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California Psychological Inventory Vector Scales and
Personal Project Appraisals: Further Explorations of the
"Havings" and "Doings" of Personality

Anne C. Hargrave

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

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May 2001

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submitted by

Anne Hargrave

in Partial fulfillment of the requirements for
the degree of Master of Arts

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Abstract

Two aspects of contemporary personality research were explored; that of fixed features/traits, as measured by Gough's California Psychological Inventory vector scales (vector 1 - introversion; vector 2 - rule-favouring; vector 3 - self-realisation) and that of personal action constructs as measured by Personal Projects Analysis (Little, 1983). Conceptually, the impact of stable dispositions (e.g. rule-favouring) on everyday, proximal, goal pursuit was examined. One hundred and fifty-eight university students completed both Personal Projects Analysis and the California Psychological Inventory. McQuitty's Elementary Linkage analysis of the standard personal project dimensions produced a five-cluster, theoretically coherent structure for sample 1, defining Stress, Efficacy, Structure, Community, and Meaning. In sample 2, the linkage analysis revealed a four-cluster structure, appearing to define Conventional Autonomy, Stress, Efficacy, and Community. The linkage analysis on the dimensions common to both samples resulted in a five-cluster, theoretically coherent structure defining Stress, Structure, Meaning, Community, and Efficacy.

Results indicate that Personal Projects Analysis methodology can effectively be used to link with the stable trait measures assessed by the California Psychological Inventory vector scales. Results of bivariate correlations, adjusted for the number of tests performed (Bonferroni adjusted alpha, .05/# of tests), indicate that rule-favouring is clearly related to positive

project systems; project systems high in Meaning and Efficacy, and low in Stress. The dimensions developed to tap into the California Psychological Inventory were found to provide significant relationships with both the vector scales and the standard personal project dimensions. Specifically, the extent to which people persevere in the pursuit of their projects was significantly related to high scores on rule-favouring. And the extent to which people feel confident and self-sufficient in the pursuit of their projects was significantly related to high scores on self-realisation. Furthermore, the California Psychological Inventory dimensions of perseverance, confidence, and self-sufficiency had strong positive linkages with Personal Project Analysis Meaning, Efficacy, and low Stress dimensions.

Results of exploratory analyses into gender differences reveal that scores on the rule-favouring vector are significantly correlated with Meaning and Efficacy in project pursuit for females but not for males. Significant negative correlations between the self-realisation vector and Stress were found for males but not for females. Regression analyses of the personal project clusters of Meaning and Efficacy on the vector scales revealed that the rule-favouring vector is the strongest predictor of the meaning and efficacy of participants' project pursuits. Findings of this research are discussed with a view to both implications and future research into the 'havings' and 'doings' of human personality.

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Recent conceptual analyses of the field of personality psychology has suggested that human adaptation can be effectively studied and measured through two different units of analysis: those that deal with relatively fixed features such as stable traits or "folk concepts", and those that are concerned with more dynamic, contextually embedded action, such as people's ongoing personal projects. Cantor (1990), invoking Allport (1937), has referred to these as the 'havings' and 'doings' of personality. This research is an exploratory examination of the interrelationships between the California Psychological Inventory's (CPI) vector scales ("having units") and an individual's personal projects ("doing units").

The Social Ecology Laboratory has been studying and measuring human personality and motivation from a Social Ecological Framework (Little, 1999a, see Appendix A for The Social Ecological Framework model). The social ecological perspective states that human well-being is influenced by five blocks of factors in an ever changing person-environment interaction. In the present research, we will be looking at two of these blocks.

In this perspective, human well-being is influenced by stable personal features, such as the CPI folk concept and vector scales (havings), and this has been evidenced through research linking extraversion and neuroticism to positive and negative affect respectively (Emmons & Diener, 1986; see Myers & Diener, 1995 for summary).

From the social ecological perspective human well-being is also seen as influenced by stable contextual features of the environment. For example, the constant environmental stress of the threat of a nearby volcano erupting and its negative impact on quality of life (see Evans, 1982).

These two blocks are seen to have direct impact on various subjective well-being outcome measures such as positive affect and quality of life. They are also seen to influence what Little (1999a) calls "carrier units for person-environment interactions", the personal project (doings) in which individuals are engaged.

The personal project and individuals' ratings on their projects are another area seen to impact on a person's reported subjective well-being, and much research has corroborated this hypothesis (see Little, 1988). However, the interaction between the three does not account for all human behaviour, leaving out explanations of some its subtleties. The model, left as is, would not explain why Wallace, a highly introverted individual, is out disco bowling with 30 children and as many adults on a Friday night.

The lack of an adequate explanation from the trait perspective leads to the addition of another block in our social ecological perspective, the free trait (Little, 1996). Free traits are "culturally scripted patterns of conduct that are carried out as part of a person's goals, projects and commitments, independently of that person's 'natural' inclinations" (Little, 1999a). Eysenck (1987) would suggest that because of increased neo-cortical arousal,

Wallace's biological inclination is to reduce his level of arousal. However, the look of joy on his daughter's face at father and daughter disco bowling night is enabling him to act 'pseudo-extravertedly'. By doing so, Wallace is behaving in a manner that contradicts his true nature and call to be at home sharing a good book with his daughter.

The final block of the social ecological perspective is that of personal contexts, "the idiosyncratically construed objects, situations, settings and circumstances of our daily lives" (Little, 1996, 1999a). Little (1996) introduced idio-tapes as a way in which the study of personal contexts can be measured with the intent of personalising contextual assessment. This aids in gaining information about the idiosyncratic contextual environment, which participants feel is important to understanding their lives and who they are (for example, a drawer containing special notes and drawings from a son); an understanding that may be difficult to obtain with other methodologies.

The present research was carried out within the social ecological framework. We investigated the areas of stable personal features and personal projects, and their interrelationships.

California Psychological Inventory: Early and Contemporary Research

Gough first developed the California Psychological Inventory in 1948. In 1951, he copyrighted the first 15 scales. It was not until 1957, however that the first 18 scales were published. In 1987 the CPI was again revised, at

which time two new scales were added for a total of 20. Three of these 20 scales are validity scales with the purpose of assessing respondents' test-taking attitudes (Well-being, Good impression, and Communality).

The majority of the original scales were developed using an external criterion method. In this method items are selected based on administering test items to two different groups of people chosen for how they score on a particular characteristic under study. Items are then winnowed down according to the extent to which they differentiate the two groups. A number of other scales were developed using an internal consistency analysis, or the rational approach. In this approach, Gough selected a number of items he felt to be intuitively consistent with the characteristic under measurement. He administered these items to groups of individuals, computed correlations between all items in the test pool, and selected the items with the strongest item-total correlations to make up the scale (Megargee, 1972). Interestingly, Burisch (1965) has shown how these different strategies of scale construction show equal validity in predicting criterion measures and are essentially indistinguishable in terms of other psychometric criteria.

The 1957 version of the CPI had 480 items; 178 were identical to items from the Minnesota Multiphasic Personality Inventory (MMPI), 35 were similar, with the rest of the items developed specifically for the CPI. The 1987 version of the CPI had 462 items, and the 1996 version has 434 items. Of the items on form 434, 171 were taken from the MMPI and 158 of those appear

on the MMPI-2 (Gough & Bradley, 1996). The items dropped were discarded for one of a number of reasons. For example, "I like tall women" was found to be objectionable, while "I never drink to excess" may potentially violate a respondent's right of privacy.

Although now in its third edition, the CPI still has as its primary purpose the furnishing of "information to the interpreter from which a veridical (true to life) and useful picture may be drawn of the person taking the test" (Gough & Bradley, 1996). The construction of the CPI was completed with the intent of measuring enduring personality characteristics that are relevant throughout different cultures and span the globe. It uses familiar terms, 'folk concepts', such as sociability, self-control, and flexibility. Using these familiar terms provides easily understandable constructs that provide validity in the working sense, as they are clearly understood by a wide group of people. It is noteworthy to mention that the CPI is not based on a specific personality theory. The inventory is meant to be useful in the practical sense and the goal is behavioural prediction including such socially important outcome measures as risk for sexual aggression among college males (Kosson, Kelly, & White, 1997), delinquent behaviours (Gough & Bradley, 1992), recidivism (see Gough, 1994), alcohol consumption (Cook, Young, Taylor, & Bedford, 1998), ego integrity in older persons (Hannah, Domino, Figueredo, & Hendrickson, 1996) and personnel selection (Hoffman & Davis, 1995).

According to Gough (1965), the development of an assessment tool must meet the requirements of the conceptual analysis methodology. Conceptual analysis includes three levels of evaluation: the primary, the secondary and the tertiary. The task at the primary evaluation level is to simply determine what criteria are relevant to the construction of the test, and its validity. The purpose of the secondary evaluation level is to elucidate what is measured and to provide the meaning of the measurement. The purpose of the tertiary evaluation level is more subtle and complex than those of the primary and secondary level. Essentially it refers to the intrinsic significance of the measure, partially inferred from the pattern of secondary analyses, but also in terms of unexpected and valuable insights afforded by studies utilising the dimension (Gough, 1965).

Although the CPI is meant to measure stable dispositions, there is a distinction to be made between traits and folk concepts (Megargee, 1972). The intent with CPI scores is to be able to predict how individuals will act and react and how they will be regarded by others, and as Gough would continue to contend, they do not, and need not meet some of the more stringent requirements of trait measures. For instance, traits are theory driven and are selected based on empirically observed behaviours. Folk concepts, on the other hand, are selected for their importance in everyday experiences and any behaviour-based interactions situated in the contextually embedded environment.

The present research has as its focus the relationships between the three vector scales, first developed in the 1987 version of the CPI, and personal projects. Vector 1's orientation is people, the interpersonal vector. Vector 2's orientation is toward societal values and norms, the intrapersonal vector. Vector 3's orientation is toward the self, the self-realisation vector (Gough & Bradley, 1996). Research conducted within the Social Ecology Laboratory tends to use the terms intrapersonal and self-focused somewhat interchangeably. Gough's use of intrapersonal with respect to vector 2 is one intended to reflect an individual's personal orientation towards societal norms and not towards themselves.

Vector 1 is a measure of the continuum from externality to internality, measuring participative inclinations and involvement at one end and detachment and privacy needs at the other. It was developed through item analyses against a criterion of the dimension of Self-Control (Sc), Good Impression (Gi), and Femininity/Masculinity (F/M) added and Dominance (Do), Sociability (Sy), Social Presence (Sp), and Self-Acceptance (Sa) subtracted.¹ The result is a 34-item vector scale with good inter-items coherence and relatively uncorrelated with the other vector scales (Gough & Bradley, 1996).

The vector 1 scale was found to significantly correlate with the MMPI Si (Social Introversion), the MBTI E-I (Introversion), negatively with Maudsley Personality Inventory (Extraversion), negatively with the Guilford-Zimmerman

Temperament Survey (Sociability), and negatively with the Omnibus Personality Inventory (Social Extraversion) among others. This provides convergent validity for the vector 1 scale and indicates that this vector is positively correlated with measures assessing introversion and negatively with measures assessing extraversion. Adjectives associated with high scores on the vector 1 scale are shy and reserved, whereas adjectives associated with low scores are aggressive, assertive, and spontaneous (Gough & Bradley, 1996).

Zebb and Meyers (1993) provide further support in a study of reliability and validity of the vector 1 scale. They found an alpha coefficient of .82, with a test-retest reliability over a five week period of .88. Furthermore, Zebb and Meyers (1993) found that the Eysenck Personality Inventory, Form A, a measure used to evaluate extraversion, was significantly correlated with vector 1 ($r = -.57$, $p < .001$), providing support that vector 1 is a valid measure of extraversion.

Vector 2 measures a continuum from rule-questioning to rule-favouring, assessing the degree to which a person is willing to accept societal norms. Item analyses established the sum of Socialisation (So) and Communalness (Cm) with Flexibility (Fx) subtracted.¹ The result is a 36 item scale with low correlations with vectors 1 and 3 (Gough & Bradley, 1996).

Vector 2 was found to correlate significantly with a number of measures assessing similar constructs. For example, vector 2 is positively

correlated with the Personality Research Form's measure of Order, negatively with Barron's scale for Independence of Judgement (a scale used in the assessment of creativity), and negatively with the Omnibus Personality Inventory's measures of Impulse Expression. Adjectives associated with high scores on this vector are terms such as conventional, rule-respecting and conservative, whereas adjective associated with low scores are unconventional and impulsive (Gough & Bradley, 1996).

The vector 3 scale measures the continuum of self-realisation or psychological competence, that is the extent to which the respondents feel she or he has actualised her or his potential. Vector 3 was developed by adding Well-Being (Wb), Tolerance (To), and Intellectual Efficiency (Ie), and was then correlated with the inventory items.¹ Again, items were chosen so that the vector 3 scale was minimally correlated with either vector 1 or 2 (Gough & Bradley, 1996).

Vector 3 was comprised of 58 items. Respondents with low levels on this vector see themselves as frustrated and far from reaching what they perceive to be satisfactory status in life. Respondents who score high on this vector see themselves as 'reasonably' self-actualised and are pleased with the extent to which they make good use of their abilities. This is not meant to infer that those individuals who score high on this vector are fully satisfied with their lives, but that they are able to adapt well to the stresses of everyday

life and that their ego defences are relatively free from conflict (Gough & Bradley, 1996).

Vector 3 was found to positively correlate with the Guilford-Zimmerman Emotional Stability scale, the Omnibus Personality Inventory scales for Personal Integration, Low Anxiety Level and Altruism, and negatively with the NEO-AC-PI N (Neuroticism) and the Maudsley Personality Inventory Neuroticism. Generally, vector 3 correlates positively with measures of ego-strength and negatively with feelings of inadequacy. Adjectives associated with high scores on vector 3 are tolerant, insightful and clear-thinking; adjectives associated with low scores on the vector are bitter, cold, and confused (Gough & Bradley, 1996)

Weiser and Meyers (1993), in a validation study of the CPI vector 3 scale, found that the CPI self-realisation vector had an alpha coefficient of .85, and that it was significantly correlated with the Inner Directed scale of the Personal Orientation Inventory, which is the most widely used measure of self-actualisation ($r = .47$, $p < .001$). Furthermore, it was found to correlate positively with Coopersmith's (1981) self-esteem inventory ($r = .49$, $p < .001$) and negatively with the Eysenck Personality Inventory, Form A, Neuroticism scale ($r = -.58$, $p < .001$).

McCrae, Costa, and Piedmont (1993) have explored the links between the CPI folk concepts and vector scales and the five-factor model using Gough's (1965) rationale of conceptual analysis. The purpose of their

research was to frame the CPI scales in terms of the five-factor model. In their first study, McCrae, Costa, and Piedmont (1993), using a rational approach, had four judges rate each of the CPI items based on descriptions provided of the five factors Extraversion, Neuroticism, Openness to Experience, Conscientiousness, and Agreeableness. Ratings were then correlated for each factor. The results showed that the strongest correlations across judges were for Extraversion and Conscientiousness, suggesting that they are more easily rated or that the CPI items representing these factors are less ambiguous.

CPI vector scales relate, at a conceptual level, to three of the five big-five factors. The mean rated proportion of CPI item content for vector 1 was significantly negatively related to the Extraversion factor. Vector 2 was significantly positively related to the Conscientiousness factor; and vector 3 was significantly negatively related to the Neuroticism factor. The mean rated proportion of CPI item content did not appear to be related to either Openness to Experience or Agreeableness.

The second study reported by McCrae, Costa, and Piedmont (1993) correlated the five factors with the CPI folk concepts dimensions and the three vector scales. High scores on vector 1 were significantly correlated with low scores on the Extraversion and Openness to Experience factors. Scores on vector 2 were significantly correlated with scores on the

Conscientiousness factor. And high scores on vector 3 were correlated with low scores on the Neuroticism factor.

In sum, the consensus on research that has been conducted on the California Psychological Inventory is that it has good reliability and validity (Groth-Marnat, 1997). For example, Wallbrown and Jones (1992) conclude in their review of the factor structure of the CPI-R folk concept scales, that there is an emergence of a general factor, which provides empirical support for the interpretation of the CPI profiles as a measure of personal adjustment. Although there has been extensive research on the CPI folk concepts scales, research in the area of the CPI vector scales is limited. The present research is designed to address this limitation.

Personal Action Constructs (PAC Units): Personal Projects Analysis

Over the past couple of decades, a number of distinct cognitive-motivational units of analysis have emerged. These cognitive-motivational units are intended to measure what Little (1996) and McAdams (1995) have referred to as middle-level units of personality analysis. In order to conceptualise the different units of contemporary personality research, McAdams (1995) introduced the representation of personality as floors in a house. The 'first floor' is where the highly stable and normative approach to personality assessment resides, the trait approach. The 'second floor' level of analysis, assesses what it is people are doing in their lives. The 'third floor'

residents situate the study of personality at the level of a life story, the idiographic narrative life story (Sarbin, 1986).

PAC units of analysis have emerged as a way in which personality can be measured by assessing what people are intentionally doing in their lives, and how they appraise what they do, i.e. goal-directed human behaviour. Examples of such units are personal strivings (Emmons, 1986), current concerns (Klinger, 1977), life tasks (Cantor, 1990), and personal projects (Little, 1983). Little (1987b, 1999b) describes this shift from focussing on the "having" side of personality research to the "doing" side of personality. In brief, personal projects are part of a "conative evolution". Little (1987b, 1999b) explains that conative processes incorporate the cognitive thought processes, the affective feeling components, the behavioural actions of individuals, and the environments in which these all take place.

The methodology the present research selected to measure these middle level units of analysis is Little's (1983) Personal Projects Analysis (hereafter PPA). According to Little (1983), a personal project is "a set of interrelated acts extending over time, which is intended to maintain or attain a state of affairs foreseen by the individual". PPA has a number of interrelated assessment modules that fit specific propaedeutic measurement criteria. For example, does the methodology allow both idiographic and normative level assessment? Are the units of measurement restricted to a specific time or can it extend over time? Two of these modules are relevant to the present

research and are described in more detail below (see Little, 1989 for description of additional modules; and Little, 1987a for a more detailed analysis of propaedeutic criteria).

When respondents complete the PPA, the first step is the elicitation phase in which they are asked to list their projects, as many as they can in ten minutes. A list of projects of varying degrees of molarity, temporal duration, involvement of others, and differing content areas are provided as examples (e.g. "Trying to clarify my religious beliefs", "Losing 10 pounds"). These projects are not necessarily being acted upon and may in fact be ones that reside in the awareness stage (see Little 1983 for a description of the stages of project development). These projects are meant to characterise the respondent's life at the time of completing the PPA. Previous research in the Social Ecology Lab indicates that this phase elicits, on average, fifteen projects. The projects elicited may range from the highly molecular act of 'get my first cup of coffee in the morning' to molar level goals of 'doing my part to help society evolve into a better place to live'.

The next phase of PPA is the core module. Once the elicitation of projects is complete, respondents carry forth 10 of their projects to the Personal Projects Matrix where they rate each project on a number of dimensions. The projects are listed down the left hand side of the page, the dimensions used are listed across the top, and respondents rate their projects on an 11 point scale from 0 to 10 on each dimension (see Appendix B for a

list of standard dimensions used in sample 1). For example, respondents are asked to indicate how visible each project is to relevant people in their lives (visibility) or how much control they feel they have over each project (control). It is also possible to utilise additional dimensions chosen for their relevance to the research being conducted (see Appendix B for a list of dimensions used in sample 2). Phillips, Little, and Goodine (1993) added the ad hoc dimensions of 'Supportiveness of culture' and 'Hindrance of culture' to assess the extent to which the organisation supports or impedes the projects for women managers employed in the Public Service. It is possible to add specific projects as well. For instance, in research on patients with eating disorders, Goodine and Little (1986) supplied participants with the project of 'controlling my weight'.

Based upon factor analyses of the 17 standard dimensions, a five-factor solution frequently emerges in PPA research. For example, the dimensions of enjoyment and importance are under the Meaning factor, and stress and difficulty under the Stress factor (Little, 1987, 1988, 1989) (see Appendix C for a complete list). It is assumed that to obtain a high degree of well-being, individuals must achieve a sense of Meaning, Structure, and Community in their lives, and pursue their personal goals with a sense of Efficacy and low Stress (Little, 1987a, 1987b).²

The propaedeutic criterion of modularity is a central feature of this present research. Modular flexibility in PAC units refers to the ability of

researchers to "create new, ecologically representative appraisal dimensions" (Little, 1999b) designed expressly to tap into research interests within specific environmental settings. As mentioned above, a specific project or a relevant dimension can be added to further enhance the richness of the data. New PPA dimensions were created for use with the second sample in the present research (e.g. conventional) to focus the research more clearly on possible relationships with the CPI.

A second propaedeutic measurement criterion (Little, 1989, 1999b) is that of Personal Saliency; "Is the language used that of the respondent or that of the researcher? The ratings on appraisal dimensions summed across each of the 10 selected projects can be treated in a similar fashion as in more "objective" inventories like the CPI. However, the information obtained provides for a richer understanding of individuals, as it is information that is self-generated and therefore personally salient. The more conventional methodologies provide respondents with the words in the form of questions, whereas PPA allows respondents to select their own word choice when generating their projects.

As Little (1983) and Krahé (1992) have stated, PAC unit methodologies have been designed with the intent of measuring appraisals of both individual and normative level data. That being said, PPA is a methodology that satisfies the propaedeutic criterion of joint individual and normative level measurement. Both these indices can be analysed from

respondents' ratings on the project dimensions. Idiographic analysis refers to the ability to investigate at the single case level. To accomplish this goal, ratings of dimensions across the 10 projects for each individual are interrelated. At the normative level, project ratings on each dimension are summed to calculate mean project dimension scores. These are treated as vectors; they can then be compared with other respondents' information as well as with demographic information and various outcome measures.

Linking Trait and PAC Units: A Research Framework

Stable characteristics, such as folk concepts and the Big Five (Costa & McCrae, 1985), have been researched for decades. Research on PAC units is somewhat more recent (Cantor, 1990; Emmons, 1986, 1989; Little, 1983, 1989). Much more recently, explorations into the linkages between stable characteristics and indices derived from respondents' ratings on personal project dimensions have emerged; how personality factors influence the content, focus, and subjective appraisals of a person's goals (Emmons, 1989; Little, Lecci, & Watkinson, 1992). Emmons (1989) has provided support for this linkage with the trait of narcissism and chronic goal concerns.

Little, Lecci, and Watkinson (1992) have also explored the linkages between traits and personal projects through research into the effects of stable Big Five attributes on personal project content and project evaluations. They studied 147 university students in a longitudinal study on adaptation to

university. Participants were administered take-home packages including the NEO-PI-R Form S, PPA, a measure of university adaptation, and various other subjective well-being measures.

Results indicate that Big Five traits, as measured by the NEO-PI-R, capture a significant amount of variance in ratings on personal project dimensions and provide a rich avenue for exploring the theoretical links between stable characteristics and PAC units (Little et al., 1992). For example, high scores on Neuroticism are positively correlated with people's tendency to view their projects as problematic. Neuroticism was significantly negatively correlated with ratings on enjoyment, self-identity, progress, and outcome, as well as with perceived lack of control over one's projects. Neuroticism was positively correlated with all of the dimensions subsumed under the Stress factor; stress, difficulty, and challenge (see Appendix C for dimensions under each factor).

With respect to the trait of Extraversion, the highest correlations were with project progress, outcome, and visibility. Extraversion was also moderately correlated with project dimensions under the Meaning factor, with the exception of value congruency. In interpersonal projects, Extraversion was significantly correlated with 12 of the 15 dimensions. However, only two dimensions were correlated between Extraversion and academic projects.

Openness to experience was significantly positively correlated with enjoyment, value congruency, self-identity, control, initiation, and negatively

with difficulty. In contrast to the findings with Extraversion, when projects are divided into academic and interpersonal domains, there appeared to be no domain specificity or generality. Academic projects were found to be significantly correlated with only one dimension of self-identity, and interpersonal projects were significantly correlated with the two dimensions of value congruency and negatively with time adequacy.

Agreeableness was found to correlate positively with project dimensions of importance, value congruency, time adequacy, progress, and outcome. Agreeableness was negatively correlated with stress and difficulty. Domain specific elements become very apparent when projects are separated into two domains. The dimensions under the Efficacy factor are significantly correlated with projects in the interpersonal domain, but correlations are close to zero for the same dimensions in the academic domain. The dimensions under the factor Stress provide the same evidence. All dimensions are significantly negatively correlated with projects in the interpersonal domain, but not in the academic domain.

Conscientiousness was found to correlate significantly with dimensions under Meaning with the exception of value congruency. Conscientiousness was also significantly related to dimensions under Community and Efficacy, as well as the dimension of time adequacy. These relationships do not tend to be domain specific with one exception. Although Conscientiousness was not correlated with the dimensions under the Stress factor, when projects were

separated into academic and interpersonal projects, they were significantly negatively correlated with the dimensions of stress and difficulty.

In summary, projects systems were deemed problematic when respondents were high in Neuroticism, irrespective of interpersonal or academic project domains. On the other hand, projects systems were seen as positive across both domains when respondents were high in Conscientiousness. Extraversion and Agreeableness were related to positive project systems in the interpersonal realm, but not quite as strongly for projects in the academic domain. Openness was the only trait measured that was significantly linked to initiation and value congruency across project domains.

While relations between trait units and PAC units have been explored in our Social Ecology Laboratory (Little et al., 1992), the exploration has characteristically been done with the Big Five traits as measured by the NEO-PI (Costa & McCrae, 1985). This is the first research to explore the linkages between the trait units and PAC units using the CPI vectors and personal projects.

The CPI vector scales have been shown to provide strong links with important life events (e.g. delinquency, recidivism, personnel selection, alcohol consumption, and ego integrity). Furthermore, as the CPI was created with the specific intent of predicting behaviour across cultures, in easily understood language, if a strong pattern of relationships exist between the

CPI vector scales and PPA dimensions, these linkages will be more parsimonious than the Big Five model.

Personal Projects and CPI Vector Scales: A Summary

The present research investigated the linkages between two conceptual units of personality research; stable traits, as measured by the CPI vector scales, and personal action constructs, as measured by the standard personal project methodology. Both of these units represent different levels of analysis, and both are relevant in comprehensively studying human personality (Little, 1987a; Little et al., 1992). The present research follows the hypothesis suggested by Little, Lecci, and Watkinson (1992) that PAC methodologies play an important part in clarifying and expanding the validation of stable traits.

As Little, Lecci, and Watkinson (1992) have elaborated, traits may influence well-being through three links: temperamental, experiential, and instrumental. For example, the trait of Extraversion exerts an instrumental influence on well-being and personal project systems. It influences an individual to seek social contexts and participate in projects that are going to sustain the trait (Little et al., 1992). PAC units, more specifically personal projects, provide a way in which dispositional needs can be conveyed into action (Little, 1989; Omedei & Wearing, 1990). Low scores on vector 1 are expected to be negatively correlated with positive project systems and with

projects that are affect laden (enjoyment, stress). Positive project systems are high in Meaning, Structure, Community, and Efficacy, and low in Stress.

Little, Lecci, and Watkinson (1992) reported that positive project dimensions, such as enjoyment, self-identity, progress, and outcome, were associated with Conscientiousness. The Big Five factor of Conscientiousness has been found to be significantly associated with high scores on vector 2 (Gough & Bradley, 1996; McCrae et al., 1993). As such, we expect to replicate the instrumental linkages found and expect positive correlations between vector 2 and positive project dimensions. More specifically, we expect high scores on vector 2 to be associated with projects systems high in Meaning, Community, and Efficacy. In addition, Gough and Bradley (1996) state that high scores on vector 2 have been found to be significantly positively correlated with measures assessing order, as well as scores in conscientious, conventional, conservative, and characteristics relating to work habits such as efficient, thorough, and attention to detail. Thus, a significant correlation is expected between vector 2 and ratings on the dimension responsible and conventional used with sample 2.

Neuroticism is suggested to provide a temperamental link between stable traits and projects (Little et al., 1992). Neuroticism appears to be firmly established in a generalised negative affectivity (Watson & Clark, 1984). Little, Lecci, and Watkinson (1992) found that neuroticism is inversely related to positive project systems, dimensions underlying project factors of Meaning,

Structure, Community, and Efficacy, and positively associated with project Stress. As neuroticism has been found to be significantly negatively associated with high scores on vector 3 (Gough & Bradley, 1996; McCrae et al., 1993), in the present research, high scores on vector 3 are expected to be significantly associated with positive project systems, i.e. positive correlations with the dimensions underlying the project factors of Meaning, Structure, Community, and Efficacy, and negatively with Stress.

Furthermore, Gough and Bradley (1996) found vector 3 to be significantly associated with high scores on Agreeableness. Little, Lecci, and Watkinson (1992) found that Agreeableness was significantly associated with project Efficacy (progress and outcome), and negatively with project Stress (stress and difficulty). As such, in the present research, we expect to find that high scores on vector 3 are significantly associated with efficacious project systems, and that high scores on vector 3 will be inversely associated with stressful projects.

In summary, folk concepts are intended to predict how individuals will behave in certain situations. The manner in which this behaviour is manifested, will in turn influence appraisals on respondents' personal projects. From a conceptual perspective, we examined how the impact of stable dispositions on everyday, proximal, goal pursuit, in other words, the interrelationship between the CPI and PPA, may provide for a richer

understanding of the way in which these stable folk type constructs, are displayed in the everyday pursuit of people's personal projects.

Methods

Participants

The participants in both samples of this research were students enrolled in the introductory first-year Psychology course at Carleton University. The two samples were recruited during the Winter term of 1999. One hundred and sixty seven packages were distributed, of which 154 were returned, for a return rate of 92.2%. All participants volunteered their time in return for two course credits.

Both samples completed assessment packages including the California Psychological Inventory and Personal Projects Analysis. Participants in sample 1, 41 females and 27 males, ranged in age from 17 years to 50 years ($M=21.69$, $SD=5.43$). Participants in sample 2, 42 females and 23 males, ranged in age from 18 years to 52 years ($M=21.32$, $SD=5.35$).

Most participants in both samples were single first-year full-time university students. There were, however, 20 second-year, 8 third-year, and 5 fourth-year students. Other students were attending university as part-time and special students. The cultural background of the participants was North American; most of the sample was Canadian by birth.³

To encourage co-operation and to recruit participants, a brief description of the research and a sign-up sheet were posted in the

Psychology 100 experimental credit section. An announcement, briefly describing the research, was made during a scheduled Psychology 100 class.

Description of Measures

Data for this research were based upon one administration of a take home questionnaire package. A description of the CPI, the personal project methodology, and the demographic questionnaires follows as well as a rationale for their use. (Additional measures were also collected for use in contemporaneous research on personality and personal projects.⁴ See Appendix I for a copy of the complete questionnaire package).

California Psychological Inventory

The California Psychological Inventory, Form 434, 3rd Edition (Gough, 1957; Gough, 1987; Gough, 1995) was used to assess stable personality characteristics. The CPI is a self-administered, paper and pencil test that consists of 434 true or false statements. Although designed to facilitate group administration, the present research had participants complete the CPI in a take-home package. The specific items query an individual's typical behaviours, feelings, and attitudes. The 434 items are presented in 20 folk concept scales, 3 vector scales, and 13 special purpose scales, all of which focus on aspects of everyday interpersonal relationships, using common descriptions. The CPI vector scales were used as the primary individual

difference measure in the present research and were the only scales that were scored.

Vector 1 is a measure of the continuum from externality to internality, measuring involvement and participative inclinations at one end and detachment and privacy needs at the other. Research has found good reliability (.88) and validity values (alpha coefficient = .82) providing support that vector 1 is a valid measure of the continuum of introversion to extraversion (Zebb & Meyers, 1993). Vector 2 measures a continuum from rule-questioning to rule-favouring, assessing the degree to which a person is willing to accept societal norms. Vector 3 measures the continuum of self-realisation or psychological competence. Research has supported the validity of this vector measuring self-realisation (alpha coefficient = .85) (Weiser & Meyers, 1993).

Personal Projects Analysis

Personal Projects Analysis is a way in which the study of personality can be assessed within the contextually embedded environment, the social, physical, and temporal context in which we live (Little, 1983). Because of the nature of the personal project methodology, the information obtained is idiosyncratic and flexible as it is, for the most part, supplied by the individual.

Participants are instructed to write down as many projects as possible, within a ten-minute time frame, during the project elicitation phase. From

there, participants select ten of the projects that they are most likely to engage in over the next month or so, and rate them on a number of different dimensions in the project matrix (19 in sample 1 and 20 in sample 2). If they do not generate ten projects in the elicitation phase, they are encouraged to attempt to generate additional ones before they continue with the project matrix. The dimensions used in the first sample were drawn from the standard PPA dimensions. The second sample used many of the same standard dimensions. The dimensions used in the present research can be found in Appendix B.

Two dimensions included in the first sample and subsumed under the Structure theme, positive and negative impact, were not analysed in the present research. The reason for not including these dimensions is that the positive or negative impact one project may have on another project within a project system is better studied by way of the cross impact matrix, another component of projects methodology, given that one project may facilitate or hinder any other given project in an individuals project system (see Chambers, 1997; Little, 1989).

Past research has linked several of the standard project dimensions (especially the dimensions within the factor structures of Efficacy and Stress) with various outcome measures such as life satisfaction, depression, and negative affect (Little, 1988), and enjoyment and self-identity with life satisfaction, and stress with depressive affect (Oke, 1985). Wilson (1990), in

a meta-analysis of the relationship between personal project dimension appraisals and well-being has confirmed the robustness of several factors, particularly project stress and efficacy as predictors of well-being. Dowden (2000) has recently reported similar meta-analytic findings with respect to the prediction of depressive affect from project appraisals.

A global rating of the project system can also be obtained through the use of an abbreviated device, the Personal Project System Rating Scale (PPSRS). It is important to mention at this point that, although a number of the standard dimensions were dropped from the second sample to facilitate the incorporation of new dimensions related to the CPI, all of the factor structures continued to be represented with dimensions loading upon them.

Demographic Information

Participants were asked to provide demographic information such as age, gender, country of birth, native language, language spoken in the home, marital status, if they have children, student status, year of study, academic major, approximate GPA, whether or not they work and if yes, the number of hours. Although not all of these demographic data are of primary interest in this research, data were collected to add to the Social Ecological Assessment data bank (SEAbank) in order to be available for future research purposes to examine possible effects of these variables on both personality measures and project measures.

Procedure

Participants signed up for this research and picked up the package from the researcher. Packages were provided to participants to take home, complete, and return within the week. A sample package is attached (see Appendix I). A telephone number was provided should any participant have been unclear on how to proceed with a particular measure. The participants were requested to complete the package in one sitting. If, however, they felt the need to take a break, it was recommended that they do so between the first and second measure and not in the middle of a measure. The average time that was required to complete the package was approximately 120 minutes.

Once the packages were returned complete, participants were provided with a credit slip, a debriefing sheet, asked if they had any questions, and thanked for their participation. The debriefing sheet included a telephone number and room number of university health and counselling services in case the self-reflective nature of the personal project methodology raised any psychological issues for the participants (See Appendix D). The first measure in the package was the California Psychological Inventory (CPI) Form 434 and the second was Personal Projects Analysis (PPA).

Results

The results are presented in five main sections. The first section presents descriptive statistics; the second, McQuitty's Elementary Linkage Analyses of the personal project data; the third, intercorrelations between the clusters obtained from the linkage analyses and the CPI vector scales; and the fourth, intercorrelations between personal project data at the dimension level and the CPI vector scales. The final section presents the results of the regression of the personal project clusters on the CPI vectors.

As the present research was exploratory in nature, the data were analysed for the underlying structure by using three different analyses. The three analyses were 1) McQuitty's Elementary Analysis; 2) principal components analysis with varimax rotation at the project level; and 3) principal components analysis with varimax rotation at the normative level.

In the present research, we sought to strike a balance between Type 1 and Type 2 errors. Analyses at the project level, although meeting the N to variable ratio, did not provide a clear factor structure, often resulting in factors that combined two theoretically distinct themes (e.g. Structure and Efficacy). Analyses at the normative level would not have met the requirements for the N to variable ratio for principal components analyses and therefore precluded analysing data at the normative level. A McQuitty's Elementary Linkage Analysis provides topographical patterns between zero order correlations,

and does not carry with it the limitations with respect to the N to variable ratio. The McQuitty's analyses for sample 1 and the common dimensions provided a theoretically clear structure that replicated previous research in pulling out the underlying theme in personal project dimension ratings. Furthermore, the data analytic strategy is a conservative one by using both a two-tailed analyses and performing Bonferroni adjustments on the alpha level. As such, the following research reported the interrelationships between the CPI vectors and the personal project data using the McQuitty's Elementary Analysis. As we are performing exploratory research into the linkages between the CPI vectors and personal projects, we report all significant results. In the discussion section, we talk about the more significant results that stand up to the more stringent Bonferroni adjusted alpha in the discussion section.

As evidenced through a perusal of Appendix E, the principal components analyses with varimax rotation at the project level, Appendix F, at the normative level, and Appendix G, the intercorrelations between the factors obtained, at both the project and normative level, and the CPI vectors, findings using the three different analyses are similar. Appendix H presents the intercorrelations between the three analyses.

Descriptive Statistics

Descriptive statistics for sample demographics are found in Table 1. Descriptive statistics were calculated for vector data after an exploration of

the possible existence of skewness, non-normal kurtosis and standardised outliers, and after checking for gender and age effects.⁵ These samples' scores on the CPI vector scales (see Table 2) fell within normative range as ascertained from the CPI manual (Gough & Bradley, 1996).⁶

To determine if these samples are representative of our population of interest, the means and standard deviation scores for project variables were calculated. Participants' project ratings across each dimension were calculated. For sample 1, means and standard deviations of the project system dimension ratings on the standard dimensions are comparable to data previously collected with similar samples (e.g. Jackson, 1994; Lecci, 1990). As sample 2 has a number of new CPI related dimensions, comparisons were not made with previously collected data.

The PPA dimension ratings indicated that sample 1, overall, had highest mean ratings for the PPA dimensions of value congruency, control, and initiation. These participants also rated their projects as important with high expectations for a positive outcome. Conversely, these participants rated their projects as being low in stress, progress, and difficulty (see Table 3).

The PPA dimension ratings indicated that sample 2, overall, had highest mean ratings for the PPA dimensions of self-sufficiency, high expectations for a positive outcome, and a high sense of control. These participants also felt confident in carrying out their projects, felt as though they had initiated their projects, and that their projects were characteristic of

conventional, normative rules. Conversely, these participants rated their projects as low in stress, progress, and rated themselves as less flexible in the pursuit of their projects (see Table 4).

Table 1

Descriptive Statistics for Participants by Sample

Sample	N	Gender	Age	
			Mean	SD
Sample 1	68	41 Females 27 Males	21.69	5.43
Sample 2	65	42 Females 23 Males	21.32	5.35
Total	133	83 Females 50 Males	21.51	5.37

Table 2
CPI Vector Scales

Vectors	Sample 1		Sample 2	
	Mean	SD	Mean	SD
Introversion	14.87	5.26	15.60	5.82
Rule-Favouring	18.89	5.18	18.98	4.34
Self-Realisation	30.43	6.99	30.26	7.96

Sample 1: N = 73

Sample 2: N = 76

Note: Range for vector 1 = 3 to 29
 Range for vector 2 = 8 to 31
 Range for vector 3 = 13 to 47

Table 3
Means and Standard Deviations of PPA Dimensions
Sample 1

Dimension	N	Mean	SD
Value Congruency	66	8.24	1.32
Control	68	7.66	1.32
Initiation	68	7.62	1.58
Importance	68	7.61	1.20
Outcome	68	7.43	1.39
Self-Identity	67	7.26	1.43
Mastery	67	6.97	1.71
Enjoyment	68	6.36	1.38
Others' View	67	6.36	1.90
Absorption	67	6.31	1.74
Challenge	67	6.14	1.90
Time Adequacy	68	5.68	1.63
Support	67	5.67	2.31
Visibility	68	5.60	1.70
Difficulty	68	5.48	1.67
Progress	67	5.22	1.56
Stress	68	4.98	1.51

Note: Means listed in descending order. Range = 0 to 10.

Table 4
Means and Standard Deviations of PPA Dimensions
Sample 2

Dimension	N	Mean	SD
Self-Sufficiency	64	7.99	1.23
Outcome	64	7.70	1.30
Control	64	7.68	1.24
Confidence	65	7.64	1.36
Initiation	65	7.56	1.66
Conventional	61	7.46	1.60
Self-Identity	63	7.04	1.16
Perseverance	64	6.98	1.59
Independence	63	6.96	1.60
Mastery	63	6.87	1.61
Enjoyment	65	6.02	1.47
Visibility	64	5.86	1.57
Support	64	5.82	2.34
Responsible	64	5.68	1.94
Difficulty	65	5.45	1.41
Stage	64	5.25	1.44
Progress	64	5.11	1.77
Flexibility	64	4.91	2.25
Stress	65	4.84	1.71

Note: Means listed in descending order. Range = 0 to 10.

McQuitty's Elementary Linkage Analysis of PPA Dimensions

McQuitty's Elementary Linkage Analyses were performed on the PPA dimensions in this research to obtain a more manageable number of clusters in order to simplify subsequent analyses and increase statistical power. As shown in Figure 1, sample 1, Figure 2, sample 2, and Figure 3, common dimensions between samples 1 and 2, using McQuitty's Elementary Linkage Analyses yielded a five cluster, four cluster, and five cluster solution respectively.

The five-cluster solution for sample 1 clearly replicates the theoretical five-factor solution frequently obtained in research using the standard PPA dimensions. The five clusters defined Stress, Efficacy, Structure, Community, and Meaning. Positive correlations between the project dimensions of difficulty, challenge and stress, with difficulty and challenge forming the seed, and challenge pulling out stress, constitute cluster one. The second cluster that emerges represents Efficacy and consists of the dimensions of outcome and time adequacy forming the seed, with outcome pulling out progress, and time adequacy pulling out value congruency, all positive correlations. The third cluster to emerge represents Structure, with the dimensions of initiation and control correlating positively. The fourth cluster, Community, includes positive correlations between the dimensions of support and others' view forming the seed, with support pulling out visibility, and others' view pulling out importance. Finally, the fifth cluster to emerge is Meaning with the

dimensions absorption and self-identity forming the seed, with absorption pulling out both enjoyment and mastery, all correlating positively. See Figure 1 for the linkage analysis for sample 1.

The four-cluster solution for sample 2 yielded clusters of Conventional Autonomy, Stress, Efficacy, and Community. The first cluster included most of the dimensions developed for use with the CPI. The seed of this cluster is the project dimensions of confidence and perseverance, correlating positively. Confidence pulls out the dimensions of outcome, self-identity, self-sufficiency, and control, with self-identity pulling out enjoyment, and control pulling out independence. Perseverance pulls out the dimensions of initiation and conventional. The second cluster to emerge is Stress, with the dimensions of difficulty and stress positively correlating. Efficacy, the third cluster, consists of the dimensions of progress and stage forming the seed, with progress pulling out mastery, which, in turn, pulls out the dimension responsible, all positive correlations. Lastly, the fourth cluster in sample 2 was Community, comprising of support and visibility forming the seed, with support pulling out a negative correlation with flexibility. See Figure 2 for the linkage analysis for sample 2.

As seen in Figure 3, McQuitty's linkage analysis produced a five-cluster solution for the common dimensions in samples 1 and 2. Once again, even with the limited number of standard dimensions, the five clusters to emerge clearly represent the theoretical five-factor solution of Stress,

Structure, Meaning, Community, and Efficacy. The first cluster, Stress, consists of positive correlations between the difficulty and stress dimensions. The second cluster consists of the dimensions of control and initiation, correlating positively to represent Structure. The third cluster has as its seed outcome and self-identity, with self-identity pulling out enjoyment. The fourth cluster is Community, including support and visibility, and lastly, Efficacy, comprised of mastery and progress.

Figure 1

McQuitty's Elementary Linkage Analysis of Personal Project Dimensions
Sample 1

Cluster 1 - Stress

Cluster 2 - Efficacy

Cluster 3 - Structure

Cluster 4 - Community

Cluster 5 - Meaning

*** $p < .001$

Figure 2

McQuitty's Elementary Linkage Analysis of Personal Project Dimensions
Sample 2

Cluster 1 - Conventional Autonomy

Cluster 2 - Stress

Cluster 3 - Efficacy

Cluster 4 - Community

* $p < .05$, ** $p < .01$, *** $p < .001$

Figure 3

McQuitty's Elementary Linkage Analysis of Personal Project Dimensions
Common Dimensions

Cluster 1 - Stress

Difficulty $\longleftrightarrow$.46*** $\longrightarrow$ Stress

Cluster 2 - Structure

Control $\longleftrightarrow$.54*** $\longrightarrow$ Initiation

Cluster 3 - Meaning

Outcome $\longleftrightarrow$.51*** $\longrightarrow$ Self-Identity
 $\downarrow$
 .41***
 $\downarrow$
 Enjoyment

Cluster 4 - Community

Support $\longleftrightarrow$.47*** $\longrightarrow$ Visibility

Cluster 5 - Efficacy

Mastery $\longleftrightarrow$.46*** $\longrightarrow$ Progress

*** $p < .001$

Pearson Product Moment Correlations between the CPI Vector Scales and PPA Clusters

A specific goal of the present research was to explore the interrelationships between participants' appraisals of their personal projects and the CPI vector scales. Table 5 presents the correlations between the project clusters from sample 1, sample 2, and the common dimensions to both samples, and the CPI vectors.⁷

An examination of this table reveals, as expected, positive associations between rule-favouring and project systems that were higher in Meaning ($r = .31^*$, $p < .05$), Efficacy ($r = .30^*$, $p < .05$) and lower in Stress ($r = -.26^*$, $p < .05$). This finding supports Little, Lecci, and Watkinson (1992), who found that individuals high in conscientiousness had project systems high in Meaning and Efficacy and low in Stress. Vector 3, self-realisation, was significantly correlated with Efficacy for sample 1 ($r = .26^*$, $p < .05$). On the other hand, there are no significant correlations between vector 1, introversion, and any of the project clusters obtained from the linkage analyses derived from sample 1.

Participants' scores on rule-favouring in sample 2 were found to have a significant positive association with efficacious project systems ($r = .42^{**}$, $p < .01$). Furthermore, scores on rule-favouring had a positive association with project systems that were rated as high in Conventional Autonomy ($r = .28^*$, $p < .05$). In addition, Table 5 shows that vector 3, the self-realisation vector, correlates positively with the project cluster Conventional Autonomy ($r = .27^*$,

$p < .05$). Sample 2 showed no significant correlations between vector 1 and the project clusters.

A perusal of Table 5, indicates that for the common dimensions between the samples, there were significant correlations between vector 2, rule-favouring, and projects rated as more meaningful pursuits ($r = .36^{***}$, $p < .001$), more efficacious ($r = .24^{**}$, $p < .01$), and higher in Community ($r = .19^*$, $p < .05$). No significant correlations between the personal project clusters and the CPI vectors of introversion and self-realisation were found.

The main finding of these results suggests that individuals who are more rule-favouring have positive project systems and are engaged in projects that are higher in Meaning, Efficacy and Community, and lower in Stress.

Table 5

Pearson Product Moment Correlations between CPI Vectors and
Personal Project Linkage Clusters

Project Clusters	CPI Vectors		
	Introversion	Rule-Favouring	Self-Realisation
<u>Sample 1</u>			
Stress	.19	-.26*	-.23
Efficacy	-.18	.30*	.26*
Structure	.02	.10	.04
Community	.01	.15	-.10
Meaning	-.11	.31*	.04
<u>Sample 2</u>			
Conventional Autonomy	-.03	.28*	.27*
Stress	-.01	-.03	-.08
Efficacy	-.05	.42**	-.03
Community	-.04	.22	-.13
<u>Common Dimensions</u>			
Stress	.09	-.14	-.15
Structure	.02	.12	.16
Meaning	-.09	.36**	.13
Community	.00	.19*	-.09
Efficacy	-.10	.24**	.01

Sample 1 - N=66-68

Sample 2 - N=59

Common - N=130-133

Note: All tests of significance are two-tailed. *p < .05 **p < .01

No test is significant at the Bonferroni corrected alpha, .05/15 tests = .003 for Sample 1.

Boldface: Significant at the Bonferroni corrected alpha, .05/12 tests = .004 for Sample 2.

Boldface: Significant at Bonferroni corrected alpha, .05/15 tests = .003 for the common dimensions. Actual significance of the Efficacy cluster is .007.

Pearson Product Moment Correlations between the CPI Vector Scales and PPA Clusters by Gender

Although the limited sample size precluded a thorough analysis by gender, some exploratory analyses were carried out. Table 6 presents the correlations between the CPI vector scales and PPA clusters for females and Table 7 presents these correlations for males. A perusal of Table 6 reveals that the findings for females are similar to the findings across the entire sample. In sample 1, vector 2, rule-favouring, was significantly associated with Meaning ($r = .42^{**}$, $p < .01$). In sample 2, rule-favouring was significantly associated with Efficacy ($r = .60^{***}$, $p < .001$) and Conventional Autonomy ($r = .38^*$, $p < .05$). Finally, the common dimensions in sample 1 and 2, rule-favouring was significantly associated with Meaning and Efficacy ($r_s = .47^{**}$ and $.30^{**}$ respectively, $p_s < .01$). Vector 1, introversion, was significantly negatively associated with Efficacy ($r = -.25$, $p < .05$). Thus, for females, an examination of the relation between the CPI vector rule-favouring and the personal project clusters reveals a similar pattern of results to those found across the sample. It is noteworthy that for females, these results are somewhat stronger. In addition, vector 1, introversion, demonstrates a negative correlation with Efficacy.

For the male participants in samples 1 and 2, no significant correlations between the CPI vector scales and PPA clusters were evident (see Table 7). However, we see that both Stress and Efficacy showed moderate correlations ($-.31$ and $.28$, respectively, not significant) with rule-

favouring, again reflective of the findings across the sample. A lack of relation was found between Efficacy and rule-favouring for the male sample. When the self-realisation vector was examined in the male sample, a strong association was evident with the Stress factor. Low Stress was found to be significantly related to self-realisation in the common dimensions across the two samples ($r = -.38^{**}$, $p < .01$). In samples 1 and 2, we see a similar pattern (-.32 and -.41, respectively) although these findings are not statistically significant given the low n of these samples.

Table 6

Pearson Product Moment Correlations between CPI Vectors and
Personal Project Linkage Clusters for Females

Project Clusters	CPI Vectors		
	Introversion	Rule-Favouring	Self-Realisation
<u>Sample 1</u>			
Stress	.25	-.23	-.14
Efficacy	-.20	.31	.17
Structure	.07	.22	-.02
Community	-.14	.18	-.13
Meaning	-.19	.42**	-.08
<u>Sample 2</u>			
Conventional Autonomy	-.04	.38*	.29
Stress	.03	-.10	.00
Efficacy	-.24	.60***	-.07
Community	.02	.18	-.22
<u>Common Dimensions</u>			
Stress	.14	-.16	-.02
Structure	.03	.19	.13
Meaning	-.14	.47**	.06
Community	-.04	.21	-.18
Efficacy	-.25*	.30**	-.01

Sample 1 - N=39-41

Sample 2 - N=38-42

Common - N=80-83

Note: All tests of significance are two-tailed. *p < .05 **p < .01

No test is significant at the Bonferroni corrected alpha, .05/15 tests = .003 for Sample 1. Actual significance of the Meaning cluster is .007.

Boldface: Significant at the Bonferroni corrected alpha, .05/12 tests = .004 for Sample 2.

Boldface: Significant at Bonferroni corrected alpha, .05/15 tests = .003 for the common dimensions. Actual significance of the Efficacy cluster is .007.

Table 7

Pearson Product Moment Correlations between CPI Vectors and
Personal Project Linkage Clusters for Males

Project Clusters	CPI Vectors		
	Introversion	Rule-Favouring	Self-Realisation
<u>Sample 1</u>			
Stress	.11	-.31	-.32
Efficacy	-.14	.28	.36
Structure	-.03	-.11	.16
Community	.29	.07	-.06
Meaning	.00	.09	.21
<u>Sample 2</u>			
Conventional Autonomy	-.00	.06	.15
Stress	-.10	.02	-.41
Efficacy	.38	.07	.03
Community	-.14	.30	.04
<u>Common Dimensions</u>			
Stress	-.02	-.13	-.38**
Structure	.01	-.03	.25
Meaning	-.04	.15	.19
Community	.06	.13	.04
Efficacy	.18	.12	.07

Sample 1 - N=27

Sample 2 - N=22-23

Common - N=50

Note: All tests of significance are two-tailed. *p < .05 **p < .01
No test is significant at Bonferroni corrected alpha, .05/15 tests = .003 for the
common dimensions. Actual significance of the Stress cluster is .007.

Correlations between CPI Vectors and PPA Dimensions

Tables 8 to 10 present the correlations between the CPI vector scales and PPA dimensions for sample 1, sample 2, and the common dimensions of samples 1 and 2 (see Appendix J for analyses by gender). As seen in Table 8, results indicate that participants who were more introverted rated the pursuit of their projects as more difficult ($r = .26, p < .05$). For vector 2, participants who were more rule-favouring, rated their projects as more likely to be brought to successful completion ($r = .34^{**}, p = .005$), distinctly personal ($r = .27^*, p < .05$), congruent with core values ($r = .27^*, p < .05$), and less difficult to carry out ($r = -.28^*, p < .05$). Scores on vector 3, indicating that the participants were more self-actualised, rated their projects as less stressful ($r = -.35^{**}, p = .003$), more congruent with their core values ($r = .31^*, p < .05$), and as less important ($r = -.29^*, p < .05$).

Table 9 presents the correlations between the vector scales and the dimensions used with sample 2. Seven of the dimensions used with sample 2 were developed to optimize the relationships with the CPI (confidence, conventional, flexibility, independence, perseverance, responsible, and self-sufficiency). Low scores on vector 1 were associated with projects pursued in an independent manner ($r = -.28^*, p < .05$).

For sample 2, vector 2 was significantly correlated with projects rated as pursued in a responsible manner, more efficient and organised ($r = .40^{***}, p < .001$), stage ($r = .39^{**}, p < .01$), and outcome ($r = .38^{**}, p < .01$).

Furthermore, participants who scored as more rule-favouring also rated their projects as more conventional in nature ($r = .29^*$, $p < .05$), and themselves as more confident in the pursuit of their projects ($r = .28^*$, $p < .05$); that they were supported in projects that they felt were self-expressive ($r_s = .28^*$, $p < .05$), and that they persevered and were making good progress in the pursuit of their projects ($r_s = .29^*$ and $.25^*$, $p_s < .05$ respectively). These last two correlations are not surprising as previous research has shown that participants who are closer to project completion also see a greater likelihood that the outcome of their projects will be positive (Chambers, 1997).

Correlations between vector 3 and the PPA dimensions indicated that project self-sufficiency, confidence, and control were significant at $p < .01$. Participants who scored higher on vector 3, indicating that they were more self-realised, also rated that they were more self-sufficient in the pursuit of their projects ($r = .37^{**}$, $p = .003$), that they felt confident and assertive in carrying out their projects ($r = .35^{**}$, $p = .005$), and that were more in control over each project ($r = .34^{**}$, $p = .006$).

Finally, Table 10 presents the correlations between the dimensions common to both sample 1 and sample 2 and the CPI vector scales. High scores on vector 1, thus more introverted, scored lower on mastery, indicating that they did not feel that they were accomplishing projects that were as worthwhile as those of the more extraverted participants ($r = -.20^*$, $p < .05$). Vector 2, rule-favouring, was again significantly correlated with project

outcome ($r = .35^{***}$, $p < .001$). Rule-favouring was also significantly correlated with projects that were self-expressive ($r = .28^{**}$, $p = .002$). Vector 2 was correlated negatively with project difficulty, as participants who were more rule-favouring found the pursuit of their projects less difficult ($r = -.23^{**}$, $p < .01$). Scores on vector 2 were positively associated with mastery, as participants scoring higher on rule-favouring were more inclined to feel they were accomplishing something worthwhile ($r = .23$, $p < .01$). Participants who were more rule-favouring also rated the pursuit of their projects as more supported ($r = .22^*$, $p < .05$). Lastly, vector 3 was significantly negatively correlated with stress; participants who were more self-realised rated the pursuit of their projects as less stressful ($r = -.27^{**}$, $p < .01$). More self-realised participants also rated their projects as more likely to be brought to successful completion and more in their control than did their less self-realised counterparts ($r_s = .22^*$ and $.20^*$ respectively, $p_s < .05$).

Table 8
Correlations between CPI Vectors and PPA Dimensions
Sample 1

PPA Dimension	Introversion	Rule-Favouring	Self-Realisation
Absorption	-.10	.22	.12
Challenge	.15	-.24	-.20
Control	.01	.08	.07
Difficulty	.26*	-.28*	-.05
Enjoyment	-.02	.13	-.01
Importance	.09	.01	-.29*
Initiation	.02	.09	.01
Mastery	-.21	.26*	-.02
Other's View	-.08	.22	-.11
Outcome	-.15	.34**	.23
Progress	.03	.09	.11
Self-Identity	.05	.27*	.04
Stress	.08	-.12	-.35**
Support	.04	.16	.05
Time Adequacy	-.21	.17	.14
Value Congruency	-.18	.27*	.31*
Visibility	.02	-.05	-.06

Note: All tests of significance are two-tailed. * $p < .05$ ** $p < .01$
 No test is significant at Bonferroni corrected alpha, .05/51 tests = .001
 Actual significance of PPA stress = .003. Actual significance of PPA
 outcome = .005.

Table 9
Correlations between CPI Vectors and PPA Dimensions
Sample 2

PPA Dimension	Introversion	Rule-Favouring	Self-Realisation
Confidence	.06	.28*	.35**
Control	.00	.03	.34**
Conventional	.22	.29*	-.03
Difficulty	-.01	-.16	.08
Enjoyment	-.15	.20	.03
Flexibility	-.02	-.11	.07
Independence	-.28*	.08	.10
Initiation	.02	.09	.23
Mastery	-.19	.20	.03
Outcome	.06	.38**	.19
Perseverance	.10	.29*	.14
Progress	.02	.25*	-.06
Responsible	.05	.40**	-.10
Self-Identity	-.22	.28*	.16
Self-Sufficiency	.07	.13	.37**
Stage	-.01	.39**	-.06
Stress	-.01	.09	-.19
Support	-.08	.28*	-.11
Visibility	.06	.24	-.24

Note: All tests of significance are two-tailed. * $p < .05$ ** $p < .01$

Boldface: Significant at Bonferroni corrected alpha, .05/57 tests = .001
Actual significance of PPA self-sufficiency = .003. Actual significance of PPA Outcome = .002. Actual significance of PPA stage = .002. Actual significance of PPA confidence = .005. Actual significance of PPA control = .006.

Table 10

Correlations between CPI Vectors and PPA Dimensions
Common to Samples 1 and 2

PPA Dimension	Introversion	Rule-Favouring	Self-Realisation
Control	.01	.06	.20*
Difficulty	.13	-.23**	.01
Enjoyment	-.10	.16	.01
Initiation	.02	.09	.13
Mastery	-.20*	.23**	.01
Outcome	-.04	.35**	.22*
Progress	.02	.17	.02
Self-Identity	-.08	.28**	.09
Stress	.03	-.02	-.27**
Support	-.03	.22*	-.03
Visibility	.04	.07	-.14

Note: All tests of significance are two-tailed. *p < .05 **p < .01

Boldface: Significant at Bonferroni corrected alpha, .05/33 tests = .002

Actual significance of PPA difficulty = .007. Actual significance of PPA mastery = .008.

Correlations between PPA-CPI Dimensions and Other PPA Dimensions

Table 11 presents the correlations between the PPA dimensions created for the CPI and the other PPA dimensions utilised with sample 2. A perusal of these correlations will orient us to the interpersonal and everyday interactional nature of the CPI vector scales.

Table 11 shows a number of significant correlations between the CPI PPA dimensions and the standard PPA dimensions. Most notable is the dimension perseverance. Participants were asked to rate each of their projects on the dimension of perseverance, defined as the extent to which they persevere (persist) in the pursuit of their projects when others in the same situation may have given up or become discouraged. Participants who pursued their projects with a great deal of perseverance also felt that they had a great deal of control over their projects, that they were responsible for initiating their projects, that their projects would be completed, and that their projects were quite distinctly self-expressive in nature. Furthermore, these participants felt that they had been successful in the pursuit of their project up until now, that they enjoyed working on their projects, and felt a sense of accomplishment of something worthwhile. These participants also felt that they were supported in their pursuit of projects that were closer to completion and visible to relevant people in their lives.

Table 11

Correlations between CPI-PPA Dimensions and the
Standard PPA Dimensions

PPA Dimension	Conf.	Conv.	Flex.	Ind.	Pers.	Resp.	S-Suff.
Control	.61**	.13	-.04	.37**	.54**	.11	.55**
Difficulty	-.20	.18	.15	-.28*	-.04	-.14	-.13
Enjoyment	.23	.02	-.10	.15	.36**	.07	.17
Initiation	.56**	.27*	.03	.19	.65**	.27*	.42**
Mastery	.27*	-.02	-.10	.35**	.34**	.43**	.11
Outcome	.73**	.33**	-.14	.26*	.69**	.29*	.58**
Progress	.20	.04	.08	.32*	.36**	.32*	.25*
Self- Identity	.62**	.28*	-.09	.27*	.56**	.17	.49**
Stage	.24	.12	-.02	.33**	.32*	.30*	.32*
Stress	-.13	.22	.04	-.22	-.02	.20	-.18
Support	.32**	.26*	-.30*	.04	.33**	.29*	.16
Visibility	.33**	.24	-.06	-.11	.30*	.40**	.16

Note: All tests of significance are two-tailed. * $p < .05$ ** $p < .01$
Boldface: Significant at Bonferroni corrected alpha, .05/84 tests = .001
 Conf. - Confidence
 Conv. - Conventional
 Flex. - Flexibility
 Ind. - Independence
 Pers. - Perseverance
 Resp. - Responsible
 S-Suff. - Self-Sufficiency

Also of interest in Table 11 is the dimension confidence, the extent to which one feels confident and assertive in carrying out the project, and the dimension self-sufficiency, that is, persisting in the pursuit of the project in an independent manner. Participants who felt confident and self-sufficient in the pursuit of their projects also rated their projects as likely to be brought to successful completion, distinctly personal, in their control, and that they had been responsible for initiating their projects. Projects pursued in a confident manner were also related to visibility and support, as well as a sense of accomplishing something worthwhile. Participants who felt they pursued their projects in an independent manner also felt that they were closer to completion and making good progress in their pursuit.

Participants who gave high ratings to their projects on the dimension responsible, how efficient and organised in the pursuit of the project, also evaluated the pursuit of their project as accomplishing something worthwhile and their projects as visible to relevant people in their lives. They also felt they were progressing well, were closer to completion with good likelihood of success, and that they were supported in projects that they had initiated.

Participants with high ratings on the dimension of independence, the pursuit of a project that encourages freedom and initiative versus expectations that are clearly defined by others, also felt a great deal of control over their projects, and felt that they were accomplishing something worthwhile. Furthermore, participants who rated their projects as high in

independence also felt that their projects were closer to completion, that they were making good progress in projects they had initiated, and that these projects were likely to be successfully completed with little difficulty.

Participants who rated their projects as high on the dimension of conventional, characteristic of conventional normative rules, also rated their projects as more likely to be brought to successful completion; they felt that they had initiated projects with which they identified and that they were provided support in their project pursuit. Lastly, participants who were flexible in the pursuit of their projects rated that they received less support in their project pursuit.

Multiple Regression Analyses of CPI and Personal Project Clusters

In order to examine the contribution that each vector scale afforded in the prediction of the personal project clusters, each of the personal project clusters was regressed on the vector scales. Given the previous findings emphasising the significance of the Meaning and Efficacy clusters, regression analyses reported here are for these two clusters for the common dimensions (please see Appendix K for the other regression analyses).

The results of these analyses indicate that vector 2, rule-favouring, is a primary factor in the prediction of both Meaning and Efficacy (see Tables 12 and 13). Overall, the first regression analysis accounted for 12% of the variance in Meaning ($F(3,126) = 6.83, p < .001$). The Beta weight for vector 2,

rule-favouring, was statistically significant suggesting that those who adhere to rules have a higher degree of Meaning (self-identity, enjoyment) in their lives. Similarly, in the second regression analysis which accounts for 4% of the variance in Efficacy ($F(2,126) = 2.66, p = .05$), we see that rule-favouring is the strongest predictor of having a sense of Efficacy (mastery, progress) in the lives of these students.

Table 12

Multiple Regression Analysis of CPI Vector Scales and the
Meaning Personal Project Cluster of the Common Dimensions

Variables		F	Sig. F
Multiple <i>R</i>	.37		
<i>R</i> squared	.14	6.83	.00
Adjusted <i>R</i> square	.12		
Variable	Variables in the equations		Significance
	Beta	t	
Introversion	-.03	-.32	.75
Rule-favouring	.35	4.12	.00***
Self-realisation	.10	1.19	.24

Note: $F(3,126) = 2.68$, $p < .05$

Table 13

Multiple Regression Analysis of CPI Vector Scales and the
Efficacy Personal Project Cluster of the Common Dimensions

Variables		F	Sig. F
Multiple <i>R</i>	.24		
<i>R</i> squared	.06	2.66	.05
Adjusted <i>R</i> square	.04		
Variable	Variables in the equations		Significance
	Beta	t	
Introversion	-.06	-.70	.48
Rule-favouring	.23	2.57	.01*
Self-realisation	-.01	-.09	.93

Note: $F(3,126) = 2.68$, $p < .05$

Discussion

Stable traits of the continuum of extraversion to introversion, rule-questioning to rule-favouring, and self-realisation were assessed in everyday living, taking into account social environmental factors. The CPI folk concept scales have been found to be effective in predicting outcome measures such as recidivism (see Gough, 1994), alcohol consumption (Cook et al., 1998), delinquent behaviours (Gough & Bradley, 1992), and personnel selection (Hoffman & Davis, 1995) among others. To date, research on the vector scales has focussed primarily on reliability and validity issues (Weiser & Meyers, 1993; Zebb & Meyers, 1993). This research brings the CPI vector scales into the arena of contemporary personality research. In short, we use a social ecological framework to study both stable trait like measures and the intentional nature of human action in context.

Previous research has explored the links between stable trait measures as assessed by the NEO-PI-R and PAC units as assessed by PPA. However, this is the first research that has examined the relation between a more 'folk concept' as assessed by the CPI and a personal action construct determined by PPA. The primary goal of this research was to explore the interrelationships between the vector scales, personal project clusters, and their associated personal project dimension ratings. The second purpose of this research was to ascertain whether the modular applicability of the

personal project methodology could be used to optimise the linkages with the CPI. The results support the utility of personal projects methodology in providing theoretically coherent links with the CPI. The specific dimensions used with participants in sample 1 were the dimensions from the standard personal project methodology. A number of dimensions were introduced in sample 2 to further our understanding of how the CPI constructs are played out in everyday life. Previous research suggests vector 2, rule-favouring to relate to the NEO-PI-R trait dimension of Conscientiousness. Indeed, an examination of the description of the facets, suggests that there are related constructs -- e.g., order, dutifulness -- but that they do not entirely capture the essence of 'rule-conforming'. The pattern of results shows that appraisals of personal projects provide conceptual links with the stable traits as measured by the CPI vector scales.

Results suggest that students in our samples have ratings on introversion, rule-favouring and self-realisation scores that are consistent with those found in previous research in university samples (Gough & Bradley, 1996). This suggests that the participants in these samples are representative of other university populations with respect to levels of introversion, rule-favouring, and self-realisation scores. Similarly, scores on the ratings of the personal project dimension are similar to those found in previous PPA research done at Carleton University with first year undergraduate students are similar (e.g. Jackson, 1994; Lecci, 1990).

Support was found for the hypothesised link between rule-favouring and projects systems high in Meaning, Community, and Efficacy, as well as the dimensions of 'responsible' and 'conventional' utilised in sample 2. The present results indicate that rule-favouring is positively associated with positive project systems. The finding that both Efficacy and Meaning were significantly associated with high scores on vector 2 supports the hypothesis. In looking more closely at the dimensions with which vector 2 was associated, we found support for the hypothesis that high scores on vector 2 were associated with the dimension 'responsible' (i.e. 'how efficient and organised participants are in the pursuit of their projects because they want to be'). In addition, high scores on vector 2 were positively associated with ratings on 'outcome', likelihood of success in a project. The findings suggest a possible mechanism for successful completion of personal projects, that of rule-endorsement. The less one questions rules, the less one is likely to have any impedance in the carrying out of personal projects and the more likely one is to reach project completion. We noted that these findings of rule-favouring and its positive association with Meaning and Efficacy were stronger for women. Some literature suggests that at earlier developmental stages, girls are rewarded for complying with societal norms (e.g., Gilligan, 1982); thus, they may internalise conforming as a route to achieve meaning in their lives. Future research may explore the relation between rule-favouring and well-being from a gender perspective.

These findings replicate those of Little, Lecci, and Watkinson (1992), who found that conscientious individuals also rated their projects as likely to be brought to successful completion. Furthermore, Little (1989) suggests that individuals high in conscientiousness were likely to "render enjoyable the projects that are required of them by others or to transform mundane activities into estimable undertakings - motivation is enhanced by the process of working on projects rather than on any particular end they may serve". The findings in the present research suggest that the manner in which individuals are able to render their projects meaningful may be by focussing more on the process in project pursuit with attention to detail, rather than on the end product, thereby increasing the likelihood that their projects will be brought to successful completion.

Vector 3, participants' level of self-realisation, was hypothesised to be positively associated with positive project systems and negatively with the dimensions underlying the Stress factor and as well as projects rated high on the efficacy dimensions. This hypothesis was partially supported. Participants in sample 2, with higher scores on vector 3 also rated their projects as higher in Conventional Autonomy. Noteworthy is that 4 of the 8 dimensions making up the Conventional Autonomy cluster for sample 2 were the newly created dimensions for this research.

Our hypothesis that self-realisation would be related to Stress was supported in the male group but not in the female group. This clearly is a

relation worth future exploration as replication with a larger sample is necessary to uncover and further understand this gender-related link to self-realisation.

When we further explored the linkages between vector 3 and personal project dimensions, we did indeed find a negative correlation between vector 3 and the 'stress' dimension for sample 1, but not for sample 2. For sample 2 we found that high scores on vector 3 were related to greater feelings of 'self-sufficiency'. This resonates well with the interpretation of the vector 3 scale as one which high scores indicate the extent to which individuals are pleased with the manner in which they make use of their abilities and their capacity to adapt to the stresses of everyday life (Gough & Bradley, 1996).

In the present research, vector 1, the continuum from extraversion to introversion, was hypothesised to be negatively correlated with positively rated projects and projects that participants rate as highly affect laden. The results in the present research do not support these hypotheses.

One of the reasons this hypothesised link may not have been found is due to the large percentage of academic projects our samples listed. Previous research (Little et al., 1992) has found that although there is a strong relationship between extraversion and positive projects systems (high in Meaning, Structure, Community, Efficacy, and low in Stress) and projects that are affect laden in the interpersonal domain, the relationship is not as pronounced in the academic domain. More specifically, Little, Lecci, and

Watkinson (1992), found that 12 of the 15 dimensions utilised in their research were significantly correlated with projects in the interpersonal realm. However, only 2 of the 15 dimensions were significantly correlated in the academic realm. A perusal of the content of the projects in the present research supports this hypothesis. Only two participants did not have at least one academic project. These two participants did however, have at least one academic project in their elicitation list, but did not carry them forth to their project matrix.

Cantor, Norem, Niedenthal, and Langston (1987) provide further support for these results in their research on life tasks. They report that life tasks of typical university students, early in the school term, have been more socially oriented (interpersonal), whereas later in the term the focus shifts to the academic area. Data collected for the present research was gathered from late January to the end of March. Thus, students in the present research may have been less focussed on interpersonal project pursuit and more engaged in academic projects, given that data was collected well into their first year of university.

Vector Predictors across Personality Domains

The regression analyses provide support for the findings that have been discussed thus far. Clearly, rule-favouring is the strongest predictor for both the Meaning and Efficacy domains. The importance of rule-favouring

within the meaning and efficacy of project pursuit was anticipated, as positive project dimensions (e.g. enjoyment, self-identity, progress, outcome) have been found to be associated with conscientious individuals (Little, et al., 1992). Similarly, conscientious individuals have been found to have high scores on vector 2 (Gough & Bradley, 1996; McCrae et al., 1993).

An area of interest for future research is the impact that rule-questioning / rule-favouring may have on Meaning and Efficacy within the different project categories. For example, does rule-favouring enhance well-being in the academic / occupational project realm and reduce it in the pursuit of projects in the interpersonal realm?

Case study

To provide a way in which the study of projects can be combined with the study of the cuboid model of the CPI vector scales, we selected an extreme score on the vector 3 scale to examine in more detail. This participant is a woman in her early thirties, born outside of North America, now divorced, with one child. She is a first-year full-time student in the faculty of Arts and Social Sciences, who works on a part-time basis. Relative to other participants, this woman is over greater than two standard deviations above the mean age. Her score on vector 1 is 13, placing her within 1 standard deviation below the mean for sample 2. On vector 2, her score is 21, placing her within 1 standard deviation above the mean for sample 2. On vector 3,

this participant scores 47, placing her over greater than 2 standard deviations above the mean for this sample. These findings suggest that participant #127 to be more on the extraverted side, more on the rule-questioning side, and extremely high on self-realisation. Relevant to college norms in general, as ascertained through the CPI Manual (Gough & Bradley, 1996), this participant scores 1 standard deviation point above the mean. It is noteworthy that vector 3 is positively correlated with age. Thus, we can expect her to score higher on this vector as compared to the rest of the sample.

The midscale cuts on vectors 1, # 19, and 2, # 22, place this participant in the Gamma quadrant. This participant's score on vector 3 places her at the sixth level of realisation. Gammas are described as rule-questioning and participative. Gammas are summarised as "expressive, unrestrained, restless, and pleasure-seeking, and not as shy, forbearing, or self-effacing. They like and seek attention from others, pursue their own goals with verve and self-confidence, and enjoy change and variety in their daily lives...Their values are personal and individual, not traditional or conventional...At their best, they are innovative and insightful creators of new ideas, new products, and new social forms" (Gough & Bradley, 1996).

A first glance at her personal project matrix suggests that she is engaged in a variety of projects: four academic, three interpersonal, two health related, and one intrapersonal. Of interest in her ratings is that she consistently rates herself as being extremely 'confident', 'self-sufficient', and

'independent' in the pursuit of her projects (ratings of 10). The exception in both cases, is that she feels low levels of these dimensions in the pursuit of "Applying for medicine at Ottawa U" (3, 3, and 0 respectively). Furthermore, she consistently (again with the exception of her project "applying for medicine") rates herself as high on 'perseverance', the extent to which she perseveres in the pursuit of her projects. These high ratings can be expected given that people scoring at levels 6 and 7 of the self-realisation vector, are considered to make good use of their capabilities and talents.

This participant also scores, on average, almost 2 standard deviations above the mean on the pursuit of projects that are high in self-expression. Of interest here is that 3 of the 4 projects she rated as less distinctly personal in nature (although still almost 1 standard deviation above the mean of the sample), are academic projects that can be conceived of as following conventional norms (i.e. "Assignment in 49.xxx", English essay", and "Reading more in Neuroscience"). The question may arise as to whether or not academic projects and the pursuit of higher education are best described as conventional or non-conventional pursuits? Personal communications, such as, "I just felt like I had to go to university after high school", with different individuals, and the statistic that 71% of adults between the ages of 25 and 45 pursue studies after high school (Metro-Ottawa Economic Profile, 1996), indicate that, indeed the pursuit of this variety of project can be seen as conventional.

Also of interest is that the same 3 academic projects are also rated higher on the dimension of 'responsible' than her other projects (i.e. 'how efficient and organised in the pursuit of the project'). This attention to detail type is indicative of people with higher scores on the vector 2 scale. As she is not conventional by nature, it may be that in pursuing conventional-type projects, she is forced to adapt to the requirements of these projects in order to bring them to completion. As creative people often do not pay attention to detail, she must adapt her behaviour to achieve success. Further evidence for this is indicated by her scores on support (2 standard deviations below the mean -- with 0 on all of her projects except for 2). As she has very little 'support' for her projects, she needs to use all of her resources in carrying them through.

As Little (1999a) suggests, individuals may act out of character in the pursuit of Meaningful projects. This participant's ratings on the dimensions of 'enjoyment' and 'self-identity', which are subsumed by the Meaning factor, appear to support this hypothesis in that her average ratings are above 1 standard deviation of the mean of the sample, indicating that she is in the pursuit of personally meaningful projects. For the specific academic projects she provides ratings of 5 on "Assignment in 49.xxx", 8 on "English essay", and 8 "Reading more in Neuroscience" on the 'enjoyment' dimension.

Furthermore, this participant's pursuit of her projects is carried out in a relatively efficacious manner as suggested by her ratings on the dimensions

of 'outcome', 'mastery', 'progress', and 'stage', falling just below the mean of the sample to over 1 standard deviation above the mean. She also pursues her projects in a structured way as evidenced through her ratings on the dimension of 'control' (over 1 standard deviation above the mean) and 'initiation' (almost 1 standard deviation above the mean).

Finally, on average, the participant rates her project pursuits as involving low levels of 'stress' and 'difficulty' (more than 1 and almost 1 standard deviation respectively). Even the more molar-level project of "Re-evaluating my life philosophy" is given a difficulty rating of 2 and a stress rating of 0. These project dimension ratings can be construed as being indicative of her ability to adapt and cope with varying demands and stresses placed upon her in everyday life (Gough & Bradley, 1996).

This participant's score on the Centre for Epidemiologic Studies Depression scale, (Radloff, 1977), 6 of a possible 52, was over 1 standard deviation below the mean. This scale measures the affective component of depressive symptomatology in the general population (i.e. depressed mood). Little (1988) shows that high depression has been linked most strongly with projects that are stressful and difficult, less likely to be brought to successful completion, lower in control, progress, initiation, self-identity, and enjoyment.

Her score, 8 out of 10, on the Global Life Satisfaction Scale, a scale measuring the extent to which individuals are generally satisfied with their lives, falls within 1 standard deviation above the mean. Little (1985), with a

sample of 1121 subjects, shows that life satisfaction has shown strong relationships with the project dimensions of enjoyment, progress, low difficulty and stress being the highest correlates.

Gammas are described as rule-questioning. The dimensions that address conforming to societal norms in the present research are 'conventional' and 'responsible'. Consistent with the description of people with low scores on vector 2, on the dimension of 'conventional', this participant rates the pursuit of her projects, on average, as over 2 standard deviations below the mean, with the highest project rating given to "assignment in 49.xxx" (8) and the lowest to "Re-evaluating my life philosophy" (0). Her mean rating on the dimension of 'responsible' is within 1 standard deviation below the samples mean.

In summary, both the trait measures and personal action constructs were useful in providing a window onto this participant's life. Traits provide an understanding of the manner in which she orients herself towards her projects; personal projects help to complete the picture by providing us with the form and content of her life choices. Compared to the rest of the sample, this participant is considered to be higher in self-realisation as indicated on her vector 3 score. In addition, she has a high degree of confidence, self-sufficiency, independence, and perseverance in her pursuits, and this is evident in her academic, interpersonal, intrapersonal, and health pursuits. This participant has high scores on life satisfaction, and this is in line with her

high scores on vector 3, low scores on vector 1, and the extent to which she feels self-expressive in the pursuit of her projects. She also has low scores on depressive affect as would be expected given the high scores on vector 3. In general, this participant appears well prepared for the pursuit of a variety of projects, and for bringing them to fruition.

The Potential Value of the CPI Dimensions

A number of the CPI dimensions were significantly related to the other PPA dimensions used with sample 2. As such, they warrant further discussion. First, the CPI dimension of 'perseverance', the extent to which people persevere (persist) in the pursuit of a project when others in the same situation may have given up or become discouraged, has significant correlations with eight of the 12 standard dimensions. The factors that these PPA dimensions load upon are the positive factors of Efficacy, Structure, Meaning, and Community, with the preponderance of dimensions loading on Efficacy. Positive project systems have provided considerable support in the prediction of well-being (Little, 1988). Extrapolation may be premature given the exploratory nature of the present research; however, future research on the impact that persevering in the pursuit of projects may have on enhancing well-being could prove to be fruitful.

Two other CPI dimensions with strong relationships to the standard personal project dimensions are 'confidence', the extent to which people feel

confident and assertive in carrying out their projects, and 'self-sufficiency', the extent to which they persist in an independent manner in the pursuit of these project. 'Confidence' has six significant relationships with PPA dimensions. These associations are also with the dimensions subsumed under the positive project factors. 'Self-sufficiency' had four significant correlations with dimensions subsumed under Efficacy, Meaning, and Structure. Both these dimensions were also significantly related to high scores on the self-realisation vector. Given the CPI's success in predicting life outcome events, these two findings may assist in providing fruitful avenues through which personal projects can optimise the relationships with the CPI to study the paths through which people work towards self-realisation.

In summary, the present research suggests that positive project systems that are high in Efficacy, Meaning, and low in Stress are associated with rule-favouring. The implications for the development and nurturing of more creative people could be serious. The McKinnon (1962) study indicated that the group of creative architects did not pay a great deal attention to detail. However, these highly successful individuals clearly had an infrastructure of individuals who were able to 'fill in the gaps' and help bring the architects' creative projects to fruition. If these 'rule-questioning' students do not pay a great deal of attention to detail, conceivably they do not have the support to carry their creative projects to completion. Clearly both the creative

and conventional individuals have their niches in the development and carrying out of creative projects.

The implications of these findings can also be played out in organisational settings. Creative individuals, high in independence of judgement, need to be, to some extent, left to themselves. However, in order to see their creative innovations brought to fruition, they need to be orchestrated in settings to maximise creative products.

Why is it that individuals who are high in rule-favouring, conventionality, and attention to detail, report more positive project systems? Possibly they feel less stress in their project pursuits by staying within normative grounds, resulting in more support, and without the fear of reprisal for the way in which they are pursuing their projects. It is possible that they are, in fact, embracing other people's projects; they are providing support, and thus are not as personally implicated in the rising and falling of the projects. As mentioned above and suggested by Little (1989), are these individuals reporting that their projects are higher in meaning because they are rendering them enjoyable?

The CPI folk concept scales are based in natural language. The intention with these scales is that the layperson and experts alike understand them, and it is anticipated that they would be relevant in cross-cultural samples. As Gough suggests, a criterion of a folk concept is that it is intended to have considerable utility. An important strength of the CPI is its

demonstrated ability to predict behaviours and life outcomes longitudinally. It is anticipated that future longitudinal research in this area would support this contention.

Vector 2 picks up on a theme relatively unseen in the NEO-PI-R, that of conventionality, and more specifically, unconventionality and even open-defiance. Thus, the present results are encouraging and we can anticipate that they will increase our understanding regarding the relationships between how participants feel about what they are doing, how they rate their projects, and the routes they take towards more distal outcomes that are commonly assessed in CPI research.

Limitations to this Research

The present research reports a lower pattern of correlations between the CPI vectors and personal project dimensions than research conducted with the NEO. This may be for a number of reasons. Perhaps the most plausible reason is that the dimensions created for use with the CPI were specifically developed for the folk concept scales and not the vector scales, and analyses were conducted using only the vector scales. The underlying notion of the rule-favouring vector does relate to dimensions created for use with the CPI (independence, conventional, responsible); however, the other two vectors are not represented in the new dimensions.

A second limitation is the N to variable ratio. Replication of these findings may be best accomplished with a larger 'N' in order to analyse data at the normative level.

Areas of Future Research

Several areas for future research remain. First, the present research only analysed the vector scales from the CPI and did not examine the 20 folk concept scales or the special purpose scales. These scales have had much success in predicting the more remote outcome measures such as alcohol consumption and recidivism. Furthermore, this research supports the several linkages between personal projects and the CPI vectors. There are implications for both counselling and clinical psychology. For example, the Socialisation scale has been successful in predicting criminal activity. Future research using such a criterion group may assess the types of projects, as well as their appraisals, in which these individuals are engaged. This attention to a more proximal level of behaviour may serve to both understand the development of criminal behaviour as well as to serve as the basis for intervention.

The present exploratory research looked at the interrelationships between the vector scales and personal projects. Gough's (1996) three-vector model, however, can be more accurately represented as a cuboid model, including a combination of the three vectors in defining a personality. In

analysing responses on the CPI vector scales, scores on vector 1 and vector 2 are used to distinguish individuals between Alphas, Betas, Deltas, and Gammas. These four types of individuals are seen to represent a different way of living or a different lifestyle (Gough & Bradley, 1996). The third vector produces seven levels of self-realisation. Therefore, each of the four lifestyles can be measured with respect to levels of self-realisation; from low levels on vector 3, frustration and despair, to mid levels, ordinary feelings of stress, to high levels, feelings of self-actualisation. Future research can further study the relationships between the trait measures and personal action constructs through an analysis of the CPI three-vector model and the four associated lifestyles, levels of self-realisation, and the projects in which people are engaged.

Lastly, high scores on vector 2 represent an individual's inclination to follow rules, conform to social norms. Sulloway (1996) suggests that the extent to which one follows rules and conforms to societal norms, versus questioning rules and behaving in a non-conforming manner, is predictable from her/his placement within the family and the family dynamics that shape each child within a family unit; that each child within a family unit creates a developmental 'niche' for themselves. An area of future research could further explore the linkages between vector 2, the projects in which individuals are engaged, and birthorder.

Conclusion

In summary, the present exploratory research offers support for the linking of two levels of analysis in contemporary personality research. It is anticipated that future applied research will elaborate on these findings.

Endnotes

1. The following table is a list of the folk concept scales that make up the three vector scales (Gough & Bradley, 1996).

Vector 1		
Do	Dominance	<i>Higher:</i> confident, assertive, dominant, task-oriented <i>Lower:</i> cautious, quiet, hesitant to take initiative
F/M	Femininity/Masculinity	<i>Higher:</i> among males, high-scorers tend to be seen as high-strung, sensitive, and esthetically reactive; females with high scores tend to be seen as sympathetic, warm, and modest, but also dependent <i>Lower:</i> decisive, action-oriented; shows initiative; not easily subdued; rather unsentimental; tough-minded
Gi	Good Impression	<i>Higher:</i> wants to make a good impression; tries to do what will please others, sometimes to the point of being obsequious and sycophantic; short of this level, tends to be conventional, formal, and conservative <i>Lower:</i> insists on being himself or herself, even if this causes friction or problems; dissatisfied in many situations, often complains; easily annoyed and irritated
Sa	Self-Acceptance	<i>Higher:</i> has good opinion of self; sees self as talented and personally attractive; talkative <i>Lower:</i> self-doubting; readily assumes blame when things go wrong; often thinks others are better; gives in easily
Sc	Self-Control	<i>Higher:</i> tries to control emotions and temper; suppresses hostile and erotic feelings; takes

Sc	Self-Control (cont'd)	<p>pride in being self-disciplined</p> <p><i>Lower:</i> has strong feelings and emotions, and makes little effort to hide them; has problems of undercontrol and impulsivity; likes adventure and new experience</p>
Sp	Social Presence	<p><i>Higher:</i> self-assured, spontaneous; versatile; verbally fluent; pleasure-seeking</p> <p><i>Lower:</i> reserved, hesitant to express own views or opinions; self-denying</p>
Sy	Sociability	<p><i>Higher:</i> sociable, likes to be with people, outgoing</p> <p><i>Lower:</i> shy, often inhibited, prefers to stay in the background in social situations</p>
Vector 2		
Cm	Communality	<p><i>Higher:</i> fits in easily, reasonable, sees self as a quite average person; makes little effort to change things</p> <p><i>Lower:</i> sees self a different from others; not conventional or conforming; often changeable and moody; extremely low scores suggest careless or random answering</p>
Fx	Flexibility	<p><i>Higher:</i> flexible; likes change and variety; easily bored by routine and everyday experience; may be impatient and even erratic; clever and imaginative, but also careless and loosely organised</p> <p><i>Lower:</i> not changeable; likes a steady pace and well-organised and predictable situations; conventional and conservative</p>
So	Socialisation	<p><i>Higher:</i> conscientious, well-organised; finds it easy to accept and conform to normative rules; seldom gets in trouble</p>

So	Socialisation (cont'd)	<i>Lower:</i> resists rules, does not like to conform; often rebellious, gets into trouble easily; has unconventional views and attitudes
Vector 3		
le	Intellectual Efficiency	<i>Higher:</i> efficient in use of intellectual abilities; can keep on at a task where others might give up or become discouraged; insightful and resourceful <i>Lower:</i> has a hard time getting started on cognitive tasks and seeing them through to completion; has difficulty in expressing ideas
To	Tolerance	<i>Higher:</i> is tolerant of others' beliefs and values, even when different from or counter to own beliefs; fair-minded, reasonable, and tactful <i>Lower:</i> distrustful, fault-finding, and expunitive; often has hostile and vindictive feelings
Wb	Well-Being	<i>Higher:</i> feels self to be in good physical and mental health; optimistic about the future; cheerful <i>Lower:</i> concerned about health and/or personal problems; tends to complain about being treated unfairly or inconsiderately; pessimistic

2. In the first sample of the present research, 2 additional dimensions, mastery and support, were added to the 17 standard dimensions. In the second sample, 8 of the 17 standard dimensions were eliminated and 10 dimensions were added. The dimensions eliminated were absorption, challenge, importance, negative impact, other's view, positive impact, time adequacy, and value congruency. The dimensions added were confidence, conventional, flexibility, independence, mastery, perseverance, responsible, self-sufficiency, stage, and support. Given the exploratory nature of the present research, it was not our intention to replicate the five-factor structure. As a result of new dimensions being added and standard ones removed, the factor structure is expected to change. As mentioned, one of PPA's methodological strengths is its modular flexibility.
3. Of the remaining 14.7% of sample 1, participants were born in various countries. Sample 1 had one foreign-born participant from each of the following countries: Bosnia, Czech Republic, Nigeria, Poland, South Africa, Sri Lanka, Syria, and Taiwan, and two participants from the United States of America. Of the remaining 15.4% of sample 2, foreign-born participants were from the following countries: one participant from each of the following countries, Bulgaria, Chile, Egypt, Guyana, India, Jamaica, Malaysia, Philippines, and two participants from Poland.

4. The complete questionnaire package included: the California Psychological Inventory (Gough, 1995), Personal Projects Analysis (Little, 1983), Centre for Epidemiologic Studies Depression (Radloff, 1977), Personal Project System Rating Scale (Little, 1987a), the Short Personality Assessment 1, 2, and 3 (Little, 1978), the Ladder of Life Scale (see Palys & Little, 1983), Self Ratings and Others' Ratings on Personality Traits, NEO Self and Others' Ratings: Personality Traits, the Affect Scale (Diener & Emmons, 1985), the Global Life Satisfaction Scale, the Perfectionism Scale, and a demographic questionnaire.
5. Personal project data were looked at for the existence of multivariate outliers and any outlier was discarded from further analyses. CPI vector data met assumptions of normality, among others, for use in further analysis. Age was significantly correlated with higher scores on vector 3, self-realisation, as would be expected.
6. As indicated in the CPI manual (Gough, 1995), if 6.91% of the total items were not answered, caution should be taken in interpreting the results. As such, if 6.91% of the questions comprising the vector scales were not answered, the participant's data was dropped from further analyses. Three participants were not included in further analyses for this reason.
7. For each series of correlations carried out in the present research, performing Bonferroni corrections controlled for the probability of Type I error. The adjusted alpha was calculated as $.05/\#$ of tests. There were a

number of correlations in this research that were significant at the adjusted alpha level; they have been reported accordingly. However, as this is an exploratory research into the interrelationships between the CPI and PPA, we were also interested in detecting promising relationships for further research purposes, and as such, we reported all relationships that were significant, and highlighted the more significant and theoretically relevant relationships in the discussion. All tests of significance were two-tailed.

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Appendix A

The diagram illustrates a conceptual model of personal and contextual factors influencing outcomes. It is structured as follows:

- Top Section (Outcomes):** A large box labeled 'F' contains four outcomes: 'Quality of Life', 'Well-Being', 'Adaptation', and 'Life Record Data'.
- Middle Section (Core Factors):**
 - Left:** Box 'C' labeled 'Free Traits'.
 - Right:** Box 'D' labeled 'Personal Contexts'.
 - Center:** Box 'E' labeled 'Personal Projects'.
- Bottom Section (Stable Features):**
 - Left:** Box 'A' labeled 'Stable Personal Features'.
 - Right:** Box 'B' labeled 'Stable Contextual Features'.

Relationships (Arrows):

- From 'A' to 'C'.
- From 'B' to 'D'.
- Bidirectional arrows between 'C' and 'E'.
- Bidirectional arrows between 'D' and 'E'.
- Bidirectional arrows between 'C' and 'D'.
- From 'C' to 'F' (Quality of Life and Well-Being).
- From 'D' to 'F' (Adaptation and Life Record Data).
- From 'E' to 'F' (Well-Being).

Appendix B

Dimensions used with Sample 1

[illegible]

Dimensions used with Sample 2

[illegible]

Appendix C

Standard Rating Dimensions Used in PPA and the Five
Theoretical Factor Structures

Theoretical Factors	Ratings Dimensions of PPA
MEANING	Enjoyment, Value Congruency, Self-Identity, Absorption, Importance
STRUCTURE	Initiation, Control, Time Adequacy, Positive Impact, Negative Impact
COMMUNITY	Visibility, Other's View
EFFICACY	Progress, Outcome
STRESS	Stress, Challenge, Difficulty

Appendix D

**DEBRIEFING
Carleton University
Social Ecology Laboratory
Psychology Department**

Title of Study:

Construct Validation of the CPI Using Personal Projects Analysis

Background and Purpose of Study:

Data collected from this study will be used for two different purposes. One purpose is that we are collecting the Canadian norms for the revised California Psychological Inventory, Form 434. Data will be used with the CPI of other Canadian students and compared with other groups around the world. This is important for making sure the scales from this inventory are valid in Canada. A second purpose is to explore the relationship between the students' personality traits and their experiences with everyday personal projects and with well-being. For example, we anticipate that individuals who are self-confident, as assessed by the CPI, will appraise their personal projects as progressing more favourably. Such research will be beneficial in providing counselling for students in everyday university life.

Results:

The results of this study will be available in Loeb A405 in August 1999, 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 Health Services in room 501 at the Unicentre (520-2600, ext. 6674).

If you have any questions or comments about this research, please feel free to contact Anne C. Hargrave, the principal investigator (520-2600, ext. 1448) 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 E

Principal Components Analysis of the Standard PPA Dimensions at the
Project Level - Sample 1

PPA Dimensions	Factor 1 Stress	Factor 2 Structure / Efficacy	Factor 3 Community	Factor 4 Meaning
Challenge	.83			
Difficulty	.82			
Stress	.76			
Outcome	-.42	.41		
Initiation		.70		
Control		.63		
Mastery		.63		
Time Adequacy		.53		
Progress		.50		
Support			.76	
Visibility			.74	
Other's View			.71	
Importance			.46	
Enjoyment				.74
Self-Identity				.73
Absorption				.66
Value Congruency				.54
Eigenvalue	2.75	2.41	2.32	2.28
% of Variance	16.16	14.17	13.66	13.39
Total Variance:	57.38%			

Note: These are varimax-rotated principal components. Only loadings of above .40 are presented in the above structure.

Principal Components Analysis of the PPA Dimensions at the Project
Level - Sample 2

Dimensions	Factor 1 Structure / Meaning	Factor 2 Efficacy	Factor 3 Stress	Factor 4 Community	Factor 5 Controlled Conventional
Confidence	.74				
Self-Sufficiency	.72				
Perseverance	.71				
Initiation	.67				
Outcome	.66				
Self-Identity	.64				
Control	.58				
Progress		.77			
Stage		.77			
Mastery		.64			
Responsible		.57			
Stress			.85		
Difficulty			.79		
Enjoyment			-.49		
Visibility				.78	
Support				.75	
Flexibility					-.78
Conventional					.50
Eigenvalue	3.74	2.42	2.05	1.60	1.31
% of Variance	19.67	12.75	10.78	8.41	6.89
Total Variance:	58.48%				

Note: These are varimax-rotated principal components. Only loadings of above .40 are presented in the above structure.

Principal Components Analysis of PPA Dimensions at the Project
Level - Common Dimensions

Commons Dimensions	Factor 1 Structure / Efficacy	Factor 2 Stress	Factor 3 Community
Initiation	.74		
Mastery	.66		
Control	.63		
Outcome	.60		
Progress	.57		
Self-Identity	.51		
Stress		.84	
Difficulty		.83	
Enjoyment		-.52	
Visibility			.80
Support			.77
Eigenvalue	2.44	1.99	1.61
% of Variance	22.15	18.11	14.60
Total Variance:	54.86%		

Note: These are varimax-rotated principal components. Only loadings of above .40 are presented in the above structure.

Appendix F

Principal Components Analysis of Standard PPA Dimensions at the
Normative Level - Sample 1

PPA Dimensions	Factor 1 Personal Meaning	Factor 2 Stress	Factor 3 Community	Factor 4 Structure
Absorption	.78			
Self-Identity	.74			
Outcome	.67			
Value Congruency	.66			
Time Adequacy	.58			
Enjoyment	.56			
Progress	.45		.42	
Challenge		.85		
Stress		.81		
Difficulty		.80		
Visibility			.81	
Support			.79	
Other's View			.64	
Importance			.50	
			.42	
Initiation				.88
Control				.70
Mastery				.60
Eigenvalue	3.39	2.69	2.53	2.07
% of Variance	19.92	15.81	14.86	12.15
Total Variance:	62.74%			

Note: These are varimax-rotated principal components. Only loadings of above .40 are presented in the above structure.

Principal Components Analysis of Standard PPA Dimensions at the
Normative Level - Sample 2

Dimensions	Factor 1 Structure	Factor 2 Stress	Factor 3 Community	Factor 4 Efficacy	Factor 5 Independent Mastery	Factor 6 Meaning
Confidence	.86					
Perseverance	.81					
Outcome	.79					
Self-	.77					
Sufficiency						
Control	.73					
Initiation	.72					
Self-Identity	.68					
Conventional	.46					-.42
Stress		.86				
Difficulty		.82				
Flexibility			-.78			
Support			.68			
Visibility			.48	.49		
Responsible			.44		.47	
Stage				.85		
Progress				.60	.53	
Mastery					.84	
Independence					.56	
Enjoyment						.83
Eigenvalue	4.70	2.11	1.81	1.81	1.80	1.18
% of Variance	24.72	11.09	9.55	9.52	9.46	6.20
Total Variance:	70.54					

Note: These are varimax-rotated principal components. Only loadings of above .40 are presented in the above structure.

Principal Components Analysis of PPA Dimensions at the Normative
Level - Common Dimensions

Commons Dimensions	Factor 1 Efficacy / Structure	Factor 2 Community / Meaning	Factor 3 Stress
Initiation	.83		
Control	.77		
Mastery	.58		
Outcome	.52	.46	
Self-Identity	.48	.43	
Visibility		.79	
Support		.71	
Enjoyment		.52	
Progress		.51	
Difficulty			.88
Stress			.84
Eigenvalue	2.36	2.16	1.75
% of Variance	21.48	19.59	15.90
Total Variance:	56.92%		

Note: These are varimax-rotated principal components. Only loadings of above .40 are presented in the above structure.

Appendix G

Pearson Product Moment Correlations between CPI Vectors and
Personal Project Factors at the Project Level

Project Factors	CPI Vectors		
	Introversion	Norm Favouring	Self-Realisation
<u>Sample 1</u>			
Stress	.22	-.18	-.21
Structure / Efficacy	-.11	.17	.09
Community	-.06	.12	-.08
Meaning	-.03	.24	.12
<u>Sample 2</u>			
Structure / Meaning	.05	.14	.37**
Efficacy	-.08	.26*	-.07
Stress	.02	-.00	-.06
Community	-.10	-.33*	-.33*
Controlled / Conventional	.15	.20	-.01
<u>Common</u>			
Structure / Efficacy	-.05	.24**	.15
Stress	.03	-.15	-.15
Community	-.04	.20*	-.15

Sample 1 - N=66

Sample 2 - N=59

Common - N=129

Note: All tests of significance are two-tailed. *p < .05 **p < .01

No test is significant at the Bonferroni corrected alpha, .05/12 tests = .004 for Sample 1.

No test is significant at the Bonferroni corrected alpha, .05/15 tests = .003 for Sample 2. Actual significance of the Structure/Meaning factor = .004.

Boldface: Significant at Bonferroni corrected alpha, .05/9 tests = .006 for the common dimensions.

Pearson Product Moment Correlations between CPI Vectors and
Personal Project Factors at the Normative Level

Project Factors	CPI Vectors		
	Introversion	Norm Favouring	Self-Realisation
<u>Sample 1</u>			
Personal Meaning	-.11	.33**	.15
Stress	.22	-.19	-.23
Community	.02	-.01	-.16
Structure	-.04	.08.	.06
<u>Sample 2</u>			
Structure	.06	.17	.37**
Stress	-.01	.03	-.14
Community	-.01	.25	-.21
Efficacy	.13	.31*	-.19
Independent /	-.31*	.08	.05
Mastery	-.25	.06	-.08
Meaning			
<u>Common</u>			
Efficacy / Structure	-.04	.18*	.20*
Community	-.05	.27**	-.11
Stress	.07	-.14	-.15

Sample 1 - N=66

Sample 2 - N=59

Common - N=129

Note: All tests of significance are two-tailed. *p < .05 **p < .01

No test is significant at the Bonferroni corrected alpha, .05/12 tests = .004 for Sample 1. Actual significance of the Personal Meaning factor = .006.

No test is significant at the Bonferroni corrected alpha, .05/18 tests = .003 for Sample 2. Actual significance of the Meaning factor = .004

Boldface: Significant at Bonferroni corrected alpha, .05/9 tests = .006 for Common Dimensions.

Appendix H

Intercorrelations Among the McQuitty's Elementary Linkage Analysis, Personal Project Factors at the Dimension Level, and Personal Project Factors at the Normative Level for Sample 1

	1	2	3	4	5	6	7	8	9	10	11	12	13
1. Stress (L)	1.00												
2. Efficacy (L)	-.24*	1.00											
3. Structure (L)	-.21	.34***	1.00										
4. Community (L)	.10	.46***	.29*	1.00									
5. Meaning (L)	-.03	.64***	.37**	.48***	1.00								
6. Stress (D)	.93***	-.27*	-.11	.07	.05	1.00							
7. Structure / Efficacy (D)	-.15	.58***	.87***	.19	.44***	-.02	1.00						
8. Community (D)	.00	.45***	.07	.94***	.33**	-.12	.02	1.00					
9. Meaning (D)	.09	.47***	-.05	.25*	.80***	.15	-.01	.12	1.00				
10. Personal Meaning (N)	-.02	.74***	.13	.27*	.84***	.04	.30*	.16	.89***	1.00			
11. Stress (N)	.96***	-.33**	-.15	.12	.00	.98***	-.12	-.06	.13	-.02	1.00		
12. Community (N)	.09	.32***	.12	.92***	.27*	-.05	-.02	.96***	.05	.02	.03	1.00	
13. Structure (N)	-.07	.29*	.91***	.18	.26*	.07	.91***	-.04	-.22	-.01	-.00	.00	1.00

(*p < .05, **p < .01, ***p < .001)
(L) - McQuitty's Elementary Linkage Analysis
(D) - factors at the dimension level
(N) - factors at the normative level

Intercorrelations Among the McQuitty's Elementary Linkage Analyses, Personal Project Factors at the Dimension Level, and Personal Project Factors at the Normative Level for Sample 2

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1. Conventional / Autonomy (L)	1.00														
2. Stress (L)	-.13	1.00													
3. Efficacy (L)	.48***	-.03	1.00												
4. Community (L)	.24	.23	.32*	1.00											
5. Structure / Meaning (D)	.91***	-.01	.20	.15	1.00										
6. Efficacy (D)	.18	-.05	.91***	.20	-.10	1.00									
7. Stress (D)	-.01	.87***	.03	.32*	.15	-.04	1.00								
8. Community (D)	.13	.30*	.24	.75***	-.03	.08	.17	1.00							
9. (D)	.23	-.15	.12	-.26*	.11	-.10	-.12	.17	1.00						
10. Structure (N)	.93***	-.09	.25	.15	.99***	-.05	.10	-.02	.16	1.00					
11. Stress (N)	-.11	.95***	-.02	.40**	.04	-.09	.88***	.37**	-.18	-.04	1.00				
12. Community(N)	.13	.01	.17	.15	-.08	-.03	-.09	.66***	.81***	-.04	-.01	1.00			
13. Efficacy (N)	.12	-.01	.65***	.46***	-.08	.74***	.04	.27*	-.15	-.03	.00	-.02	1.00		
14. (N)	.25	-.04	.64***	-.09	.05	.64***	-.02	-.08	-.02	.06	-.07	-.01	-.02	1.00	
15. Meaning (N)	.14	.03	.06	.22	.01	.03	-.29	.43***	-.38**	-.02	.01	.03	.00	.07	1.00

(*p < .05, **p < .01, ***p < .001)

(L) - McQuitty's Elementary Linkage Analysis

(D) - factors at the dimension level.

(N) - factors at the normative level.

Intercorrelations Among the McQuitty's Elementary Linkage Analysis, Personal Project Factors at the Dimension Level, and Personal Project Factors at the Normative Level for the Common Dimensions

	1	2	3	4	5	6	7	8	9	10	11
1. Stress (L)	1.00										
2. Structure (L)	-.18*	1.00									
3. Meaning (L)	-.11	.43***	1.00								
4. Community (L)	.10	.23**	.35***	1.00							
5. Efficacy (L)	-.12	.39***	.45***	.30***	1.00						
6. Structure / Efficacy (D)	-.04	.84***	.62***	.18*	.74***	1.00					
7. Stress (D)	.82***	-.02	-.30***	.05	-.04	.08	1.00				
8. Community (D)	.18*	-.05	.41***	.94***	.29**	.04	.03	1.00			
9. Efficacy / Structure(N)	-.09	.91***	.56***	.03	.55***	.95***	.05	-.15	1.00		
10. Meaning / Community (N)	.07	.04	.60***	.86***	.47**	.21*	-.13	.95***	-.00	1.00	
11. Stress (N)	.97***	-.07	-.15	.12	-.16	-.01	.90***	.15	-.02	-.00	1.00

(*p < .05, **p < .01, ***p < .001)

(L) - McQuitty's Elementary Linkage Analysis

(D) - factors at the dimension level

(N) - factors at the normative level

Appendix I

**Social Ecology Laboratory
A407 LOEB Building
Carleton University
Ottawa, Ontario
K1S 5B6**

Dear Participant:

Thank you very much for agreeing to participate in our study. If you have any problems or questions as you complete the measures in this package, please call us at 520-2600 extension 1448 and we will get back to you as soon as possible.

Please try and complete the package all in one sitting. If you feel the need to take a break, please do so between the first and second questionnaire. Do not take a break in the middle of a questionnaire. We would ask that you return the package to **LOEB A407** as soon as possible, but not later than **7 days** after you picked it up. If we have not heard from you within 7 days, we will be calling to remind you. Remember you only receive your experimental credits once you have handed the package back in.

When you bring back the package, you will get a receipt for 2 credits to show you participated in this study and a debriefing form, which will give you additional information regarding why the data are being collected.

If for some reason you are unable to complete the package, we ask that you return the incomplete package to A407 of the LOEB building. This is essential due to concerns over copyright laws.

We wish you well in your continuing studies.

Anne C. Hargrave
Beth MacDiarmid

Appendix B: Informed Consent

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: Construct Validation of the CPI Using Personal Projects Analysis

I understand that this study is examining the kinds of activities and concerns that people currently have in their daily lives that are important to them. I also understand that the data obtained from one of the measures will be part of the Canadian norms for the California Psychological Inventory, Form 434. I am willing to complete the questionnaires in the attached package and understand it will take approximately two hours. I am aware that I may withdraw at any point in the process for any reason without penalty.

I understand that some of the measures might contain questions that some may find personal and sensitive and I understand that I am not required to answer any questions if I do not wish. 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 Anne C. Hargrave or Beth MacDiarmid, the principal investigators (520-2600, ext. 1448) or Prof. Brian Little, the research supervisor (520-2600, ext. 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: _____ 1998

Signature of Participant _____

Signature of Researcher _____

General Background Information

Age: _____ yrs.

Gender: M F

Country of Birth: _____

Native Language: _____

Language Spoken in the (current) home: _____

Marital Status (circle one)

Single (never married)

Currently married or living with common law spouse

Divorced

Widow or Widower

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 per week.

1. I enjoy social gatherings just to be with people.
2. The only interesting part of a newspaper is the "funnies."
3. I looked up to my father as an ideal man.
4. A person needs to "show off" a little now and then.
5. Our thinking would be a lot better off if we would just forget about words like "probably," "approximately," and "perhaps."
6. I have a very strong desire to be a success in the world.
7. When in a group of people, I usually do what the others want rather than make suggestions.
8. I liked *Alice in Wonderland* by Lewis Carroll.
9. I usually go to the movies more than once a week.
10. Some people exaggerate their troubles in order to get sympathy.
11. People can pretty easily change me even though I thought that my mind was already made up on a subject.
12. I often feel that I made a wrong choice in my occupation.
13. I am very slow in making up my mind.
14. I always follow the rule: business before pleasure.
15. Several times a week I feel as if something dreadful is about to happen.
16. There's no use in doing things for people; you only find that you get it in the neck in the long run.
17. I would like to be a journalist.
18. A person who doesn't vote is not a good citizen.
19. I think I would like the work of a building contractor.
20. I have had very peculiar and strange experiences.
21. My daily life is full of things that keep me interested.
22. When a person "pads" an income tax report so as to get out of some taxes, it is just as bad as stealing money from the government.
23. In most ways, a poor person is better off than a rich one.
24. I always like to keep my things neat and tidy and in good order.
25. Clever, sarcastic people make me feel very uncomfortable.
26. It's a good thing to know people in the right places so you can get traffic tickets, and such things, taken care of.
27. It makes me feel like a failure when I hear of the success of someone I know well.
28. I think I would like the work of a dress designer.
29. I am often said to be hotheaded.
30. I gossip a little at times.
31. I doubt whether I would make a good leader.
32. I tend to be on guard with people who are somewhat more friendly than I had expected.
33. Usually I would prefer to work with women.
34. There are a few people who just cannot be trusted.
35. I become quite irritated when I see someone spit on the sidewalk.
36. When I was going to school I played hooky quite often.
37. I have very few fears compared to my friends.
38. It is hard for me to start a conversation with strangers.
39. I must admit that I enjoy playing practical jokes on people.
40. I get very nervous if I think that someone is watching me.
41. For most questions, there is just one right answer once a person is able to get all the facts.
42. I sometimes pretend to know more than I really do.
43. It's no use worrying my head about public affairs; I can't do anything about them anyhow.
44. Sometimes I feel like smashing things.
45. As a child I used to be able to go to my parents with my problems.
46. I think I would like the work of a school teacher.
47. If the pay was right, I would like to travel with a circus or carnival.
48. Most people would tell a lie if they could gain by it.
49. When someone does me a wrong, I feel I should pay that person back if I can, just for the principle of the thing.

50. I seem to be about as capable and smart as most people around me.
51. Every family owes it to the city to keep its sidewalks cleared in the winter and its lawn mowed in the summer.
52. I usually take an active part in the entertainment at parties.
53. I think I would enjoy having authority over other people.
54. I find it hard to keep my mind on a task or job.
55. Some of my family have quick tempers.
56. I hate to be interrupted when I am working on something.
57. I have sometimes stayed away from another person because I feared doing or saying something that I might regret afterwards.
58. I get very tense and anxious when I think other people are disapproving of me.
59. The trouble with many people is that they don't take things seriously enough.
60. I have often met people who were supposed to be experts who were no better than I.
61. I liked school.
62. I think Lincoln was greater than Washington.
63. It is always a good thing to be frank.
64. A windstorm terrifies me.
65. I think I would like the work of a clerk in a large department store.
66. Sometimes I feel like swearing.
67. I never cared much for school.
68. I am embarrassed by dirty stories.
69. I would disapprove of anyone's drinking to the point of intoxication at a party.
70. Sometimes I cross the street just to avoid meeting someone.
71. I get excited very easily.
72. I used to keep a diary.
73. Maybe some minority groups do get rough treatment, but it's no business of mine.
74. It is very hard for me to tell anyone about myself.
75. We ought to worry about our own country and let the rest of the world take care of itself.
76. I often feel as if the world was just passing me by.
77. When I get bored I like to stir up some excitement.
78. I like to boast about my achievements every now and then.
79. I am afraid of deep water.
80. There have been times when I have been very angry.
81. I must admit I often try to get my own way regardless of what others may want.
82. I think I would like the work of a garage mechanic.
83. I usually feel nervous and ill at ease at a formal dance or party.
84. I have at one time or another in my life tried my hand at writing poetry.
85. I don't like to undertake any project unless I have a pretty good idea as to how it will turn out.
86. Most of the arguments or quarrels I get into are over matters of principle.
87. I like adventure stories better than romantic stories.
88. I do not like to see people carelessly dressed.
89. I would have been more successful if people had given me a fair chance.
90. As long as people vote every four years, they have done their duty as citizens.
91. Sometimes I think of things too bad to talk about.
92. People often expect too much from me.
93. I would do almost anything on a dare.
94. With things going as they are, it's pretty hard to keep up hope of amounting to something.
95. The idea of doing research appeals to me.
96. I take a rather serious attitude toward ethical and moral issues.
97. I would like the job of a foreign correspondent for a newspaper.
98. People today have forgotten how to feel properly ashamed of themselves.
99. I cannot keep my mind on one thing.
100. I prefer a shower to a bathtub.
101. I must admit that I often do as little work as I can get by with.
102. I like to be the center of attention.
103. I like to listen to symphony orchestra concerts on the radio.
104. I would like to see a bullfight in Spain.

105. I am fascinated by fire.
106. The average person is not able to appreciate art and music very well.
107. I can be friendly with people who do things which I consider wrong.
108. I have no dread of going into a room by myself where other people have already gathered and are talking.
109. I get pretty discouraged sometimes.
110. The thought of being in an automobile accident is very frightening to me.
111. When in a group of people, I have trouble thinking of the right things to talk about.
112. I set a high standard for myself, and I feel others should do the same.
113. School teachers complain a lot about their pay, but it seems to me they get as much as they deserve.
114. At times I feel like picking a fist fight with someone.
115. Sometimes I have the same dream over and over.
116. It is annoying to listen to a lecturer who cannot seem to make up his mind as to what he really believes.
117. I don't blame people for trying to grab all they can get in this world.
118. I believe we are made better by the trials and hardships of life.
119. Planning one's activities in advance is very likely to take most of the fun out of life.
120. I do not always tell the truth.
121. I was a slow learner in school.
122. I like poetry.
123. I think I am stricter about right and wrong than most people.
124. I am likely not to speak to people until they speak to me.
125. There is something wrong with a person who can't take orders without getting angry or resentful.
126. I do not dread seeing a doctor about a sickness or injury.
127. I always try to consider the other person's feelings before I do something.
128. It takes a lot of argument to convince most people of the truth.
129. I think I would like to drive a racing car.
130. Sometimes without any reason or even when things are going wrong I feel excitedly happy, "on top of the world."
131. One of my aims in life is to accomplish something that would make my mother proud of me.
132. I fall in and out of love rather easily.
133. I feel as good now as I ever have.
134. It makes me uncomfortable to put on a stunt at a party even when others are doing the same sort of thing.
135. The members of my family were always very close to each other.
136. Most people make friends because friends are likely to be useful to them.
137. It is hard for me just to sit still and relax.
138. There are times when I have been discouraged.
139. It is all right to get around the law if you don't actually break it.
140. I enjoy hearing lectures on world affairs.
141. Parents are much too easy on their children nowadays.
142. Most people will use somewhat unfair means to gain profit or an advantage rather than to lose it.
143. I like to be with people who play jokes on each other.
144. I am somewhat afraid of the dark.
145. I have a tendency to give up easily when I meet difficult problems.
146. I would like to wear expensive clothes.
147. I certainly feel useless at times.
148. I have often been frightened in the middle of the night.
149. I consider a matter from every standpoint before I make a decision.
150. Criticism or scolding makes me very uncomfortable.
151. I'm not the type to be a political leader.
152. I read at least ten books a year.
153. If I am not feeling well I am somewhat cross and grouchy.
154. My parents never really understood me.

155. People should adapt their ideas and behavior to the group that happens to be with them at the time.
156. I hardly ever get excited or thrilled.
157. I have the wanderlust and am never happy unless I am roaming or traveling about.
158. I would fight if someone tried to take my rights away.
159. I feel nervous if I have to meet a lot of people.
160. I would like to hear a great singer in an opera.
161. I am sometimes cross and grouchy without any good reason.
162. Every citizen should take the time to find out about national affairs, even if it means giving up some personal pleasures.
163. I like parties and socials.
164. My parents have often disapproved of my friends.
165. I do not mind taking orders and being told what to do.
166. In school I always looked far ahead in planning what courses to take.
167. I would like to belong to several clubs or lodges.
168. My home life was always happy.
169. Teachers often expect too much work from the students.
170. I often act on the spur of the moment without stopping to think.
171. I think I could do better than most of the present politicians if I were in office.
172. I do not have a great fear of snakes.
173. My way of doing things is apt to be misunderstood by others.
174. I never make judgments about people until I am sure of the facts.
175. I must admit that people sometimes disappoint me.
176. I commonly wonder what hidden reason another person may have for doing something nice for me.
177. I am certainly lacking in self-confidence.
178. Most people are secretly pleased when someone else gets into trouble.
179. When I work on a committee I like to take charge of things.
180. My parents have generally let me make my own decisions.
181. I always tried to make the best school grades that I could.
182. I would rather go without something than ask for a favor.
183. Sometimes I feel as if I must injure either myself or someone else.
184. I have had more than my share of things to worry about.
185. I often do whatever makes me feel cheerful here and now, even at the cost of some distant goal.
186. I usually don't like to talk much unless I am with people I know very well.
187. I am inclined to take things hard.
188. I am quite often not in on the gossip and talk of the group I belong to.
189. In school my marks for conduct were quite regularly bad.
190. Only a fool would ever vote to increase his own taxes.
191. I can remember "playing sick" to get out of something.
192. When I meet a stranger, I often think that he or she is better than I am.
193. I would be ashamed not to use my privilege of voting.
194. I like to keep people guessing what I'm going to do next.
195. The most important things to me are my duties to my job and to other people.
196. I think I would like to fight in a boxing match sometime.
197. Once in a while I laugh at a dirty joke.
198. Before I do something, I try to consider how my friends will react to it.
199. I would like to be a soldier.
200. In a group of people, I would not be embarrassed to be called upon to start a discussion or give an opinion about something I know well.
201. If I saw some children hurting another child, I am sure I would try to make them stop.
202. If given the chance, I would make a good leader of people.
203. When things go wrong, I sometimes blame the other person.

204. I like to plan a home study schedule and then follow it.
205. I enjoy a race or game better when I bet on it.
206. I have often found people jealous of my good ideas just because they had not thought of them first.
207. Sometimes at elections I vote for candidates about whom I know very little.
208. I like to go to parties and other affairs where there is lots of loud fun.
209. Most people are honest chiefly through fear of being caught.
210. I very much like hunting.
211. I have frequently found myself, when alone, pondering such abstract problems as free will, evil, etc.
212. I have never been in trouble with the law.
213. It makes me angry when I hear of someone who has been wrongly prevented from voting.
214. In school I was sometimes sent to the principal because I had misbehaved.
215. I would like to write a technical book.
216. At times I have worn myself out by undertaking too much.
217. I think I would like the work of a librarian.
218. I love to go to dances.
219. Most people inwardly dislike putting themselves out to help other people.
220. I feel uneasy indoors.
221. People have a real duty to take care of their aged parents, even if it means making some pretty big sacrifices.
222. I would like to belong to a discussion and study club.
223. I keep out of trouble at all costs.
224. I usually expect to succeed in things I do.
225. People pretend to care more about one another than they really do.
226. People seem naturally to turn to me when decisions have to be made.
227. It is hard for me to find anything to talk about when I meet a new person.
228. I like to read about history.
229. I much prefer symmetry to asymmetry.
230. I would rather be a steady and dependable worker than a brilliant but unstable one.
231. I am apt to show off in some way if I get the chance.
232. Sometimes I feel that I am about to go to pieces.
233. People don't need to worry about others if only they look after themselves.
234. We ought to pay our elected officials better than we do.
235. I can honestly say that I do not really mind paying my taxes because I feel that's one of the things I can do for what I get from the community.
236. I am so touchy on some subjects that I can't talk about them.
237. The future is too uncertain for a person to make serious plans.
238. Sometimes I just can't seem to get going.
239. I like to talk before groups of people.
240. I would like to be a nurse.
241. The person who provides temptation by leaving valuable property unprotected is about as much to blame for its theft as the one who steals it.
242. I am a good mixer.
243. I am often bothered by useless thoughts which keep running through my mind.
244. If I were a reporter, I would like very much to report news of the theater.
245. Most of the time I feel happy.
246. I like to plan out my activities in advance.
247. From time to time I like to get completely away from work and anything that reminds me of it.
248. I must admit that I have a bad temper once I get angry.
249. I like mechanics magazines.
250. I must admit I find it very hard to work under strict rules and regulations.
251. I like large, noisy parties.
252. I sometimes feel that I am a burden to others.
253. When prices are high, you can't blame people for getting all they can while the getting is good.
254. I have never deliberately told a lie.

255. Only a fool would try to change our American way of life.
256. I want to be an important person in the community.
257. I often feel as though I have done something wrong or wicked.
258. In school I found it very hard to talk before the class.
259. I usually feel that life is worthwhile.
260. I always try to do at least a little better than what is expected of me.
261. We ought to let Europe get out of its own mess; it made its bed, let it lie in it.
262. There have been a few times when I have been very mean to another person.
263. Lawbreakers are almost always caught and punished.
264. I would be very unhappy if I was not successful at something I had seriously started to do.
265. I dread the thought of an earthquake.
266. I think most people would lie to get ahead.
267. I am a better talker than a listener.
268. At times I have been very anxious to get away from my family.
269. I like science.
270. I often lose my temper.
271. My parents were always very strict and stern with me.
272. I must admit I feel sort of scared when I move to a strange place.
273. I am bothered by people outside, on streetcars, in stores, etc., watching me.
274. I'm pretty sure I know how we can settle the international problems we face today.
275. Sometimes I rather enjoy going against the rules and doing things I'm not supposed to do.
276. I have very few quarrels with members of my family.
277. I have no fear of water.
278. If I get too much change in a store, I always give it back.
279. I often get disgusted with myself.
280. I enjoy many different kinds of play and recreation.
281. Society owes a lot more to the businessman and the manufacturer than it does to the artist and the professor.
282. Almost every day something happens to frighten me.
283. I like to read about science.
284. It is hard for me to act natural when I am with new people.
285. I refuse to play some games because I am not good at them.
286. I have never done anything dangerous for the thrill of it.
287. I think I would like to belong to a singing club.
288. As a child I was suspended from school one or more times for disciplinary reasons.
289. There have been times when I have worried a lot about something that was not really important.
290. I must admit that I am a high-strung person.
291. I think I would like to belong to a motorcycle club.
292. I used to like it very much when one of my papers was read to the class in school.
293. Every now and then I get into a bad mood, and no one can do anything to please me.
294. I feel that I have often been punished without cause.
295. I would be willing to give money myself in order to right a wrong, even though I was not mixed up in it in the first place.
296. I would like to be an actor on the stage or in the movies.
297. At times I have a strong urge to do something harmful or shocking.
298. I get sort of annoyed with writers who go out of their way to use strange and unusual words.
299. I don't seem to care what happens to me.
300. Police cars should be specially marked so that you can always see them coming.
301. I am afraid to be alone in the dark.
302. I have often gone against my parents' wishes.
303. We should cut down on our use of oil, if necessary, so that there will be plenty left for the people fifty or a hundred years from now.

304. When the community makes a decision, it is up to a person to help carry it out even if he or she had been against it.

305. I often wish people would be more definite about things.

306. I have nightmares every few nights.

307. If I am driving a car, I try to keep others from passing me.

308. I must admit it would bother me to put a worm on a fish hook.

309. I have been afraid of things or people that I knew could not hurt me.

310. I would rather have people dislike me than look down on me.

311. I cannot do anything well.

312. Anyone who is able and willing to work hard has a good chance of succeeding.

313. I dislike having to talk in front of a group of people.

314. I must admit I try to see what others think before I take a stand.

315. People should not have to pay taxes for the schools if they do not have children.

316. My parents wanted me to "make good" in the world.

317. I often think about how I look and what impression I am making upon others.

318. When I was a child, I didn't care to be a member of a crowd or gang.

319. In a group, I usually take the responsibility for getting people introduced.

320. I would be willing to describe myself as a pretty "strong" personality.

321. I almost never go to sleep.

322. I do not like to loan my things to people who are careless in the way they take care of them.

323. I work under a great deal of tension.

324. Voting is nothing but a nuisance.

325. When I am feeling very happy and active, someone who is blue or low will spoil it all.

326. I am a very ticklish person.

327. I find it easy to "drop" or "break with" a friend.

328. I find that a well-ordered mode of life with regular hours is congenial to my temperament.

329. It is hard for me to sympathize with someone who is always doubting and unsure about things.

330. Everything tastes the same.

331. I often start things I never finish.

332. I could be perfectly happy without a single friend.

333. Education is more important than most people think.

334. I get nervous when I have to ask someone for a job.

335. There are times when I act like a coward.

336. Sometimes I used to feel that I would like to leave home.

337. My family has objected to the kind of work I do, or plan to do.

338. I never worry about my looks.

339. At times I think I am no good at all.

340. I like to eat my meals quickly and not spend a lot of time at the table visiting and talking.

341. My people treat me more like a child than a grown-up.

342. I must admit that it makes me angry when other people interfere with my daily activities.

343. In school most teachers treated me fairly and honestly.

344. I am more nervous by certain animals.

345. I go out of my way to meet trouble rather than try to escape it.

346. I must admit I am a pretty fair talker.

347. If people don't get a few lucky breaks in life, it just means that they haven't been keeping their eyes open.

348. I usually try to do what is expected of me and to avoid criticism.

349. If a person is clever enough to cheat someone out of a large sum of money, he or she should be allowed to keep it.

350. People would not be expected to do anything for their community unless they are paid for it.

351. Some of my family have habits that bother and annoy me very much.

352. I must admit I have no great desire to learn new things.
353. No one seems to understand me.
354. A strong person will be able to make up his or her mind even on the most difficult questions.
355. I have strong political opinions.
356. There seems to be a lump in my throat much of the time.
357. I sometimes feel that I do not deserve as good a life as I have.
358. I dream frequently about things that are best kept to myself.
359. I think I am usually a leader in my group.
360. It is impossible for an honest person to get ahead in the world.
361. I like to have a place for everything and everything in its place.
362. I have more trouble concentrating than others seem to have.
363. I don't like to work on a problem unless there is the possibility of coming out with a clear-cut and unambiguous answer.
364. It bothers me when something unexpected interrupts my daily routine.
365. The future seems hopeless to me.
366. I never seem to get hungry.
367. My home life was always very pleasant.
368. I feel that I would be a much better person if I could gain more understanding of myself.
369. I seem to do things that I regret more often than other people do.
370. Disobedience to any government is never justified.
371. I can't really enjoy a rest or vacation unless I have earned it by some hard work.
372. I have reason for feeling jealous of one or more members of my family.
373. My table manners are not quite as good at home as when I am out in company.
374. I would never go out of my way to help another person if it meant giving up some personal pleasure.
375. There are certain people whom I dislike so much that I am inwardly pleased when they are catching it for something they have done.
376. I enjoy planning things and deciding what each person should do.
377. I sometimes tease animals.
378. I doubt if anyone is really happy.
379. I would rather not have very much responsibility for other people.
380. I am known as a hard and steady worker.
381. A person is better off not to trust anyone.
382. Success is a matter of will power.
383. I usually have to stop and think before I act even in trifling matters.
384. Most people would be better off if they never went to school at all.
385. It is pretty easy for people to win arguments with me.
386. I know who is responsible for most of my troubles.
387. I don't like things to be uncertain and unpredictable.
388. When I am cornered, I tell that portion of the truth which is not likely to hurt me.
389. I get pretty discouraged with the law when a smart lawyer gets a criminal free.
390. I have not lived the right kind of life.
391. I am quite a fast reader.
392. I daydream very little.
393. People who seem unsure and uncertain about things make me feel uncomfortable.
394. Even when I have gotten into trouble I was usually trying to do the right thing.
395. It is very important to me to have enough friends and social life.
396. I sometimes wanted to run away from home.
397. Once I have my mind made up I seldom change it.
398. Life usually hands me a pretty raw deal.
399. At times I have been so entertained by the cleverness of a crook that I have hoped he would get by with it.
400. I have a good appetite.
401. Most young people get too much education.
402. My sleep is fitful and disturbed.
403. I have a natural talent for influencing people.

404. I am in favor of a very strict enforcement of all laws, no matter what the consequences.
405. People often talk about me behind my back.
406. I have one or more bad habits which are so strong that it is no use fighting against them.
407. I had my own way as a child.
408. I always see to it that my work is carefully planned and organized.
409. I would never play cards (poker) with a stranger.
410. I regard the right to speak my mind as very important.
411. Strong people do not show their emotions and feelings.
412. I like to give orders and get things moving.
413. I get all the sympathy I should.
414. I do not read every editorial in the newspaper every day.
415. I have felt embarrassed over the type of work that one or more members of my family have done.
416. I don't think I'm quite as happy as others seem to be.
417. Any job is all right with me, so long as it pays well.
418. I am embarrassed with people I do not know well.
419. Even though I am sure I am in the right, I usually give in because it is foolish to cause trouble.
420. I used to steal sometimes when I was a youngster.
421. I don't really care whether people like me or dislike me.
422. I feel like giving up quickly when things go wrong.
423. If people had not had it in for me I would have been much more successful.
424. The one to whom I was most attached and whom I most admired as a child was a woman (mother, sister, aunt, or other woman).
425. I have often felt guilty because I have pretended to feel more sorry about something than I really was.
426. I get tired more easily than other people seem to.
427. I would be uncomfortable in anything other than fairly conventional dress.
428. My home as a child was less peaceful and quiet than those of most other people.
429. Even the idea of giving a talk in public makes me afraid.
430. The things some of my family have done have frightened me.
431. As a child in school I used to give the teachers lots of trouble.
432. I am not afraid of picking up a disease or germs from doorknobs.
433. It is more important that a father be kind than that he be successful.
434. It seems that people used to have more fun than they do now.

PERSONAL PROJECTS ANALYSIS

We are interested in studying the kinds of activities and concerns that people have at different stages of their life. We call these *personal* projects. All of us have a number of personal projects at any given time that we think about, plan for, carry out, and sometimes (though not always) complete.

Here are some examples of projects:

- Completing my English essay.
- Trying to help Gary get along better with others.
- Overcoming fear of meeting new people.
- Getting more outdoor exercise.
- Trying to finish the book Allan gave me.
- Taking a trip to Ottawa.
- Cutting the grass.
- Finding a part-time job.
- Redecorating my bedroom.
- Trying to clarify my religious beliefs.
- Losing ten pounds.
- Making a birthday present for my friend.

We are also very interested in finding out how people feel about these personal projects, how enjoyable they are, and so on. We would appreciate it if you could begin by just writing down in the next ten minutes as many personal projects as you can that you are engaged in or thinking about at the present time—remember these are not necessarily formal projects, or important ones—we would prefer you to give us more of the everyday kinds of activity or concerns that characterize your life at present.

Please go ahead and write down as many as you can in ten minutes.

Personal Projects Rating Dimensions

Now copy the projects in as brief a form as possible on the Personal Projects Rating Matrix page. Just make your description long enough to keep each project clearly in mind. As you can see, there is space for 10 projects. If your initial list contains *more* than 10, select the 10 that you are most likely to engage in over the next month or so. If you wrote down fewer than 10, see if you can think of several more, or break down some of those you listed into several projects. It is important for everyone to try to fill in 10 projects.

In columns 1 to 20 please rate each one of your projects using any number from 0 to 10 on the following dimensions. Remember that numbers 0 and 10 can also be used.

1. Conventional: To what extent do you view this project as being characteristic of conventional, normative rules. Use 10 if you view this project as very conventional and 0 if you view this project as very unconventional.
2. Enjoyment: How 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 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 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 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 project. Use 10 if a project is very stressful to carry out and 0 if a project is very relaxing to carry out.
8. Perseverance: To what extent do you persevere (persist) in the pursuit of this project when others in the same situation may have given up or gotten discouraged. Use 10 if you persevere in the pursuit of this project and 0 if you tend to get discouraged.

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 a total failure.
10. Self-identity: To what extent a 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. Confidence: To what extent do you feel confident and assertive in carrying out this project. Use 10 if you feel able to carry out your project and use 0 if you doubt your ability to do so.
12. Self-sufficiency: To what extent do you persist in an independent manner in the pursuit of this project. Use 10 if you feel a great deal of self-sufficiently or 0 if you tend to seek a great deal of support from others.
13. Flexibility: To what extent are you flexible in the pursuit of this project. Use 10 if you like change and variety in the pursuit of this project and 0 if you pursue this project at a well-organized and steady pace.
14. Progress: How successful have you been in the 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.
15. Responsible: How efficient and organized are you, because you want to be, in the pursuit of this project. Use 10 if you are very methodical and 0 if your pursuit of this project does not have strict rules and settings.
16. Mastery: To what extent do you feel a sense of mastery (a sense of accomplishment of something worthwhile) in the pursuit of this project? Use 10 if you feel a great deal of mastery and 0 if you feel no mastery.
17. Support: How much support is provided by others for each project? Use 10 if a project is very much supported by others and 0 if a project is not supported at all.
18. Flow: To what extent do you experience your thoughts and actions merging in a harmonious and exhilarating way, giving rise to feelings of creative expression, while you are engaged in the project. Some athletes refer to such an experience as being "in the zone". Use 10 if experience a lot of flow in this project and 0 if you do not experience any flow in this project.

19. Independence:

To what extent do you pursue this project in a manner that encourages your freedom and initiative versus in a manner in which your tasks and expectations are clearly defined by others. Use 10 if you pursue this project with a great deal of initiative and 0 if you pursue this project in a very structured fashion.

20. 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 project as moving through stages on such a time-line. Using the scale that follow, 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 thought 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 you 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.

1

To what extent do you believe that others who are close to you expect you to attain high standards that are difficult and challenging; and do you believe that they will be disappointed if you fail to meet these standards?

0	1	2	3	4	5	6	7	8	9	10
Not at all										
To a great extent										

Given your answer to the above question, do you see this as positive for your life or negative for your life?

	0	1	2	3	4	5	6	7	8	9	10	
	Extremely negative										Extremely positive	

To what extent do you impose very high standards on yourself? In your daily undertakings, do you emphasize precision, order and organization; and do you engage in a great deal of self-criticism and self-scrutiny?

0	1	2	3	4	5	6	7	8	9	10
Not at all										To a great extent

Given your answer to the above question, do you see this as positive for your life or as negative for your life?

0	1	2	3	4	5	6	7	8	9	10
Extremely negative										Extremely positive

To what extent do you expect others to meet very high standards, and to what extent do you evaluate them in terms of those standards?

0	1	2	3	4	5	6	7	8	9	10
Not at all										To a great extent

Life Satisfaction Scale

Below is a scale that we would like you to use to tell us how satisfied you are with your life as a whole right now. 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.

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	0	1	2	3	4	5	6	7	8	9	10	Completely
Dissatisfied												Satisfied
						Neutral						

LADDER OF LIFE SCALE

Below is a picture of a ladder of the quality of life. The top of the ladder represents the best quality of life that you hope to attain for yourself -- your ideal state of life quality. The bottom of the ladder represents the worst quality of life that you could expect to attain -- a situation where all your fears and worries come true. Think about those two situations for a moment, and try and imagine what each of them would be like.

Now, if the best quality of life that you hope to attain for yourself is represented by the number ten (10) at the top of the ladder, and if the worst quality of life that you could expect to attain is represented by the number zero (0) at the bottom of the ladder, where on the ladder would you place your present life situation? Mark this number with an N (Now).

- Now try to imagine what life was like 5 years ago using the same scale. Indicate this with a P (Past).

Finally, imagine what your life will be like five years from now. Mark this with an F (Future).

10	Best quality of life you hope to attain
9	
8	
7	
6	
5	
4	
3	
2	
1	
0	Worst quality of life you could expect to attain

Self Ratings and Others' Ratings on Personality Traits

Below are twenty-one scales containing descriptions of personality characteristics. For each scale we would like you to put a slash on the line in the location that best corresponds to you, as you would describe yourself. Put an 'M' over the top of the slash you make. Next, put a slash on the line in the location that corresponds to how others who don't know you that well see you (eg. acquaintances, but not close friends). Put an 'O' over top of the slash you make.

For example, you may consider yourself to be quiet and hesitant to take the initiative, so you would make a slash at the lower end of the scale and put an 'M' over top. On the other hand, acquaintances may see you as confident and assertive, so you would make a slash at the higher end of the scale and put an 'O' over top.

<div style="display: flex; align-items: center; justify-content: center;"> <div style="width: 100px; border-bottom: 1px solid black; position: relative; margin: 0 auto;"> <div style="position: absolute; top: -10px; left: 50%; transform: translate(-50%, -100%); font-weight: bold;">M</div> </div> </div>	<div style="display: flex; align-items: center; justify-content: center;"> <div style="width: 100px; border-bottom: 1px solid black; position: relative; margin: 0 auto;"> <div style="position: absolute; top: -10px; left: 50%; transform: translate(-50%, -100%); font-weight: bold;">O</div> </div> </div>
cautious, quiet, hesitant to take initiative	confident, assertive, dominant, task-oriented

Another example would be if you see yourself as confident and assertive and you feel that acquaintances see you as confident and assertive as well. You would then make a slash at the higher end of the scale and put an 'M' and an 'O' over top of it.

<div style="display: flex; align-items: center; justify-content: center;"> <div style="width: 100px; border-bottom: 1px solid black; position: relative; margin: 0 auto;"> <div style="position: absolute; top: -10px; left: 50%; transform: translate(-50%, -100%); font-weight: bold;">MO</div> </div> </div>	<div style="display: flex; align-items: center; justify-content: center;"> <div style="width: 100px; border-bottom: 1px solid black; position: relative; margin: 0 auto;"> <div style="position: absolute; top: -10px; left: 50%; transform: translate(-50%, -100%); font-weight: bold;">MO</div> </div> </div>
cautious, quiet, hesitant to take initiative	confident, assertive, dominant, task-oriented

<div style="display: flex; align-items: center; justify-content: center;"> <div style="width: 100px; border-bottom: 1px solid black; position: relative; margin: 0 auto;"> <div style="position: absolute; top: -10px; left: 50%; transform: translate(-50%, -100%); font-weight: bold;">M</div> </div> </div>	<div style="display: flex; align-items: center; justify-content: center;"> <div style="width: 100px; border-bottom: 1px solid black; position: relative; margin: 0 auto;"> <div style="position: absolute; top: -10px; left: 50%; transform: translate(-50%, -100%); font-weight: bold;">O</div> </div> </div>
high-strung, nervous, sensitive, esthetically reactive	tough-minded, rather unsentimental, action-oriented

<div style="display: flex; align-items: center; justify-content: center;"> <div style="width: 100px; border-bottom: 1px solid black; position: relative; margin: 0 auto;"> <div style="position: absolute; top: -10px; left: 50%; transform: translate(-50%, -100%); font-weight: bold;">M</div> </div> </div>	<div style="display: flex; align-items: center; justify-content: center;"> <div style="width: 100px; border-bottom: 1px solid black; position: relative; margin: 0 auto;"> <div style="position: absolute; top: -10px; left: 50%; transform: translate(-50%, -100%); font-weight: bold;">O</div> </div> </div>
ambitious, want to be a success, have many interests	unsure of self, dislike direct competition, uncomfortable with uncertainty or complexity

<div style="display: flex; align-items: center; justify-content: center;"> <div style="width: 100px; border-bottom: 1px solid black; position: relative; margin: 0 auto;"> <div style="position: absolute; top: -10px; left: 50%; transform: translate(-50%, -100%); font-weight: bold;">M</div> </div> </div>	<div style="display: flex; align-items: center; justify-content: center;"> <div style="width: 100px; border-bottom: 1px solid black; position: relative; margin: 0 auto;"> <div style="position: absolute; top: -10px; left: 50%; transform: translate(-50%, -100%); font-weight: bold;">O</div> </div> </div>
shy, often inhibited, prefer to stay in the background in social situations	sociable, like to be with people, outgoing

<div style="display: flex; align-items: center; justify-content: center;"> <div style="width: 100px; border-bottom: 1px solid black; position: relative; margin: 0 auto;"> <div style="position: absolute; top: -10px; left: 50%; transform: translate(-50%, -100%); font-weight: bold;">M</div> </div> </div>	<div style="display: flex; align-items: center; justify-content: center;"> <div style="width: 100px; border-bottom: 1px solid black; position: relative; margin: 0 auto;"> <div style="position: absolute; top: -10px; left: 50%; transform: translate(-50%, -100%); font-weight: bold;">O</div> </div> </div>
self-assured, spontaneous, versatile, verbally fluent, pleasure-seeking	reserved, hesitant to express own views or opinions, self-denying

<div style="display: flex; align-items: center; justify-content: center;"> <div style="width: 100px; border-bottom: 1px solid black; position: relative; margin: 0 auto;"> <div style="position: absolute; top: -10px; left: 50%; transform: translate(-50%, -100%); font-weight: bold;">M</div> </div> </div>	<div style="display: flex; align-items: center; justify-content: center;"> <div style="width: 100px; border-bottom: 1px solid black; position: relative; margin: 0 auto;"> <div style="position: absolute; top: -10px; left: 50%; transform: translate(-50%, -100%); font-weight: bold;">O</div> </div> </div>
self-doubting, readily assume blame when things go wrong, often think others are better, give in easily	good opinion of self, see self as talented and personally attractive, talkative

<div style="display: flex; align-items: center; justify-content: center;"> <div style="width: 100px; border-bottom: 1px solid black; position: relative; margin: 0 auto;"> <div style="position: absolute; top: -10px; left: 50%; transform: translate(-50%, -100%); font-weight: bold;">M</div> </div> </div>	<div style="display: flex; align-items: center; justify-content: center;"> <div style="width: 100px; border-bottom: 1px solid black; position: relative; margin: 0 auto;"> <div style="position: absolute; top: -10px; left: 50%; transform: translate(-50%, -100%); font-weight: bold;">O</div> </div> </div>
self-sufficient, resourceful, detached, persistent in seeking goals whether others agree or not	lack self-confidence, seek support from others, try to avoid conflict, have difficulty in making decisions

<div style="display: flex; align-items: center; justify-content: center;"> <div style="width: 100px; border-bottom: 1px solid black; position: relative; margin: 0 auto;"> <div style="position: absolute; top: -10px; left: 50%; transform: translate(-50%, -100%); font-weight: bold;">M</div> </div> </div>	<div style="display: flex; align-items: center; justify-content: center;"> <div style="width: 100px; border-bottom: 1px solid black; position: relative; margin: 0 auto;"> <div style="position: absolute; top: -10px; left: 50%; transform: translate(-50%, -100%); font-weight: bold;">O</div> </div> </div>
easily distracted, stop working when things do not go well, have difficulty working in settings that have strict rules and regulations	strong drive to do well, like working in settings where tasks and expectations are clearly defined, efficient, well-organized

<div style="display: flex; align-items: center; justify-content: center;"> <div style="width: 100px; border-bottom: 1px solid black; position: relative; margin: 0 auto;"> <div style="position: absolute; top: -10px; left: 50%; transform: translate(-50%, -100%); font-weight: bold;">M</div> </div> </div>	<div style="display: flex; align-items: center; justify-content: center;"> <div style="width: 100px; border-bottom: 1px solid black; position: relative; margin: 0 auto;"> <div style="position: absolute; top: -10px; left: 50%; transform: translate(-50%, -100%); font-weight: bold;">O</div> </div> </div>
responsible, reliable, ethically perceptive, serious about duties and obligations	self-indulgent, undisciplined, careless, indifferent to personal obligations

<div style="display: flex; align-items: center; justify-content: center;"> <div style="width: 100px; border-bottom: 1px solid black; position: relative; margin: 0 auto;"> <div style="position: absolute; top: -10px; left: 50%; transform: translate(-50%, -100%); font-weight: bold;">M</div> </div> </div>	<div style="display: flex; align-items: center; justify-content: center;"> <div style="width: 100px; border-bottom: 1px solid black; position: relative; margin: 0 auto;"> <div style="position: absolute; top: -10px; left: 50%; transform: translate(-50%, -100%); font-weight: bold;">O</div> </div> </div>
like working in settings that encourage freedom and individual initiative, clearthinking, work hard to do things well	not too interested in intellectual or cognitive endeavors, difficulty working in settings that are vague or poorly defined

try to control emotions and temper,
suppress hostile and erotic feelings,
take pride in being self-disciplined
experiences

undercontrolled, have strong feelings and
emotions and make little effort to hide them,
impulsive, like adventure and new

insist on being yourself, even if it causes
friction or problems, dissatisfied in many
situations, often complain, easily
annoyed and irritated

want to make a good impression, try to do
what pleases others, conventional, formal
and conservative

fit in easily, reasonable, see self as a quite
average person, make little effort to change things

see self as different from others, not
conventional, often changeable and moody

concerned about health and/or personal
problems, tend to complain about being
treated unfairly, pessimistic

feel self to be in good mental and physical
health, optimistic about future, cheerful

tolerant of others' beliefs and values even
when different from own, fair-minded,
reasonable, tactful

distrustful, fault-finding, often have hostile
and vindictive feelings

unempathetic, skeptical about the intentions
of others, defensive about own feelings and
desires, have limited range of interests

comfortable about self and well-accepted by
others, perceptive of social subtleties,
understand how others feel, optimistic

resist rules, do not like to conform, often
rebellious, get into trouble easily,
unconventional views and attitudes

conscientious, well-organized, find it easy to
accept and conform to normative rules,
seldom get into trouble

find it difficult to express ideas, have a hard
time getting started on cognitive tasks and
see them to completion

efficient in use of intellectual tools, keep on
task when others may have given up,
insightful, resourceful

insightful and perceptive, understand the
feelings of others but not necessarily supportive

interested in practical and concrete rather
than the abstract, pay attention more to what
people do as opposed to feel

not changeable, like steady pace and well-
organized and predictable situations,
conventional, conservative

flexible, like change and variety, bored
by routine, sometimes impatient, imaginative,
but also careless and loosely organized

cautious, quiet, hesitant to take initiative

confident, assertive, dominant, task-oriented

shows initiative, decisive, tough-minded,
rather unsentimental

sympathetic, warm, modest, but also
dependent

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".

SPA 1

Please rate yourself on the following scale by circling the numbers on each line which come closest to representing the way you feel, think and typically act.

1. reserved	0 1 2 3 4 5 6 7 8 9 10	outgoing
2. not easily bored	0 1 2 3 4 5 6 7 8 9 10	easily bored
3. pessimistic	0 1 2 3 4 5 6 7 8 9 10	optimistic
4. thin skinned	0 1 2 3 4 5 6 7 8 9 10	thick skinned
5. diplomatic/sensitive	0 1 2 3 4 5 6 7 8 9 10	blunt/straightforward
6. low need for excitement	0 1 2 3 4 5 6 7 8 9 10	high need for excitement
7. slow pace	0 1 2 3 4 5 6 7 8 9 10	fast pace
8. low need for social contact	0 1 2 3 4 5 6 7 8 9 10	high need for social contact
9. planful	0 1 2 3 4 5 6 7 8 9 10	spontaneous
10. introverted	0 1 2 3 4 5 6 7 8 9 10	extraverted

SPA 2

Please rate yourself on the following scale by circling the numbers on each line which come closest to representing the way you feel, think and typically act.

1. very seldom in control	0 1 2 3 4 5 6 7 8 9 10	always in control
2. can be quite easily influenced	0 1 2 3 4 5 6 7 8 9 10	very difficult to influence
3. chaotic	0 1 2 3 4 5 6 7 8 9 10	highly organized
4. don't manipulate others at all	0 1 2 3 4 5 6 7 8 9 10	frequently manipulate others
5. impatient/impulsive	0 1 2 3 4 5 6 7 8 9 10	patient
6. let things drift	0 1 2 3 4 5 6 7 8 9 10	always complete what I start
7. I don't deserve credit for my successes	0 1 2 3 4 5 6 7 8 9 10	my successes are totally due to me
8. my failures aren't my responsibility	0 1 2 3 4 5 6 7 8 9 10	my failures are totally my responsibility
9. my goals are generally vague	0 1 2 3 4 5 6 7 8 9 10	my goals are always extremely clear
10. often take big risks	0 1 2 3 4 5 6 7 8 9 10	avoid as much risk as I can

SPA 3

Please rate yourself on the following scale by circling the numbers on each line which come closest to representing the way you feel, think and typically act.

1. serene	0 1 2 3 4 5 6 7 8 9 10	anxious
2. buoyant	0 1 2 3 4 5 6 7 8 9 10	depressed
3. calm	0 1 2 3 4 5 6 7 8 9 10	agitated
4. peaceful	0 1 2 3 4 5 6 7 8 9 10	angry
5. placid	0 1 2 3 4 5 6 7 8 9 10	nervous, jittery
6. good natured	0 1 2 3 4 5 6 7 8 9 10	hostile
7. not worried	0 1 2 3 4 5 6 7 8 9 10	worried
8. "long fuse"	0 1 2 3 4 5 6 7 8 9 10	"short fuse"
9. "sense of
hopefulness"	0 1 2 3 4 5 6 7 8 9 10	"sense of futility"
10. generally positive
about life	0 1 2 3 4 5 6 7 8 9 10	generally negative
about life

Self and Other Ratings: Personality Traits

First, we would like you to look at each description and decide which better generally describes you **as you would describe yourself**; 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. .

Next we would like you to go back and put an X on the number that best describes you **as others who don't know you very well see you** (for instance acquaintances or close friends). This can be the same as you see yourself, in which case you will have both a circle and an X on the same number, or it can be a different number.

On the whole, I feel I am: (circle one number on each line)

On the whole, my acquaintances think I am: (put an X on 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	

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 making a mark in the appropriate box.

During the past few weeks did you ever feel . . .

Happy

Not at all

☐☐☐☐☐☐

Extremely Much

☐

Frustrated

Not at all

☐☐☐☐☐☐

Extremely Much

☐

Worried or Anxious

Not at all

☐☐☐☐☐☐

Extremely Much

☐

Joyful

Not at all

☐☐☐☐☐☐

Extremely Much

☐

Pleased

Not at all

☐☐☐☐☐☐

Extremely Much

☐

Angry or hostile

Not at all

☐☐☐☐☐☐

Extremely Much

☐

Unhappy

Not at all

☐☐☐☐☐☐

Extremely Much

☐

Depressed

Not at all

☐☐☐☐☐☐

Extremely Much

☐

Enjoyment/Fun

Not at all

☐☐☐☐☐☐

Extremely Much

☐

Personal Project System Rating Scale

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)

Appendix J

Correlations between CPI Vectors and PPA Dimensions for Females

Table 1, 2, and 3 present the correlations between the CPI vectors and PPA dimensions for females in samples 1 and 2 and for the common dimensions. A perusal of Table 1 reveals that vector 2, rule-favouring, for woman in sample 1, was significantly associated with the dimensions of value congruency and absorption ($r_s = .40^*$ and $.34^*$ respectively, $p_s < .05$). Vector 1, introversion, was significantly associated with difficulty ($r = .39^*$, $p < .05$).

Table 2 shows that for females in sample 2, vector 2, rule-favouring, was significantly associated with the dimensions of responsible and outcome ($r_s = .61^{***}$ and $.49^{***}$ respectively, $p_s < .001$). Rule-favouring was also significantly associated with self-identity and stage ($r_s = .41^{**}$ and $.40^{**}$ respectively, $p_s < .01$). Furthermore, mastery ($r = .37^*$), progress ($r = .36^*$), perseverance and support ($r_s = .34^*$), and enjoyment ($r = .33^*$) were all significantly associated with rule-favouring at the .05 probability level. Vector 3, self-realisation, was significantly associated with confidence ($r = .35^*$, $p < .05$), and with control and self-sufficiency ($r_s = .34^*$, $p < .05$).

Table 3 reveals that rule-favouring was significantly associated with outcome and self-identity ($r_s = .37^{**}$ and $.34^{**}$, $p_s = .001$ and $.002$ respectively). Furthermore, rule-favouring was significantly associated with mastery ($r = .33^{**}$, $p < .01$), enjoyment ($r = .30^{**}$, $p < .01$), support ($r = .27^*$, $p < .05$), and negatively with difficulty ($r = -.26^*$, $p < .05$). Vector 1, introversion, was significantly negatively associated with mastery ($r = -.29^{**}$, $p < .01$).

Table 1
Correlations between CPI Vectors and PPA Dimensions
Sample 1 for Females

PPA Dimension	Introversion	Rule-Favouring	Self-Realisation
Absorption	-.07	.34*	.05
Challenge	.14	-.18	-.21
Control	.03	.13	.00
Difficulty	.39*	-.24	.07
Enjoyment	-.13	.30	-.24
Importance	.05	.04	-.25
Initiation	.09	.24	-.03
Mastery	-.29	.30	.02
Other's View	-.20	.26	-.16
Outcome	-.13	.31	.03
Progress	.02	.04	.10
Self-Identity	-.05	.31	-.16
Stress	.08	-.14	-.21
Support	-.10	.22	-.05
Time Adequacy	-.26	.16	.10
Value Congruency	-.16	.40*	.30
Visibility	-.09	-.11	-.04

N = 39-41

Note: All tests of significance are two-tailed. *p < .05

No test is significant at Bonferroni corrected alpha, .05/51 tests = .001

Table 2
Correlations between CPI Vectors and PPA Dimensions
Sample 2 for Females

PPA Dimension	Introversion	Rule-Favouring	Self-Realisation
Confidence	.04	.25	.35*
Control	-.04	.09	.34*
Conventional	.19	.26	-.05
Difficulty	.05	-.28	.21
Enjoyment	-.14	.33*	.12
Flexibility	-.02	-.24	.11
Independence	-.26	.17	.22
Initiation	-.01	.05	.19
Mastery	-.30	.37*	-.02
Outcome	.00	.49**	.19
Perseverance	.10	.34*	.16
Progress	-.24	.36*	-.13
Responsible	-.08	.61**	-.05
Self-Identity	-.20	.41**	.29
Self-Sufficiency	-.09	.28	.34*
Stage	-.12	.40**	-.01
Stress	.00	.08	-.18
Support	.06	.34*	-.24
Visibility	-.00	.27	-.31

N = 38-42

Note: All tests of significance are two-tailed. *p < .05 **p < .01

Boldface: Significant at Bonferroni corrected alpha, .05/57 tests = .001
Actual significance of PPA self-identity = .009. Actual significance of PPA stage = .009.

Table 3

Correlations between CPI Vectors and Common PPA Dimensions
Samples 1 and 2 for Females

PPA Dimension	Introversion	Rule-Favouring	Self-Realisation
Control	-.01	.11	.19
Difficulty	.21	-.26*	.15
Enjoyment	-.14	.30**	-.03
Initiation	.04	.15	.11
Mastery	-.29**	.33**	.00
Outcome	-.07	.37**	.13
Progress	-.13	.19	-.02
Self-Identity	-.13	.34**	.07
Stress	.03	-.03	-.19
Support	-.02	.27*	-.15
Visibility	-.05	.05	-.17

N = 80-83

Note: All tests of significance are two-tailed. *p < .05 **p < .01

Boldface: Significant at Bonferroni corrected alpha, .05/33 tests = .002
Actual significance of PPA enjoyment is = .005. Actual significance of PPA mastery = .003 and .008.

Correlations between CPI Vectors and PPA Dimensions for Males

Tables 4, 5, and 6 present the correlations between the CPI vector scales and the PPA dimensions for males for samples 1 and 2 and the common dimensions between the samples. A perusal of Table 4 reveals that for males in sample 1, vector 3, self-realisation, was significantly associated with lower reports of stress ($r = .51^{**}$, $p < .01$) and positively with outcome ($r = .45^*$, $p < .05$). Vector 2, rule-favouring, was significantly associated with outcome ($r = .40^*$, $p < .05$). Table 5 reveals no significant correlations between the CPI vector scales and PPA dimensions from sample 2.

A review of Table 6 reveals that vector 3, self-realisation, was significantly associated with lower scores on the stress dimension ($r = -.46^{**}$, $p = .001$) and positively with outcome ($r = .30^*$, $p < .05$). Vector 2, rule-favouring, was significantly associated with outcome ($r = .32^*$, $p < .05$).

Table 4
Correlations between CPI Vectors and PPA Dimensions
Sample 1 for Males

PPA Dimension	Introversion	Rule-Favouring	Self-Realisation
Absorption	-.20	-.03	.21
Challenge	.15	-.37	-.21
Control	-.01	-.00	.16
Difficulty	.07	-.35	-.16
Enjoyment	.16	-.19	.25
Importance	.14	-.06	-.37
Initiation	-.04	-.19	.13
Mastery	-.06	.18	-.06
Other's View	.17	.12	-.04
Outcome	-.19	.40*	.45*
Progress	.12	.21	.18
Self-Identity	.11	.24	.18
Stress	.07	-.11	-.51**
Support	.26	.05	.15
Time Adequacy	-.15	.21	.20
Value Congruency	-.24	.04	.32
Visibility	.25	.08	-.07

N = 27

Note: All tests of significance are two-tailed. *p < .05 **p < .01

No test is significant at Bonferroni corrected alpha, .05/51 tests = .001.

Actual significance of PPA stress = .007.

Table 5
Correlations between CPI Vectors and PPA Dimensions
Sample 2 for Males

PPA Dimension	Introversion	Rule-Favouring	Self-Realisation
Confidence	.10	.31	.33
Control	.08	-.12	.35
Conventional	.31	.28	-.16
Difficulty	-.13	.04	-.35
Enjoyment	-.19	-.08	-.21
Flexibility	-.10	.25	.07
Independence	-.34	-.04	-.05
Initiation	.08	.19	.34
Mastery	.10	-.25	.14
Outcome	.13	.22	.11
Perseverance	.08	.19	.07
Progress	.39	.09	.02
Responsible	.31	.03	.12
Self-Identity	-.29	-.03	-.26
Self-Sufficiency	.31	-.15	.35
Stage	.19	.36	-.19
Stress	-.06	-.00	-.40
Support	-.32	.17	.08
Visibility	.19	.17	-.15

N = 22-23

Note: All tests of significance are two-tailed.

Table 6

Correlations between CPI Vectors and Common PPA Dimensions
Samples 1 and 2 for Males

PPA Dimension	Introversion	Rule-Favouring	Self-Realisation
Control	.29	-.05	.23
Difficulty	-.03	-.19	-.22
Enjoyment	-.03	-.13	.06
Initiation	-.01	-.01	.21
Mastery	.00	.03	.01
Outcome	-.02	.32*	.30*
Progress	.26	.16	.10
Self-Identity	-.05	.14	.05
Stress	-.01	-.05	-.46**
Support	-.06	.10	.12
Visibility	.21	.12	-.10

N = 50

Note: All tests of significance are two-tailed. *p < .05 **p < .01

Boldface: Significant at Bonferroni corrected alpha, .05/33 tests = .002

Appendix K

Multiple Regression Analyses of CPI Vector Scales and the
Personal Project Clusters for Samples 1 and 2, and the Common Dimensions

Dependent Variable... Sample 1, Community

Variables		F	Sig. F
Multiple <i>R</i>	.19		
<i>R</i> squared	.04	.80	.50
Adjusted <i>R</i> square	-.01		
Variable	Variables in the equations		Significance
	Beta	t	
Introversion	.04	.29	.77
Rule-favouring	.17	1.34	.18
Self-realisation	-.12	-.95	.35

Note: $F(3,63) = 2.76, p < .05$

Dependent Variable... Sample 1, Efficacy

Variables		F	Sig. F
Multiple <i>R</i>	.38		
<i>R</i> squared	.14	3.46	.02
Adjusted <i>R</i> square	.10		
Variable	Variables in the equations		Significance
	Beta	t	
Introversion	-.11	-.89	.38
Rule-favouring	.24	1.97	.05
Self-realisation	.21	1.74	.09

Note: $F(3,62) = 2.76, p < .05$

Dependent Variable... Sample 1, Meaning

Variables		F	Sig. F
Multiple <i>R</i>	.31		
<i>R</i> squared	.10	2.29	.09
Adjusted <i>R</i> square	.06		
Variable	Variables in the equations		Significance
	Beta	t	
Introversion	-.04	-.34	.74
Rule-favouring	.30	2.43	.02
Self-realisation	.00	.03	.98

Note: $F(3,63) = 2.76, p < .05$

Dependent Variable... Sample 1, Stress

Variables		F	Sig. F
Multiple <i>R</i>	.34		
<i>R</i> squared	.12	2.81	.05
Adjusted <i>R</i> square	.08		
Variable	Variables in the equations		Significance
	Beta	t	
Introversion	.13	1.09	.28
Rule-favouring	-.20	-1.62	.11
Self-realisation	-.18	-1.53	.13

Note: $F(3,63) = 2.76, p < .05$

Dependent Variable... Sample 1, Structure

Variables		F	Sig. F
Multiple <i>R</i>	.11		
<i>R</i> squared	.01	.26	.86
Adjusted <i>R</i> square	-.04		
Variable	Variables in the equations		Significance
	Beta	t	
Introversion	.04	.33	.75
Rule-favouring	.10	.79	.43
Self-realisation	.03	.24	.81

Note: $F(3,64) = 2.76, p < .05$

Dependent Variable... Sample 2, Community

Variables		F	Sig. F
Multiple <i>R</i>	.26		
<i>R</i> squared	.07	1.45	.24
Adjusted <i>R</i> square	.02		
Variable	Variables in the equations		Significance
	Beta	t	
Introversion	-.01	-.09	.93
Rule-favouring	.22	1.77	.08
Self-realisation	-.13	-1.08	.29

Note: $F(3,60) = 2.76, p < .05$

Dependent Variable... Sample 2, Conventional Autonomy

Variables		F	Sig. F
Multiple <i>R</i>	.39		
<i>R</i> squared	.15	3.30	.03
Adjusted <i>R</i> square	.11		
Variable	Variables in the equations		Significance
	Beta	t	
Introversion	.01	.07	.95
Rule-favouring	.28	2.26	.03
Self-realisation	.27	2.15	.04

Note: $F(3,56) = 2.78, p < .05$

Dependent Variable... Sample 2, Efficacy

Variables		F	Sig. F
Multiple <i>R</i>	.43		
<i>R</i> squared	.18	4.28	.01
Adjusted <i>R</i> square	.14		
Variable	Variables in the equations		Significance
	Beta	t	
Introversion	.01	.09	.93
Rule-favouring	.43	3.55	.00
Self-realisation	-.04	-.31	.76

Note: $F(3,58) = 2.78, p < .05$

Dependent Variable... Sample 2, Stress

Variables		F	Sig. F
Multiple <i>R</i>	.08		
<i>R</i> squared	.01	.14	.94
Adjusted <i>R</i> square	-.04		
Variable	Variables in the equations		Significance
	Beta	t	
Introversion	-.02	-.13	.90
Rule-favouring	-.03	-.21	.83
Self-realisation	-.08	-.60	.55

Note: $F(3,61) = 2.76$, $p < .05$

Dependent Variable... Common Dimensions, Community

Variables		F	Sig. F
Multiple <i>R</i>	.22		
<i>R</i> squared	.05	2.05	.11
Adjusted <i>R</i> square	.02		
Variable	Variables in the equations		Significance
	Beta	t	
Introversion	.02	.37	.71
Rule-favouring	.20	2.27	.03
Self-realisation	-.10	-1.18	.24

Note: $F(3,127) = 2.68$, $p < .05$

Dependent Variable... Common Dimensions, Stress

Variables		F	Sig. F
Multiple <i>R</i>	.20		
<i>R</i> squared	.04	1.83	.15
Adjusted <i>R</i> square	.02		
Variable	Variables in the equations		Significance
	Beta	T	
Introversion	.06	.68	.50
Rule-favouring	-.12	-1.32	.19
Self-realisation	-.13	-1.55	.12

Note: $F(3,129) = 2.68, p < .05$

Dependent Variable... Common Dimensions, Structure

Variables		F	Sig. F
Multiple <i>R</i>	.20		
<i>R</i> squared	.04	1.72	.17
Adjusted <i>R</i> square	.02		
Variable	Variables in the equations		Significance
	Beta	t	
Introversion	.05	.56	.58
Rule-favouring	.11	1.27	.21
Self-realisation	.15	1.77	.08

Note: $F(3,128) = 2.68, p < .05$