- *"My concentration is like breathing. I never think of it. I am really quite oblivious to my surroundings after I really get going. I think that the phone could ring, and the doorbell could ring, or the house burn down or something like that. When I start, I really do shut out the whole world. Once I stop, I can let it back in again."*

- *"I am so involved in what I am doing. I don't see myself as separate from what I am doing."*

In short, we are interested in any situations, activities or projects in which you have experienced the sensation of losing yourself (being totally unaware of yourself), being one with the environment and in which time seems either irrelevant or to pass very quickly or very slowly when you haven't really been doing anything.

Once you have a clear sense of what we mean , please go back to the original list of all your projects/activities and in the column to the right indicate whether you associate the feeling implied by these statements with that particular project. You don't have to have experienced the feelings every time you engage in the project, but at least once. Just put an X by the project if you associate these feelings with the activity. Again, we are interested in whether you have lost your sense of time while engaged in the activity.

Perhaps while reading these quotes, you may have thought of additional activities or projects or even situations that are not on your list, but that you associate with these feelings. If so, please list them here

Now select three of these activities, either from your original list or from the projects directly above and complete the rating matrix on the next page, just as you did for your original list of projects. Please be sure to choose different projects than those previously rated. If you don't associate the quotes (and therefore the feelings implied) with any activity, then leave the next page blank.

Once you have written in all 3 projects you may begin to rate each one from 0 - 10 on the series of dimensions listed along the top of the page, exactly as you did before. If you feel a dimension is not relevant to a project, just put an X in the box.

Now for each of the three projects you chose as relevant to the quotes on page 7, please write a brief clarification as to how you have experienced each of these projects/activities as timeless. We don't need a lot of detail, just enough so that it is clear to us in what way you experienced the project as timeless, for example, was it in thinking about doing the activity; while engaged in the project; after you had finished and realized what time it was?:

Project 1

Project 2

Project 3

Part 4

Finally, we have asked you about projects and activities, that is things you DO. Are there any situations in which you have experienced the sensation of losing yourself (being totally unaware of yourself), being one with the environment and in which time seems either irrelevant or to pass very quickly or very slowly when you haven't really been doing anything?

Please list any such situations and provide a brief description:

This image shows a single sheet of white paper with horizontal black ruling lines. The lines are evenly spaced and run across the width of the page. There are no margins, text, or other markings on the paper.

Step II

I am sure you are feeling a bit tired. But the hardest part is over... The remainder of the questionnaires are, for the most part, simply putting ✓s or Xs where applicable. Take a breather, stretch and then continue...

SM Scale

Please consider whether each of the following statements accurately describes you. In the blank provided before each statement, please put a T (for true) if it does accurately describe you, or an F (for false), if it does not.

- _____ 1. I find it hard to imitate the behavior of other people.
- _____ 2. My behavior is usually an expression of my true inner feelings, attitudes, and beliefs.
- _____ 3. At parties and social gatherings, I do not attempt to do or say things that others will like.
- _____ 4. I can only argue for ideas which I already believe.
- _____ 5. I can make impromptu speeches even on topics about which I have almost no information.
- _____ 6. I guess I put on a show to impress or entertain people.
- _____ 7. When I am uncertain how to act in a social situation, I look to the behavior of others for cues.
- _____ 8. I would probably make a good actor.
- _____ 9. I rarely seek advice of my friends to choose movies, books, or music.
- _____ 10. I sometimes appear to others to be experiencing deeper emotions than I actually am.
- _____ 11. I laugh more when I watch a comedy with others than when alone.
- _____ 12. In a group of people I am rarely the centre of attention.
- _____ 13. In different situations and with different people, I often act like very different persons.
- _____ 14. I am not particularly good at making other people like me.
- _____ 15. Even if I am not enjoying myself, I often pretend to be having a good time.
- _____ 16. I'm not always the person I appear to be.
- _____ 17. I would not change my opinions (the way I do things) in order to please someone else or win their favour.
- _____ 18. I have considered being an entertainer.
- _____ 19. In order to get along and be liked, I tend to be what people expect me to be rather than anything else.
- _____ 20. I have never been good at games like charades or improvisational acting.
- _____ 21. I have trouble changing my behavior to suit different people and different situations.
- _____ 22. At a party I let others keep the jokes and stories going.
- _____ 23. I feel a bit awkward in company and do not show up quite so well as I should.
- _____ 24. I can look anyone in the eye and tell a lie with a straight face (if for a right end).
- _____ 25. I may deceive people by being friendly when I really dislike them.

TDS

Here are some alternative choices. Given a free choice, which of the following alternatives would you usually prefer? Please complete all the items by putting an X in the blank corresponding to your choice. Make only one choice for each number. If you are not able to make a choice, you may put an X in the blank marked not sure, but try and use this option as little as possible. Work quickly and do not spend too much time on any one item. It is a first reaction we want.

This is not a test of intelligence or ability and there are no right or wrong answers.

1. ___ Compile a short dictionary for financial reward
 ___ Write a short story for fun
 ___ Not sure
2. ___ Go to an evening class to improve your qualifications
 ___ Go to an evening class for fun
 ___ Not sure
3. ___ Engage in leisure activities which are just exciting
 ___ Engage in leisure activities which have purpose
 ___ Not sure
4. ___ Improve a sporting skill by playing a game
 ___ Improve it through systematic practice
 ___ Not sure
5. ___ Spend one's life in many different places
 ___ Spend most of one's life in one place
 ___ Not sure
6. ___ Work that earns a promotion
 ___ Work that you enjoy doing
 ___ Not sure
7. ___ Planning your leisure
 ___ Doing things on the spur of the moment
 ___ Not sure
8. ___ Going to formal evening meetings
 ___ Watching TV for entertainment
 ___ Not sure
9. ___ Having your tasks set for you
 ___ Choosing your own activities
 ___ Not sure

10. ☐ Investing money in a long-term insurance/pension plan
☐ Buying an expensive car
☐ Not sure
11. ☐ Staying in one job
☐ Having many changes of job
☐ Not sure
12. ☐ Seldom doing things "for kicks"
☐ Often doing things "for kicks"
☐ Not sure
13. ☐ Going to a party
☐ Going to a meeting
☐ Not sure
14. ☐ Leisure activities
☐ Work activities
☐ Not sure
15. ☐ Taking holidays in many different places
☐ Taking holidays always in the same place
☐ Not sure
16. ☐ Going away on holiday for two weeks
☐ Given two weeks of free time, finishing a needed improvement at home
☐ Not sure
17. ☐ Taking life seriously
☐ Treating life light-heartedly
☐ Not sure
18. ☐ Frequently trying strange foods
☐ Always eating familiar foods
☐ Not sure
19. ☐ Recounting an incident accurately
☐ Exaggerating for effect
☐ Not sure
20. ☐ Spending \$200 having an enjoyable weekend
☐ Spending \$200 on repaying a loan
☐ Not sure

21. ☐ Having continuity in the place where you live
☐ Having frequent moves of house
☐ Not sure
22. ☐ Going to an art gallery to enjoy the exhibits
☐ Going to learn about the exhibits
☐ Not sure
23. ☐ Watching a game
☐ Refereeing a game
☐ Not sure
24. ☐ Eating special things because you enjoy them
☐ Eating special things because they are good for your health
☐ Not sure
25. ☐ Fixing long-term life ambitions
☐ Living life as it comes
☐ Not sure
26. ☐ Always trying to finish your work before you enjoy yourself
☐ Frequently going out for enjoyment before all your work is finished
☐ Not sure
27. ☐ Not needing to explain your behaviour
☐ Having purposes for your behaviour
☐ Not sure
28. ☐ Climbing a mountain to try and save someone
☐ Climbing a mountain for pleasure
☐ Not sure
29. ☐ Happy to waste time
☐ Always having to be busy
☐ Not sure
30. ☐ Taking risks
☐ Going through life safely
☐ Not sure
31. ☐ Watching a crucial match between two ordinary teams
☐ Watching an exhibition game with star performers
☐ Not sure

32. ☐ Playing a game
☐ Organizing a game
☐ Not sure
33. ☐ Glancing at pictures in a book
☐ Reading a biography
☐ Not sure
34. ☐ Winning a game easily
☐ Playing a game with the scores very close
☐ Not sure
35. ☐ Steady routine in life
☐ Continual unexpectedness or surprise
☐ Not sure
36. ☐ Working in the garden
☐ Picking wild fruit
☐ Not sure
37. ☐ Reading for information
☐ Reading for fun
☐ Not sure
38. ☐ Arguing for fun
☐ Arguing with others seriously to change their opinions
☐ Not sure
39. ☐ Winning a game
☐ Playing a game for fun
☐ Not sure
40. ☐ Travelling a great deal in one's job
☐ Working in one office or workshop
☐ Not sure
41. ☐ Planning ahead
☐ Taking each day as it comes
☐ Not sure
42. ☐ Planning a holiday
☐ Being on holiday
☐ Not sure

NEO (Global Ratings)

Many personality theorists suggest there are 5 broad domains or dimensions of personality. In the following five scales, descriptions are given that capture each pole of these five dimensions. We would like you to look at each description and then circle the number that corresponds to how well you feel the statement describes you. For instance, if you consider yourself to be somewhat "secure, hardy, and generally relaxed even under stressful conditions" you would probably mark 7 or 8 for the first choice, while if you find yourself extremely "sensitive, emotional, and prone to experience feelings that are upsetting", you would probably circle 0 or 1 on the first scale. Circling 5 would mean that you are somewhere in between the two and neither statement is really characteristic of you.

On the whole, I feel I am: (circle one number on each line)

0	1	2	3	4	5	6	7	8	9	10	
sensitive, emotional, and prone to experience feelings that are upsetting									secure, hardy, and generally relaxed even under stressful conditions		
0	1	2	3	4	5	6	7	8	9	10	
extraverted, outgoing, active and high-spirited. You prefer to be around people most of the time									introverted, reserved, and serious. You prefer to be alone or with a few close friends		
0	1	2	3	4	5	6	7	8	9	10	
open to new experiences. You have broad interests and are very imaginative									down-to-earth, practical, traditional, and pretty much set in your ways		
0	1	2	3	4	5	6	7	8	9	10	
compassionate, good-natured and eager to avoid conflict									hard-headed, sceptical, proud, and competitive. You tend to express your anger directly.		
0	1	2	3	4	5	6	7	8	9	10	
conscientious and well-organized. You have high standards and always strive to achieve your goals									easygoing, not very well-organized, and sometimes careless. You prefer not to make plans		

Below are several scales that we would like you to use to tell us how satisfied you are with your life right now. In the first one, if you are completely satisfied with your life as a whole as it is now, you would circle the number ten (10). If you are completely dissatisfied with your life as a whole as it is now, you would circle zero (0). If you are neither completely satisfied nor completely dissatisfied, you would use one of the numbers from 1 to 9 to indicate your current level of satisfaction. Remember, the higher the number, the more satisfied you feel with your life as it is right now. The other scales work the same way.

A. In general, how satisfied or dissatisfied are you with your life as a whole right now? Circle the number on the scale below that comes closest to how you feel:

Completely Dissatisfied	0	1	2	3	4	5	6	7	8	9	10	Completely Satisfied
Neutral												

B. In general, how satisfied or dissatisfied are you with your academic life as it is right now?

Completely Dissatisfied	0	1	2	3	4	5	6	7	8	9	10	Completely Satisfied
Neutral												

C. In general, how satisfied or dissatisfied are you with your social life as it is right now?

Completely Dissatisfied	0	1	2	3	4	5	6	7	8	9	10	Completely Satisfied
Neutral												

D. In general, how satisfied or dissatisfied are you with your home life as it is right now?

Completely Dissatisfied	0	1	2	3	4	5	6	7	8	9	10	Completely Satisfied
Neutral												

E. In general, how satisfied or dissatisfied are you with your emotional state as it is right now?

Completely Dissatisfied	0	1	2	3	4	5	6	7	8	9	10	Completely Satisfied
Neutral												

F. In general, how satisfied or dissatisfied are you with your physical health as it is right now?

Completely Dissatisfied	0	1	2	3	4	5	6	7	8	9	10	Completely Satisfied
Neutral												

ACS

Choose only one of the possible answers (A or B) by putting an X in the blank beside the statement that is most like you

1. When I have lost something that is very valuable to me and I can't find it anywhere:
☐ A. I have a hard time concentrating on anything else.
☐ B. I put it out of my mind after a little while.
2. When I know I must finish something soon:
☐ A. I have to push myself to get started
☐ B. I find it easy to get it over with
3. When I have learned a new and interesting game:
☐ A. I quickly get tired of it and do something else.
☐ B. I can really get into it for a long time.
4. If I've worked for weeks on one project and then everything goes completely wrong with the project:
☐ A. It takes me a long time to adjust myself to it.
☐ B. It bothers me for a while, but then I don't think about it anymore.
5. When I don't have anything in particular to do and am getting bored:
☐ A. I have trouble getting up enough energy to do anything at all.
☐ B. I quickly find something to do.
6. When I am working on something that's important to me:
☐ A. I still like to do other things in between working on it.
☐ B. I get into it so much that I can work on it for a long time.
7. When I am in a competition and have lost every time:
☐ A. I can soon put losing out of my mind.
☐ B. The thought that I lost keeps running through my mind.
8. When I am getting ready to tackle a difficult problem:
☐ A. It feels like I am facing a big mountain that I don't think I can climb.
☐ B. I look for a way that the problem can be approached in a suitable manner.
9. When I am watching a really good movie:
☐ A. I get so involved in the film that I don't even think of doing anything else.
☐ B. I often want to get something else to do while I am watching the movie

10. If I had just bought a new piece of equipment (for example, a tape deck) and it accidentally fell on the floor and was damaged beyond repair:

- ☐ A. I would manage to get over it quickly.
- ☐ B. It would take me a long time to get over it.

11. When I have to solve a difficult problem:

- ☐ A. I usually don't have a problem getting started on it.
- ☐ B. I have trouble sorting things out in my head so that I can get down to working on the problem.

12. When I have been busy for a long time doing something interesting (for example, reading a book or working on a project):

- ☐ A. I sometimes think about whether what I am doing is really worthwhile.
- ☐ B. I usually get so involved in what I am doing that I never think to ask about whether it's worthwhile.

13. If I have to talk to someone about something important and, repeatedly, can't find him/her at home

- ☐ A. I can't stop thinking about it, even while I'm doing something else
- ☐ B. I easily forget about it until I can see the person again.

14. When I have to make up my mind about what I am going to do when I get some unexpected free time

- ☐ A. It takes me a long time to decide what I should do during this free time.
- ☐ B. I can usually decide on something to do without having to think it over very much.

15. When I read an article in the newspaper that interests me:

- ☐ A. I usually remain so interested in the article that I read the entire article
- ☐ B. I still often skip to another article before I have finished the first one.

16. When I've bought a lot of stuff at a store and realize when I get home that I paid too much -- but I can't get my money back:

- ☐ A. I can't concentrate on anything else.
- ☐ B. I easily forget about it.

17. When I have work to do at home:

- ☐ A. It is often harder for me to get the work done.
- ☐ B. I usually get it done right away.

18. When I am on vacation and I am having a good time:

- ☐ A. After a while, I really feel like doing something completely different.
- ☐ B. I don't even think about doing anything else until the end of my vacation.

19. When I am told that my work has been completely unsatisfactory:
_____ A. I don't let it bother me for too long.
_____ B. I feel paralyzed.
20. When I have a lot of important things to do and they must all be done soon:
_____ A. I often don't know where to begin.
_____ B. I find it easy to make a plan and stick with it.
21. When one of my co-workers brings up an interesting topic for discussion:
_____ A. It can easily develop into a long conversation.
_____ B. I soon lose interest and want to go do something else.
22. If I am stuck in traffic and miss an important appointment:
_____ A. At first, it's difficult for me to start doing anything at all.
_____ B. I quickly forget about it and go do something else.
23. When there are two things that I really want to do, but can't do both of them:
_____ A. I quickly begin one thing and forget about the other thing I couldn't do.
_____ B. It's not easy for me to put the thing I couldn't do out of my mind.
24. When I am busy working on an interesting project:
_____ A. I need to take frequent breaks and work on other projects.
_____ B. I can keep working on the same project for a long time.
25. When Something is very important to me, but I can't seem to get it right:
_____ A. I gradually lose heart.
_____ B. I just forget about it and go do something else.
26. When I have to take care of something important, but which is also unpleasant:
_____ A. I do it and get it over with.
_____ B. It can take a while before I can bring myself to do it.
27. When I am having an interesting conversation with someone at a party:
_____ A. I can talk to him/her the entire evening.
_____ B. I prefer to go do something else after a while.
28. When something really gets me down:
_____ A. I have trouble doing anything at all.
_____ B. I find it easy to distract myself by doing other things.
29. When I am facing a big project that has to be done:
_____ A. I often spend too long thinking about where I should begin
_____ B. I don't have any problems getting started.

30. When it turns out that I am much better at a game than the other players:
_____ A. I usually feel like doing something else.
_____ B. I really like to keep playing.
31. When several things go wrong on the same day:
_____ A. I usually don't know how to deal with it.
_____ B. I just keep on going as though nothing had happened.
32. When I have a boring assignment:
_____ A. I usually don't have any problem getting through it.
_____ B. I sometimes just can't get moving on it.
33. When I read something I find interesting:
_____ A. I sometimes still want to put the article down and do something else.
_____ B. I will sit and read the article for a long time.
34. When I have put all my effort into doing a really good job on something and it doesn't work out:
_____ A. I don't have much difficulty starting something else.
_____ B. I have trouble doing anything else at all.
35. When I have an obligation to do something that is boring and uninteresting:
_____ A. I do it and get it over with.
_____ B. It usually takes a while before I get around to doing it.
36. When I am trying to learn something new that I want to learn:
_____ A. I'll keep at it for a long time.
_____ B. I often feel like I need to take a break and go do something else for a while.

Consider the different pursuits, activities, commitments and projects in which you are currently involved. we call this your "personal project system". On the whole, how would you evaluate your current project system on the following dimensions? Please circle the appropriate number.

On the whole, my current activities, commitments, pursuits and projects are:

meaningful (eg. enjoyable, valuable)	10 9 8 7 6 5 4 3 2 1 0	meaningless (eg. worthless, unenjoyable)
chaotic (eg. out of control, not enough time)	0 1 2 3 4 5 6 7 8 9 10	well-organized (eg. under control adequate time)
supported (eg. lots of help and affection from others)	10 9 8 7 6 5 4 3 2 1 0	totally lacking support (eg. others don't care at all)
very stressful (eg. lots of hassle and conflict)	0 1 2 3 4 5 6 7 8 9 10	unstressful (eg. no hassle)
progressing well (eg. likely to be very successful)	10 9 8 7 6 5 4 3 2 1 0	progressing poorly (eg. very likely to fail)

Carleton SOC

Please answer the following questions by circling the number that comes closest to how you feel. You will note that the extreme ends of the scale are labeled.

1. Sometimes people have trouble understanding or making sense of the good and bad things that happen to them in their lives and they may worry about being able to make sense of the future. On the other hand, for some people the things that happen seem to be understandable, whether or not they are good.

To what extent are things that happen in your life?:

not at all understandable	0	1	2	3	4	5	6	7	always understandable
------------------------------	---	---	---	---	---	---	---	---	--------------------------

2. Whether or not the events in your life are understandable, they still have to be managed somehow. Sometimes people feel that they don't have the resources or supports to make it through while other people feel that they have enough supports and resources to handle whatever will happen.

Given the resources you have, to what extent do you feel you would be able to cope, whatever happens?:

I would be able to manage very well	0	1	2	3	4	5	6	7	I really would not be able to well at all
---	---	---	---	---	---	---	---	---	---

3. Sometimes life doesn't seem to feel very meaningful or satisfying to people — it seems not to have any purpose at all. At other times, life can be quite satisfying and meaningful.

To what extent is your life satisfying and meaningful?:

very often or always	0	1	2	3	4	5	6	7	Very seldom or never
-------------------------	---	---	---	---	---	---	---	---	-------------------------

4. To what extent do you feel that all things in general are pretty much under control and life is working about as well as could be expected?

Things are often out of control and life tends not to be going that well	0	1	2	3	4	5	6	7	Things are generally under control and life is working out
---	---	---	---	---	---	---	---	---	--

This questionnaire consists of nine adjectives which may describe the way you have felt during the past few weeks. Using the scale below each item, please indicate how much each adjective describes how you have felt lately. Indicate your choice by circling the appropriate number:

During the past few weeks did you ever feel:

Happy

Not at all 0 1 2 3 4 5 6 7 8 9 10 **Extremely**

Frustrated

Not at all 0 1 2 3 4 5 6 7 8 9 10 **Extremely**

Worried or Anxious

Not at all 0 1 2 3 4 5 6 7 8 9 10 **Extremely**

Joyful

Not at all 0 1 2 3 4 5 6 7 8 9 10 **Extremely**

Pleased

Not at all 0 1 2 3 4 5 6 7 8 9 10 **Extremely**

Angry or Hostile

Not at all 0 1 2 3 4 5 6 7 8 9 10 **Extremely**

Unhappy

Not at all 0 1 2 3 4 5 6 7 8 9 10 **Extremely**

Depressed

Not at all 0 1 2 3 4 5 6 7 8 9 10 **Extremely**

Full of Fun

Not at all 0 1 2 3 4 5 6 7 8 9 10 **Extremely**

The Year 2000

As you know, we just passed a major calendar milestone, the turn of the millennium. We'd like you to write a paragraph or so below on how you feel/felt about this change. Does it impact your life in any way, actually or symbolically? Have you been thinking much about the new millennium? In short, what does it mean for you, your goals and your daily life?

Before answering, please note on the following scale your general feeling about the millennium:

negative	1	2	3	4	5	6	7	positive
anxious								excited
worried				indifferent				hopeful

This image shows a single sheet of white paper with horizontal black ruling lines. The lines are evenly spaced and run across the width of the page. There are no margins, text, or other markings on the paper.

continue on the back, if you don't have enough room to finish...

Project/Activity Dimension Definitions: (A) Thinking

1. Difficulty

How difficult do you find it to carry out each project? (use 10 for a project which is extremely difficult to carry out and 0 for one that is not difficult at all.)

2. Control

How much do you feel you are in control of this project? (Use 10 if you feel completely in control of the project and 0 if you feel you have absolutely no control over the project.)

3. Responsibility

How responsible are you for carrying out this project? (use 0 if you do not feel any responsibility for making progress in this project and 10 if you feel entirely responsible for the project.)

4. Importance

How important is this project to you (Use 10 if you consider it to be very important and 0 if it is not at all important)

5. Autonomy

How much is this project one which you feel you are pursuing autonomously, that is, you have chosen freely to engage in the project, and are not doing it because anyone else wants you to. (Use 10 if you are engaged in this project entirely of your own free will and 0 if this project is one that you feel totally obliged to complete because of or for someone else)

6. Competence

To what extent do you feel competent to carry out this project? (use 10 if you feel completely competent to carry out the project and 0 if you do not feel competent to carry it out).

7. Progress/ Meeting Expectations

Has your progress or involvement in this project met your expectations to date? (use 10 to indicate that involvement in this project has met all your expectations, ie., your progress has been what you had anticipated, and 0 to indicate that it has not met your expectations at all so far, ie., your progress has been much slower than you originally thought.)

8. Anticipated Success

How successful do you believe you will be with regard to this project? (use 10 if you expect the project to be entirely successful and 0 if you think the project will turn out to be a total failure.)

9. Support

To what extent do you feel each project is supported by other people? Support may come in different forms, e.g. emotional (encouragement, approval), financial (money, material possessions) or practical (active assistance). (use 10 if you feel other people support the project a lot and 0 if there is no support at all).

10. Intrinsically vs. Extrinsically Motivated

To what extent do you feel this project is one that you are engaged in because it is enjoyable, self-actualizing and makes you feel more "you" (as opposed to a project which is primarily for financial or material reward)? (Use 10 if you are motivated to engage in this project totally because you find it personally rewarding and 0 if you are engaged in the project solely for material or financial reward or for praise from others.)

11. Self-Identity

All of us have things we do that we feel are typical or truly expressive of us. These things can be thought of as our "trade marks" . For example, some people engage in sports every chance they get, others prefer to read, others prefer to socialize. Think of what your own personal "trade marks" are, and then rate this project on the extent to which it is typical of you. (Use 10 if a project is very typical of you and 0 if it is not typical at all.)

12. Time Relevance

To what extent do you find yourself becoming so engaged, absorbed or involved in this project that you lose all track of time. (Use 10 if you frequently lose track of time while working on this project/activity and 0 if you never have had such an experience.)

13. Effort

How much effort do you find you have to put into this project on average? (Use 10 if you are always putting in a great deal of effort while involved in this project and 0 if you find it is effortless.)

14. Commitment

To what extent are you committed to this project (ie., unwilling to give it up)? (Use 10 if you are totally committed to this project or 0 if you are not committed at all.)

15. Challenge

How challenging do you find this project? (Use 10 if it is very challenging, perhaps more than you can handle, and 0 if it is not at all challenging, indeed you find it almost boring).

16. Frequency

How frequently do you engage in this activity. Use the following guide to help you choose a number:

- 0-1 hardly ever, only once**
- 2-3 no more than once a year**
- 4-5 no more than once a month**
- 6-7 no more than once a week**
- 8-9 no more than once a day**
- 10 at least twice a day or more often**

17. Stage

Projects often go through several stages, which can be visualized along a time-line, such as: 0.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10 Think of each project as moving through stages on such a time-line. Using the scale on this page, rate each project's stage:

0 to 1:	Awareness	The idea for the project has just come to you.
2:	Transition	You have the idea for the project and some thoughts on how to approach it. You are deciding whether the project can actually be carried out.
3 to 4:	Planning	You have decided to proceed with the project. You are planning it and obtaining whatever personal and material support it may require.
5:	Transition	You have the project planned out and you are beginning to (or trying to) actively start the project.
6 to 7	Action	You are actively working on the project and trying to balance it with your other projects, resources and

time commitments.

8:	Transition	You are evaluating the project and your motivation to continue with it, or bring it to completion/disengage from it.
9 to 10	Completion	The project is coming to a close or has actually been completed or terminated.

***Remember not all dimensions are relevant to all projects, so you may consider that your project is ongoing, without any stages. In which case, just mark 'X'**

Project/Activity Dimension Definitions: (B) Feeling

Rate from 0 to 10 the extent to which you feel each emotion listed on the matrix while engaged or thinking about each project. (Use 10 if you experience the emotion very strongly and 0 if you don't feel it at all.)

Note, if you associate a feeling that IS NOT listed with the project, please write it in at the end of the matrix and rate it on a scale from 0 - 10 just as you did with the emotions that were given.

Some other feeling words:

affectionate, aggressive, annoyed, apologetic, bitter, blissful, cautious, cheerful, confident, confused, determined, disgusted, ecstatic, enraged, exasperated, enraptured, enthusiastic, exhausted, exuberant, frustrated, fun-filled, grief-stricken, horrified, hurt, indifferent, innocent, jealous, lustful, meditative, miserable, numb, obstinate, optimistic, paranoid, playful, pleased, puzzled, regretful, relieved, resentful, satisfied, shocked, smug, surly, surprised, suspicious, sympathetic, terrified, thrilled, undecided, vigilant, withdrawn, wild

or any others you prefer...

(B1)

INFORMED CONSENT FORM

**Carleton University
Social Ecology Laboratory
Psychology Department**

This form is intended to ensure that you are aware of your rights concerning participation in this study and to ensure you are adequately informed to be able to decide whether you wish to participate. Please read the following carefully and sign below to indicate that you understand your rights as a voluntary participant in this research.

Title of Study: Personal Projects and Time Awareness

I understand that this study is examining the kinds of activities and concerns that people currently have in their daily lives, with a particular emphasis on how I experience time while engaged in these activities. I am willing to complete the questionnaires in the attached package and understand it will take approximately two hours. I am aware that some of the measures in this package may ask questions of a personal and sensitive nature and that I may choose not to answer specific questions or I may withdraw at any point in the process for any reason without penalty.

I understand that my name will not be identified in any way on the questionnaire and thus my anonymity is assured. The data, once collected, will be kept strictly confidential and will not be used in any way other than for the research purposes outlined above.

I understand that if I should have any complaints or concerns about this research, I may report them to Neil Chambers, the principal investigator (520-2697), Prof. Brian Little, the research supervisor (520-1097). If I should have any ethical concerns about the research I may contact Dr. M. Gick, Chair of the Ethics Committee for the Department of Psychology (520-2600, ext. 2664) or Dr. K. Matheson, Chair of the Psychology Department (520-2600, ext. 2648).

Date: _____ 99/00

Signature of Participant _____

Signature of Researcher _____

(B2)

It's About Time!

Psychology 49.102

Study Title:	Personal Projects and Time Awareness
Researcher's Name and Room #:	Neil Chambers/Jeff Wylie LOEB A406
Researcher's Phone Number:	ext 1449
Location of Study:	Take Home Questionnaire
Experiment Number:	99-014
Faculty Advisor:	Dr. Brian Little

Brief Description

We are interested in people's perception of time, particularly in the context of their everyday activities, pursuits and goals. This take-home study asks you about your goals and activities and, using a variety of measures, explores instances when you felt time passed quickly, slowly or when you were totally oblivious to time. Once you pick up the package (see below) you have a week to complete it and it should take anywhere from 1 ½ to 2 hours to complete, depending on how much detail you chose to include. You do not have to complete the package all in one sitting, but we would ask that you return it within one week.

Although most of the package is unlikely to cause you any discomfort, indeed we hope you'll find some of the questionnaires engaging, it is possible that certain questions may raise issues in your past or even thoughts about your future that may be troubling. You may chose to skip items or may withdraw from the study at any point without penalty.

You must be **either a native speaker of English or have native fluency in written English**. (This is due to the nature of the analysis to be conducted).

If you would like to participate, come to Room A405 LOEB to pick up your package. (straight past the computer labs and up the stairs two flights. Turn right and then right again on the 4th floor and you'll find us) There will be someone there from 12:00 - 4:00 every day, but you can try at other times, as there are often lab members around.

You will receive two credits for participation

You must: **Keep a record of the Researcher's name**
 Note the title of the study
 Note where to pick up the package (and between which hours)

SIGN UP SHEETS FOR THIS STUDY ARE UNDERNEATH... PLEASE PROVIDE INFORMATION REQUESTED. (YOU WILL BE ASKED TO SIGN AGAIN IN A405 WHEN YOU PICK UP THE PACKAGE)

(B3)

DEBRIEFING

Carleton University Social Ecology Laboratory Psychology Department

Title of Study: Personal Projects and Time Awareness

Background and Purpose of Study: Data that are being collected from this study will be used to explore a theory of time and action derived from linguistics. In action words (verbs) most languages distinguish tense (past present and future) but also aspect (action in time or bounded action and timeless action or unbounded action: perfective - imperfective). This particular study is looking at the latter distinction in the context of your personal action (projects). We hypothesize that individuals with a balanced system, that is, some projects that are in time (future-oriented) and some projects that are timeless (eg., flow-projects) will experience higher well-being than individuals who tend towards either extreme. We also believe that certain individuals will tend over time to be more or less comfortable with 'timeless' action and hence stable individual differences may emerge.

In addition, a second researcher will be looking at the nature of such timeless (or flow) activities: what activities are more likely to be experienced 'outside' of time? and how people think about these activities along various dimensions.

Results: The results of this study will be available in Loeb A405 and B552 in May, 2000, if you are interested in the outcome. Thank you very much for your participation. Your time and effort are most appreciated.

Questions and Comments: If you find this study has raised issues of a personal nature that you might like to discuss with someone, feel free to contact Carleton University Health Services (520-6674).

If you have any questions or comments about this research, please feel free to contact Neil Chambers, the principal investigator (520-2697) or Dr. Brian Little, the research supervisor (520-1097). If you have any concerns about the ethics of this study, please refer them to Prof. M. Gick, Chair of the Ethics Committee for the Department of Psychology (520-2664) or Prof. K.. Matheson, Chair of the Psychology Department (520-2600, ext. 2648).

Appendix C

Technical Glossary

The following glossary is intended to provide a quick reference on technical terminology common in the study of verbs that may not be familiar to non-linguists and on psychological variables related to the study of time that are not commonly used (or are frequently used with different connotations) in the general psychological literature. (L) refers to linguistics and (P) to psychology. More precise technical phrasing has been eschewed in the interests of readability and clarity. Abbreviations mentioned frequently in the text have also been included for quick reference.

Accomplishment (L) Action character (qv.) that involves both duration and a changed end-state; eg., *finish my essay* (both the writing of the end portion and the completion combine to form the action character of accomplishment (compare: achievement).

Achievement (L) Action character (qv.) that focusses on the reaching of an end state (thus telic) but has no separable duration component unlike accomplishment (qv.); eg., *graduate from Carleton* (there is a single moment of graduation and any work leading up to the graduation is not explicit in the verb form).

Action (L/P) Of particular interest is the markedly different meaning of the word in the two literatures: in linguistics, specifically aspectology, action is used as the counter part to state and together the two cover the entire breadth of verbal expression. Action therefore represents any change of state. Psychology uses the term in a much narrower sense, referring to willed or volitional undertakings as a subset of human behaviour writ large. Thus the phrase commonly used in this study, "personal action" is seen in psychology to refer to individually chosen vs. group (societal, organizational, etc.) action. In linguistics, 'personal action' implies the action of individual humans rather than inanimate objects or any other movement: (eg. the sun rose over the horizon is linguistic action, but not action in a psychological sense).

Action Character Modifier (ACM) (L) A term adopted in this dissertation to refer to verbs or adverbs which change the action character of the principal verb. For instance 'start studying' changes "study" from an activity to an achievement. In linguistics these are called variously aspectualizers or aspect modifiers, but in this dissertation the term aspect has been reserved for grammaticalized aspect, hence the need for a new term.

Activity (L) Action character (qv.) that focusses on process (thus duration) without regard for an eventual change of end state (atelic). At any point the action may be interrupted, but it will still be accurate to say that it occurred: *study French*. Compare both accomplishment and achievement where interrupted action implies an incomplete/failed action character.

Aktionsart (Action character) (L) In this work, a linguistic term referring to the

characterization of action (and end states) that highlights three oppositions: the dynamism of the action/state, whether there is implied duration, and whether there is an implied goal (telicity). Following Thelin (1990a) Aktionsart is seen as a characteristic of action, not time.

It is so closely intertwined with aspect (qv.) that it is often considered a subset thereof.

Arousal Avoidance (P) The third factor of the Telic Dominance Scale (Murgatroyd, Rushton, Apter, & Ray, 1988) (q.v.)

Aspect (L/P) From the Latin, *aspectus* (point of view). In this work limited to the bipolar distinction between a subjective (or situation imposed) perspective of time-relevancy and time-irrelevancy (Thelin, 1990a). In the context of linguistics usually referred to as a perfective-imperfective dichotomy. In the context of psychology, extended for the first time in this thesis to a wider distinction (after Gasparov, 1990) between a phenomenological stance that is time focussed (chronocentric (qv.)) and timeless (parachronic (qv.))

Atelic (L) With reference to action character, indicates a lack of goal or clearly defined end-state as the result of a process or activity.

Autotelic (P) Used by Csikszentmihalyi (1975; 1990) to refer to activities which are undertaken purely for the enjoyment of the process, not specifically for any ulterior motive.

CC (P) = chronocentricity (q.v.)

Chronocentric(ity) (P) A broader interpretation of the perfective aspect (qv.) as a phenomenological stance vis a vis action that implies time-relevancy and hence, by extension, self relevancy, agency and a narrative Weltanschauung.

Deixis (L) The temporal reference point of a sentence, which unless otherwise stated is taken to be the moment of speech. Eg., *I walked home* is past because it is referring to the tense of the action in reference to the moment of my uttering the sentence (deixis). In *I had reached home before realizing I left my keys at the office* the deixis is the moment of leaving the keys. In this work, the deixis of personal action is always taken to be the moment of self-report.

Egressive (L) Literally, the movement out of action. The opposite of inceptive (qv.), it refers to the ending of a given action.

Future time perspective (P) A broad term encompassing temporal extension (qv.), density (qv.), coherence (qv.) and clarity (qv.) That is used to refer to how an individual represents mentally in the now the future time period along these dimensions.

Habitual (L) A term used to refer to the interaction of action character and aspect that is semantically stative, but syntactically dynamic and implies regularly repeated action, without any clearly defined end-point. Habitual action may result from repeated activity, accomplishment or achievement action characters.

Imperfective (L) One of the two aspectual poles, called by Smith (1997) viewpoint aspect and traditionally viewed in aspectology as a verb form that stresses the unboundedness (lack of beginning, end) of action. Thelin (1990a) argues it represents a [- time] form of the verb as opposed to [+ time] of the perfective. The conceptual underpinning for the parachronic (qv.) stance introduced in this work.

Inceptive (L) Refers to the beginning of an action

Inchoative (L) Refers to the beginning of a state

Iterative (L) A term representing an action character - aspect interaction in which single non-durative actions (semelfactives) are treated as a single whole durative activity.

Kairometrics (P) A term used in the dissertation to refer to the measurement of subjective time as it relates to intentions and actions as distinct from chronometrics, the measurement of clock time. From the Greek *kairos* (see Jaques, 1988).

Narrative Present (L) Refers to the usage of the simple present tense in English with a past tense meaning: *In 1981, the constitution is repatriated.*

M.I.M. (P) Motivational Induction Method (Nuttin, 1985) Primarily a measure of future time perspective (extension and density).

Parachronic(ity) (P) A term introduced in this work to refer to a phenomenologically time-less state, based on the thesis that the imperfective aspect (qv.) in language developed originally to differentiate time-relevant action from time-irrelevant action (Thelin, 1990). Also associated with loss of self, an existential *Weltanschauung*, goal-less activity and communion with the action or state.

Paratelic (P) A metamotivational state characterized by arousal seeking, goal-less, present oriented behaviour.

PC (P) = Parachronicity (q.v.)

Perfect (L) Not to be confused with the perfective (qv.) a verb form that while past semantically implies, in addition, present relevance. *I have gone home* vs. *I went home*. The first example stresses that I am still at home as of now (present relevance). The latter has no such implication.

Perfective (L) One of the two aspectual poles, called by Smith (1997) viewpoint aspect and traditionally viewed in aspectology as a verb form that stresses the boundedness (complete nature) of action. Thelin (1990a) argues it represents a [+ time] form of the verb as opposed to [- time] of the imperfective. The conceptual underpinning for the chronocentric (qv.) stance introduced in this work.

Planning Orientation (P) The second factor of the Telic Dominance Scale (Murgatroyd, Rushton, Apter, & Ray, 1988) (q.v.)

Quantity Modifier (QM) (P) A term used in this dissertation to refer to words that denote the change in quantity of an action, but not quality, for instance 'study harder', 'eat less junk food', 'improve my pole vaulting'. The change can be in either direction, i.e., doing more or less of the action.

Seriousmindedness (P) The first factor of the Telic Dominance Scale (Murgatroyd et al., 1988) (q.v.). Considered the most predictive of telic dominance of the three factors.

Semantic prime (primitive) (L) Refers to a basic irreducible concept that can be found in all world languages.

Semelfactive (L) An action character that has no duration and no telicity. In projects only seen in the context of iterative action (qv.)

Stative (L) A period of time without action bounded and defined by action. An action character that is non-dynamic and durative.

TAS (P) Time Attitude Scale (Nuttin, 1985)

TDS (P) Telic Dominance Scale (Murgatroyd et al., 1988)

Temporal clarity (P) A component of future time perspective (qv.) which reflects how clear an individual's mental representation of future events, actions, objects, situations, etc. is.

Temporal coherence (P) A component of future time perspective (qv.) which reflects how future goals or mental representations of action are linked to present action (=futuring, qv.) and vice versa.

Temporal density (P) A component of future time perspective (qv.) which reflects how many motivational objects (projects, etc.) an individual generates for any given future time period.

Temporal extension (P) A component of future time perspective (qv.) which reflects how far into the future an individual envisages his/her actions (desires, wishes)

occurring. Also known as temporal horizon.

Temporal integration (P) A term used with two different connotations. In its broadest sense, the extent to which an individual is able to integrate mental representations of the future with past experience to undertake current appropriate action. In clinical work, tends to be used to refer to the extent to which an individual (often schizophrenic) is able to follow sequences and relate the three time zones (as opposed to temporal disintegration).

Temporal (or time) orientation (P) The extent to which an individual prefers (thinks about more frequently) one of the three time zones: present, past or future.

Telic (L) With reference to action character, indicates a goal or clearly defined end-state that must be reached for the action to be deemed successful.

Appendix D

Coding Keys for Action Character relevant to PAC classification (from Smith, 1997)

Stative: *Distinguished primarily by the fact that the verbal phrase IS NOT dynamic*

CANNOT take: adverbs of manner: Eg. carefully, attentively
usually (with projects) uses the verb “to be” but also sit, stand, live etc.

Typical examples: Be a good person
 Be more self-confident
 Be kinder to my sister

Activity: *Distinguished primarily by the characteristic that once the activity has started, it will be logically true thereafter to say it has taken place.* For instance: play hockey. Once the individual has begun to play hockey, he may claim truthfully that he played hockey no matter when the action stops (compare: play a game of tennis: in which it will only be true that the individual played A GAME of tennis if he/she continues with it through to the end.)

: *CAN* take adverbs of simple duration: For x amount of time
 CANNOT take forms of completion: It took an hour to x (eg. It took an hour to play a game of hockey ... OK, but ?it took an hour to play hockey (out of context this is strange)

Often with projects (but certainly not always) is used with repeated/habitual action:

Typical examples: Exercise daily
 Eat healthy etc.
 Run 20 miles a day
 Study for exams

Accomplishments: This is the type of action characterized by the example above “play a game of hockey” that is, it has duration but also implies some logical end point, which, if not reached, means the action was unsuccessful or incomplete.

CAN take adverbs of indirect duration, but adverbs of simple duration odd: i.e., for x amount of time, eg. ?I played a game of hockey for an hour.

CAN take inceptives/egressives (start, begin to); forms of completion: ‘it took an hour to...’

Common examples: Write a letter to my Mom
 Plan a trip to Ireland
 Finish reading my novel
 Clean up my room

Achievements: Characterized most of all by the instantaneous nature of the action. There is no duration inherent in the verbal phrase. For instance: "Graduate from Carleton" at one moment the individual will be an undergraduate, at the next a graduate. The focus is on the achievement of a certain point in time. Compare "work towards my degree" (activity); "finish my studies at Carleton" (accomplishment); "be a grad student" (state).

CAN take punctual adverbs, but *not* simple duratives such as "for an hour, slowly"
CANNOT take terminatives: (finish).... Eg., ?finish graduating from Carleton

Typical examples: find a job (compare look for a job... activity)
 start exercising
 quit smoking
 buy that new CD

Habitual: something which is done repeatedly. This can be indicated directly: every week, or sometimes implied, for example: "go to the gym" usually implies not just once (an accomplishment) but on a regular basis.

QM: anything which is done more or less (can be expressed directly: *read more* or lexically: *improve my French*)

Conative: any specific reference to try, attempt (always activity, sometimes habitual)

Ingressive/Egressive (or Inchoative/terminal)

1. Inchoative: start, begin, initiate (usually achievement)
2. Terminal: finish, complete, terminate, stop (usually accomplishment)

Avoidance: any action which is phrased to express a state, even or thing that is NOT desired,
eg., quit smoking (smoking is NOT desired)
Try not to be so angry all the time (being angry is not desired)

Maintenance: any action which involves effort to maintain a current state or activity: often expressed with keep, continue, maintain, etc.

Appendix E

Inter-rater reliability for action character coding

Inter-rater reliability was established based on the coding of a random sample of projects (244) by a second coder, who was given a brief (10 minute) overview of the nature of the coding system. A native English speaker, the coder was not linguistically trained, however. Both coders were blind to the project ratings while coding.

Action character

Despite the only cursory overview of action character distinctions, initial inter-rater reliability in coding was 85.7%. Discrepancies in coding were examined and fell into three major categories:

a) generic vs. specific readings: the second rater frequently coded projects that referred to generic or multiple action according to the action character associated with a specific or single action. For example, “get more reading done” was coded as accomplishment rather than activity. “Get 49.100 reading done” would indeed be an accomplishment, but “reading” is generic in the example and hence no clear end-point is specified. Another example, “get better marks” was coded as achievement rather than activity. “Get a better mark in 49.100” would be an achievement but marks in the project is plural and therefore generic. Six miscodings were resolved with this clarification.

b) gradual change of state verbs: certain common verbs used in project description involve a gradual change of state, for instance: decrease, lose, increase, improve, develop. The two coders disagreed on whether such gradual change of state was an activity or an accomplishment. One of the linguistic criteria (Appendix D) used in clarifying activity vs. accomplishment action character is the use of the phrase: “it took x amount of time to _____”, which is acceptable with accomplishment verbs but odd with activity verbs (Smith, 1997). Applying this criterion to a few of the contentious projects, we get:

It took four weeks to lose weight
It took three months to improve my grades
It took one week to decrease my anxiety levels.

While it is true that these phrases would be more acceptable if they involved a more specific outcome (making them clearly accomplishment), they are not clearly wrong. A final decision was made based on Dowty’s (1967) distinction between activity and event (accomplishment/ achievement) verbs. He noted that for activity verbs, once activity x has begun, at any point it may stop and will be true that activity x occurred; such is not the case for accomplishment verbs. If I began to paint, then it is true that I painted (activity), whereas if I began to paint my house, it is not necessarily true that I painted my house (accomplishment). Using this criterion, the projects in question are clearly activity projects: I began to lose weight, therefore it is true I lost weight; I began to improve my grades, therefore they did improve. Although these gains may not be lasting, they are still factually true. In one instance “improve my vertical [throw] to 30 degrees” the

specification of an endpoint made the verbal phrase a clear accomplishment vs. activity. Eleven miscodings were resolved with this clarification.

c) catching up and paying off: the author had incorrectly coded these verbal phrases as achievement, focusing on the final telic nature of the action to the exclusion of the accompanying duration. Since it is perfectly acceptable (indeed enjoyable) to say “I finished paying off my credit card” and terminatives are not acceptable with achievements, these are clearly accomplishment in action character. Four miscodings were resolved with this clarification.

With these clarifications, interrater reliability increased to 94.3%. Most of the outstanding discrepancies resulted from different interpretations as to whether the verb implied duration or not, the key distinguishing feature between accomplishment and achievement verbs. Use of the linguistic cues to both clarified these differences (eg. “become a Big Sister” implies a certain amount of time, i.e. going through the process etc.; however “I finished becoming a Big Sister” is clearly odd, so the verbal phrase itself is semantically an achievement.) A small number of cases involved slight differences of interpretation, for instance “have kids” was coded by one rater as an accomplishment and by the second as a state: the difference between the process of birthing and coming into a state of parenthood vs. the latter alone. In general, such cases were so few that the original coding was left. Given the size of the data file the differences were deemed unlikely to influence the outcome.

Overall, the largely parallel ratings show that with a minimal amount of explanation regarding the parameters of the classification and with rigorous application of the cue phrases, very high levels of agreement in action character coding are easily achievable. Unlike project category coding, which is much more subjective, the semantic base of this categorization leaves little to interpretation.

Habitual vs. non habitual

This was perhaps the most subjective of the categories coded, since project phrasing is often short enough to provide insufficient explicit context to identify whether an action is meant to occur once or often. Nonetheless, inter-rater reliability for this category was still a satisfactory 90.2%, probably because of the clear macro-context of the projects coded, that is, university life. Both the coders were aware that all individuals included in the dataset were college students and hence projects such as “go to the gym” or “eat dinner” which could refer either to a single act or a habitual act were much more likely to be habitual. Some projects which were coded as habitual by the second coder, for example, “plant trees” were clearly not meant to be habitual when the original project elicitation was examined. In this instance “plant trees” has been preceded by the project “research which trees are suitable for my back yard”. Other discrepancies were not resolvable: visit my friends (a set once or several frequently?) and the original coding was left as at least plausible.

Conative, Avoidance, Maintenance Projects.

Inter-rater reliability for these categories ranged from 95 to 100 percent,

suggesting that they are largely a matter of perfunctory coding not interpretation. Discrepancies were the result of a small number of oversights on the part of one or the other of the coders.

Quantity Modifying (QM) Action

Initial interrater reliability on this category was 93.4%. Discrepancies resulted from two oversights (one by each rater) and differing coding parameters. The first rater did not code avoidance projects as “less” projects, considering the distinction to be all or nothing and noting that avoidance projects were separately coded. Also, increases or decreases in action inherent in the verb were not coded as such by the second rater, who focused on separate adverbial markers (more or less). For the purposes of this study, avoidance projects were categorized separately from QM projects and semantic indications of more or less (eg. Increase, improve, gain or lose, decrease) were coded as QM. With these clarifications made, inter-rater reliability jumped to 100%.

Inceptive/Ingressive and Egressive/Terminal Action

Interrater reliability was near perfect for these categories (98%) since categorization depended on clearly marked auxiliary verbs (start, finish). Errors were oversights with regard to implied beginnings, such as “take up rollerblading” etc.

Appendix F

Contents:

- F1: Project Appraisal Dimension definitions for ratings used in:
Chambers, Hotson, Mears & Little (1998)**
- F2: Project Appraisal Dimension definitions for ratings used in:
Goodine, Makinen & Little (1995)**
- F1: Project Appraisal Dimension definitions for ratings used in:
Chambers & Little (1998)**

Rating Dimensions for Active Personal Projects

Using the projects you have transcribed to the Personal Projects Rating Matrix, complete the matrix by rating each project from 0 to 10 on each of the 17 dimensions that are described below. Please read the descriptions carefully before proceeding.

1. **Importance:** How important each active project is to you at the present time. Use 10 if the project is very important to you and use 0 if it is not at all important to you.
2. **Enjoyment:** How you enjoy working on each active project. Use 10 if you enjoy it a great deal and 0 if you do not enjoy it at all.
3. **Difficulty:** How difficult you find it to carry out each active project. Use 10 for a project that you find very difficult to carry out and 0 for one that you do not find difficult at all.
4. **Visibility:** How visible each active project is to the relevant people who are close to you, that is, how aware are they that you are engaged in this project. Use 10 for a project that is very visible to those around you and 0 for a project which is not at all visible to those around you.
5. **Control:** How much do you feel in control of each active project. Use 10 for a project over which you feel in complete control and 0 for a project over which you feel you have no control at all.
6. **Initiation:** How much do you feel responsible for having initiated each active project. Use 10 if you feel fully responsible for having initiated a project and 0 if you have taken no part whatsoever in initiating a project.
7. **Stress:** How stressful is it for you to carry out each active project. Use 10 if a project is very stressful to carry out and 0 if a project is very relaxing to carry out.
8. **Time Adequacy:** How much you feel that the amount of time you spend working on each active project is adequate. Use 10 if you feel that the amount of time spent on a project is perfectly adequate and 0 if you feel, for one reason or another, that the amount of time you spend working on a project is not at all adequate.
9. **Outcome:** What you anticipate the outcome of each active project to be. Use 10 if you think that a project will be extremely successful and 0 if you think that a project will turn out to be a total failure.
10. **Self-identity:** To what extent an active project is distinctly you; your personal "trademark" as opposed to quite alien to you. Use 10 if a project is a distinctive trademark and 0 if a project is decidedly alien.

11. Other's View: How important each active project is seen to be by relevant people who are close to you. Use 10 if a project is seen by others as very important and 0 if it is seen as not important at all.
12. Value Congruency: To what extent is each active project consistent with the values which guide your life. Use 10 if a project is totally consistent with your values and 0 if a project is totally at odds with them.
13. Progress: How successful have you been in an active project so far. Use 10 to indicate that you have been very successful and 0 to indicate that you have had no success at all.
14. Challenge: To what extent each active project is demanding and challenging to you. Use 10 if a project is most challenging and 0 if it is not challenging at all.
15. Absorption: To what extent you become engrossed or deeply involved in a project. Use 10 if you generally get absorbed in an activity and 0 if you tend to be uninvolved when doing it.
16. Support: To what extent do you feel each active project is hindered by other people? Hindrance may come in different forms, e.g. emotional (discouraging remarks, active or passive disapproval), financial (withdrawal of money, material possessions), or practical (active attempts to block the project). Use 10 if you feel other people hinder the project a lot and 0 if there is no hindrance at all.
17. Good Feelings: To what extent do you 'feel good' (happy, joyful, pleased, experience fun) when you are engaged in the active project. Use 10 if you have lots of good feelings when you are engaged in the project and 0 if good feelings are absent.

18. Stage:

Projects go through several stages, which can be visualized along a time-line, such as:

0.....1.....2.....3.....4.....5.....6.....7..... 8.....9.....10

Think of each active project as moving through stages on such a time-line. Using the scale that follows, rate each active projects's stage.

0 to 1:	Awareness	The idea for the project has just come to you.
2	Transition	You have the idea for the project and some thoughts on how to approach it. You are deciding whether the project can be actually carried out.
3 to 4	Planning	You have decided to proceed with the project. You are planning it and obtaining whatever personal and material support it may require.
5	Transition	You have the project planned out and you are beginning to (or trying to) actively start the project.
6 to 7	Action	You are actively working on the project and trying to balance it with your other projects, resources, and time commitments.
8	Transition	You are evaluating the project and your motivation to continue with it, or bring it to completion/disengage from it.
9 to 10	Completion	The project is coming to a close or has actually been completed or terminated.

PROJECT DIMENSION DEFINITIONS FOR GOODINE ET AL. (1995)

1. **IMPORTANCE:** How important each project is to you at the present time (use 10 if the project is very important to you and 0 if it is not at all important to you.)
2. **ENJOYMENT:** How much you enjoy working on each project (use 10 if you enjoy it a great deal and 0 if you do not enjoy it at all).
3. **DIFFICULTY:** How difficult you find it to carry out each project (use 10 for a project that you find very difficult to carry out and 0 for one that you do not find difficult at all).
4. **VISIBILITY:** How visible each project is to the relevant people who are close to you, that is, how aware are that you are engaged in this project (use 10 for a project which is very visible to those around you and 0 for a project which is not at all visible to those around you).
5. **CONTROL:** How much you feel you are in control of each project (use 10 for a project over which you feel in complete control and 0 for a project over which you feel you have no control at all).
6. **INITIATION:** How much you feel responsible for having initiated each project (use 10 if you feel fully responsible for having initiated a project and 0 if you feel you have taken no part

whatsoever in initiating a project).

7. STRESS: How stressful it is for you to carry out each project (use 10 if a project is very stressful to carry out and 0 if a project is not at all stressful to carry out).
8. TIME PRESSURE: To what extent do you feel time pressure in working on each project. (use 10 if you feel highly time pressured and 0 if you feel no time pressure at all in doing the project).
9. OUTCOME: What you anticipate the outcome of each project to be (use 10 if you think that a project will be extremely successful and 0 if you think that a project will turn out to be not at all successful).
10. SELF-IDENTITY: All of us have things we do that are typical or truly expressive of us. These things can be thought of as our "trade marks" or our personal "style". For example, some people engage in sports every chance they get, others prefer to read, others prefer to socialize. Think of what your own personal "trade marks" are, and then rate each project on the extent to which it is typical of you (use 10 if a project is very typical of you and 0 if it is not typical of you at all).
11. OTHER'S VIEW: How important each project is seen to be by relevant people who matter to you (use 10 if a project is totally consistent with your values and 0 if it is seen as not important at all).
12. VALUE CONGRUENCY: To what extent is each project consistent with the values which guide your life (use 10 if a project is totally consistent with your values and 0 if a project is totally at odds with them).
13. CHALLENGE: To what extent each project is demanding and challenging to you (use 10 if a project is most challenging and 0 if it is not challenging at all).
14. COMMITMENT: To what extent are you committed to this project (use 10 if you are totally committed, use 0 if you are not at all committed).
15. COMMITMENT 2: To what extent are you committed to the **successful**

completion of this project (use 10 if you are totally committed, use 0 if you are not at all committed).

16. COMPETENCE:

To what extent do you feel competent to carry out this project? (use 10 if you feel completely competent to carry out this project and 0 if you do not feel competent at all to carry it out).

17. SUPPORT:

To what extent do you feel each project is supported by other people. Support may come in different forms -- e.g., emotional, financial or practical. (use 10 if you feel other people support this project a lot and 0 if there is not support at all).

18. SELF-WORTH:

To what extent do you feel that being engaged in each project gives you a sense of self-worth (use 10 if you feel it gives you a high degree of self-worth and 0 if it does not provide you with a sense of self-worth at all).

19. ABSORPTION:

To what extent do you become engrossed or deeply involved in a project (use 10 if you get extremely absorbed in an activity and 0 if you tend not to be involved when doing it).

20. FUN:

Some projects are intrinsically fun, whimsical or delightful. To what extent do you feel that being engaged in this project is fun? (use 10 if a project is a lot of fun and 0 if it is not fun at all).

**21. ECONOMIC
CLIMATE:**

To what extent do you feel that the state of the economy* hinders or negatively affects each project (use 10 if you feel the economy greatly hinders it and 0 if it does not hinder it at all). Please use N/A if you feel that this dimension does not apply to this project.

*Specifically we are referring to such economic concerns such as the deficit and/or the impact of the recessions, which has had a ripple affect on social programs, increasing tuition costs, finding employment, etc. For example, a project like "finishing my B.A." may be hindered greatly if funds are not available to pay tuition fees, or "planning a mid-winter vacation" may have to be postponed because of

the decreasing value of the Canadian dollar.

22. 'HOW' COLUMN:

Please indicate how the present economic climate impacts upon this project. For example, a project like "studying for my exams" may be hindered because of my part-time job. If you feel that the economy does not hinder this project then leave the corresponding space blank.

23. STAGE:

Projects often go through several stages, which can be visualized along a time-line such as,
0.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

Think of each project as moving through stages on such a time-line. Using the scale on this page and the next, rate each project's stage.

0 to 1: Awareness: The idea for the project has just come to you.

2: Transition: You have the idea for the project and some thoughts on how to approach it. You are deciding whether the project can actually be carried out.

3 to 4: Planning: You have decided to do the project. You are planning it and obtaining whatever personal and material support it may need.

5: Transition: You have the project planned out, and you are beginning to (or trying to) actively start the project.

6 to 7: Action: You are actively working on the project and trying to balance it with your other projects, resources and time commitments.

8: Transition: You are evaluating the project and your motivation to continue with it, or bring it to completion.

9 to 10: Completion: The project is coming to a close, or has actually been completed or terminated.

24. FLEXIBILITY:

To what extent are you 'flexible' in your approach to this project? (use 10 if you are extremely flexible and 0 if you

are not flexible at all).

25. COSTS:

To what extent are there costs associated with this project? Costs can come in many forms--time, money, energy, displacement of other projects (use 10 if there are a great deal of costs and 0 if there are no costs at all).

26. REWARDS:

To what extent is this project rewarding? (use 10 if you find it is extremely rewarding and 0 if it is not rewarding at all).

27. ROLES:

All of us have a variety of roles that we play in our daily lives (e.g., wife, father, daughter, boyfriend, student, employee). Any of your projects could be linked to one or several of your roles. Thinking of your own roles, how strongly is each project linked or associated with the roles in your life (use 10 if a project is very strongly linked to the roles in your life, use 0 if there is no association between the project and the roles in your life).

28. PASSION:

To what extent are you passionate about this project? (use 10 if you are extremely passionate about engaging in this project and 0 if you are not at all passionate about this project).

29. AUTOMATICITY:

To what extent do you proceed in an 'automatic' fashion in this project, i.e., you don't give much thought to this project, you just 'do it'? (use 10 if you proceed in an extremely automatic fashion and 0 if you don't proceed in an automatic fashion at all).

**30. POLITICAL
CLIMATE:**

To what extent do you feel that the possibility of Quebec separation hinders (negatively affects) or will hinder each project (use 10 if you feel the possibility of Quebec separation greatly hinders or will hinder it and 0 if it does not hinder it at all). Please use N/A if you feel that this dimension does not apply to this project.

31. OBLIGATION:

To what extent do you feel obligated to be engaged in this project? (use 10 if you feel extremely obligated and 0 if you do not feel obligated at all).

32. **INVESTMENT:** How invested are you in this project? (use 10 if you are extremely invested and 0 if you are not invested at all).
33. **ALTERNATIVES:** To what extent you have alternatives to the present project? (use 10 if you have a great deal of alternatives and 0 if you have no alternatives at all).
34. **FULFILMENT:** To what extent being engaged in this project gives you a sense of fulfilment? (use 10 if the project gives you a great deal of fulfilment and 0 if the project provides no fulfilment at all.)
35. **GUILT:** To what extent would not being able to continue/complete this project make you feel guilty? (use 10 if not being able to continue the project would make you feel extremely guilty and 0 if you would not feel guilty at all).
36. **AMBIVALENCE:** To what extent do you feel ambivalent (undecided, conflicted, wavering) about a project? (use 10 if you feel extremely ambivalent about the project and 0 if you do not feel any ambivalence at all).
37. **FEELINGS:** When we are engaged in our personal projects, there is often a particular feeling or emotion that we experience. For example, doing well on an academic project may give one a sense of pride. Other emotions we may feel when engaged in our projects are excitement, anxiety, affection, cynicism, joy, boredom, hope, anger, absorption, suffocation, confidence, regret, bitterness, and cheerfulness. Please think of each project and see if there is a particular emotion you feel when you are engaged in it. Please write it in the space provided. Also, please give this emotion a rating on a scale of 0 to 10, i.e., if it is anger you feel, 0 would provide a baseline of no anger and 10 would be extreme anger. A score of 5 would indicate moderate anger.

Project Dimension Definitions.

1. Difficulty

How difficult do you find it to carry out each project? (use 10 for a project which is extremely difficult to carry out and 0 for one that is not difficult at all.)

2. Control

How much do you feel you are in control of this project? (Use 10 if you feel completely in control of the project and 0 if you feel you have absolutely no control over the project.)

3. Responsibility

How responsible are you for carrying out this project? (use 0 is you do not feel any responsibility for making progress in this project and 10 if you feel entirely responsible for the project.)

4. Importance

How important is this project to you (Use 10 if you consider it to be very important and 0 if it is not at all important)

5. Autonomy

How much is this project one which you feel you are pursuing autonomously, that is, you are engaged of your own free will in the project, not because anyone else wants you to do it. (Use 10 if you are engaged in this project entirely of your own free will and 0 if this project is one that you feel totally obliged to complete because of or for someone else)

6. Competence

To what extent do you feel competent to carry out this project? (use 10 if you feel completely competent to carry out the project and 0 if you do not feel competent to carry it out).

7. Success To-Date (Progress)

How successful have you been in this project so far? (use 10 to indicate that you have been very successful and 0 to indicate that you have had no success at all.)

8. Anticipated Success (Outcome)

How successful do you believe this project will be? (use 10 if you expect the project to be entirely successful and 0 if you think the project will turn out to be a total failure.)

9. Support

To what extent do you feel each project is supported by other people? Support may come in different forms, e.g. emotional (encouragement, approval), financial (money, material possessions) or practical (active assistance). (use 10 if you feel other people support the project a lot and 0 if there is no support at all).

10. Intrinsic vs. Extrinsic Motivation

To what extent do you feel this project is one that you are engaged in because it is enjoyable, self-actualizing and makes you feel more "you" (as opposed to a project which is primarily for financial or material reward)? (Use 10 if you are motivated to engage in this project totally because you find it personally rewarding and 0 if you are engaged in the project solely for material or financial reward or for praise from others.)

11. Self-Identity

All of us have things we do that we feel are typical or truly expressive of us. These things can be thought of as our "trade marks" . For example, some people engage in sports every chance they get, others prefer to read, others prefer to socialize. Think of what your own personal "trade marks" are, and then rate this project on the extent to which it is typical of you. (Use 10 if a project is very typical of you and 0 if it is not typical at all.)

12. Motive Relevance

To what extent are you engaged in this project to get or maintain something desirable, pleasurable and to what extent are you engaged to avoid something painful or unpleasant? (Use 10 if the project is entirely in order to get or maintain something desirable (approach) or 0 if the project is entirely to avoid something painful or unpleasant (avoidance).)

13. Value Congruency

To what extent is each project consistent with the values that guide your life? (Use 10 if a project is totally consistent with your values and 0 if a project is totally at odds with them)

14. Commitment

To what extent are you committed to this project (unwilling to give it up)? (Use 10 if you are totally committed to this project or 0 if you are not committed at all)

15. Other's View

How important is this project to others who are close to you (family, boy/girlfriend, friends)? (Use 10 if it is very important to them and 0 if it is not at all important to them.)

16. Stage

Projects often go through several stages, which can be visualized along a time-line, such as:

0.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

Think of each project as moving through stages on such a time-line. Using the scale on this page, rate each project's stage:

0 to 1:	Awareness	The idea for the project has just come to you.
2:	Transition	You have the idea for the project and some thoughts on how to approach it. You are deciding whether the project can actually be carried out.
3 to 4:	Planning	You have decided to proceed with the project. You are planning it and obtaining whatever personal and material support it may require.
5:	Transition	You have the project planned out and you are beginning to (or trying to) actively start the project.
6 to 7	Action	You are actively working on the project and trying to balance it with your other projects, resources and time commitments.
8:	Transition	You are evaluating the project and your motivation to continue with it, or bring it to completion/disengage from it.
9 to 10	Completion	The project is coming to a close or has actually been completed or terminated.

17-28 Feelings

Rate from 0 to 10 the extent to which you feel each emotion while engaged or thinking about each project. (Use 10 if you experience the emotion very strongly and 0 if you don't feel it at all.)

29. Other General Feeling

Is there any emotion that you experience frequently that was not mentioned in 17 - 28? If so, write it in and then rate each project from 0 - 10 on that emotion.

30. Valence

When you are engaged in your project or thinking about it, do you feel more positive or more negative? (Use 10 if you feel very positive and 0 if you feel very negative. 5 would indicate ambivalence)

Other Specific Feeling

In this column you have the opportunity to write in any specific emotion that you feel characterizes your project, but may not have been mentioned. In column 29 we are looking for one emotion you feel applies to many of your projects; in this column you may list a different emotion for each project. There are no ratings, just the emotion label.

Some other feeling words:

affectionate, aggressive, annoyed, anxious, apologetic, ashamed, bitter, blissful, bored, cautious, challenged, cheerful, confident, confused, determined, disgusted, ecstatic, enraged, exasperated, enraptured, enthusiastic, excited, exhausted, exuberant, frustrated, fun-filled, grief-stricken, horrified, hurt, indifferent, innocent, jealous, love-struck, lustful, meditative, miserable, numb, obstinate, optimistic, paranoid, playful, pleased, puzzled, regretful, relieved, resentful, satisfied, serene, shocked, smug, surly, surprised, suspicious, sympathetic, terrified, thrilled, undecided, vigilant, withdrawn, wild

or any others you prefer...

Appendix G

Frequency Distributions: Action Character Phrasing Tendencies

Achievement Action Character Tendency:

Telic (Accomplishment + Achievement) Action Character Tendency:

Habitual Action Character Tendency:

“Doing More” Action Character Tendency:

Appendix H

TAS Factor Structure

	Item ↓	Past						Present					Future			
		1	2	3	4	5	6	1	2	3	4	5	1	2	3	4
Academic/Occupational	Factor--															
	pleasant	.75						.82					.75			
	full	.74						.80					.66			
	attractive	.58						.50					.76			
	success	.66						.68					.67			
	exciting	.65						.61					.74			
	fast	.46										.60				
	easy						.80				.74		.49			
	far away				-.74							-.62				-.45
	important	.68						.64					.48	.55		
	satisfied/ hopeful	.66						.63						.64		
Intrapersonal (Self/Personal Growth)	pleasant		.76						.77					.47		
	attractive		.78						.70					.42		
	full		.62						.66							.43
	success		.70						.71							
	exciting		.65						.55					.66		
	fast						.70					.71		.40		
	easy					.70					.67					.66
	far away				-.71							-.70				-.79
	important		.43						.50					.75		
	satisfied/ hopeful		.55						.67					.80		

	Item I	Past						Present					Future			
		1	2	3	4	5	6	1	2	3	4	5	1	2	3	4
Interpersonal (Social)	Factor-															
	pleasant			.80						.76					.60	
	full			.75						.72					.65	
	attractive			.76						.60	.50		.46		.52	
	success			.79						.67				.60		
	exciting			.63						.76			.43		.47	
	fast					.78				.55		.47			.79	
	easy			.72							.63					.54
	far away															
	important			.58						.67				.67		
	satisfied/ hopeful			.79						.73				.80		

Appendix J

Correlations Among Temporal Orientation Measures

		SRTO	MGTO	RTLTO	EITO	Circles
Younger Sample	MGTO	.27**				
	RTLTO	0.15	-0.06			
	EITO	0.09	.26**	0.04		
	Circles	-0.03	0.16	0.19	0.20	
	PPATO	-0.02	0.04	0.00	-0.05	0.00
Older Sample	MGTO	-0.05				
	RTLTO	0.08	-0.18			
	EITO	-0.01	0.12	.44***		
	Circles	0.14	0.07	0.15	0.09	
	PPATO	-0.11	-.24*	0.18	.32**	0.02

SRTO = Self Report Temporal Orientation; MGTO = Money Game Time Orientation; RTLTO = Rapaport Time Line Temporal Orientation; EITO = Experiential Inventory Temporal Orientation; PPATO = Personal Projects Analysis Temporal Orientation.

These data show that despite every effort to elicit a single robust measure of temporal orientation, it would appear that the construct is multifaceted and past operationalizations do not seem to have been tapping the same variability.