Identity Development during Emerging Adulthood: Transitioning through the University Experience

by

Lisa Menard
Master of Arts, Carleton University, 2009

A thesis submitted to
the Faculty of Graduate and Postdoctoral Affairs
in partial fulfillment of the requirements for the degree of

Doctor of Philosophy

in

Psychology

Carleton University
Ottawa, Canada

Abstract

Although identity development is most active during late adolescence and emerging adulthood and post-secondary education is regarded as a normative experience for the majority of individuals in Westernized societies, there remains a lack of longitudinal research investigating identity development during the transition to university. In his formative writings, Erikson emphasized the need for researchers to account for the influence of social context and environment in the examination of identity development. The aim of this study was to explore the process of identity development within early emerging adulthood (18-24 years of age), during the transition to university using Eriksonian-measures. More specifically, this three-wave longitudinal study examined the influences of social capital (social belongingness and university fit), psychosocial maturity (ego strength development), coping strategy use, and perceived stress on identity development. The study included 771 first-year university students at large Canadian university, with 554 females and 217 males aged 18 to 24 (M = 18.35, SD = 1.47). Using the Identity Issues Inventory (I_3, Côté and Roberts, 2005), identity formation was assessed from two broad perspectives, each with two developmental task domains: self-identity with *Integration* and *Differentiation*; and social identity with the domains of *Work roles* and *Worldview*. Multivariate multiple regressions, with interaction terms, were conducted to examine identity development, during the first year of university, after controlling for incoming levels of identity formation in each of the four task domains (*Integration*, *Differentiation*, *Work roles*, and *Worldview*). Research findings highlighted the importance of social belongingness, perceived fit, and psychosocial maturity, in particular, as capital resources that were supportive of identity development during the

first year of university. In addition, participants' perceived levels of stress were found to impede identity formation in both phases of the study (Time1-2, Time 2-3). Finally, the results highlighted some unexpected gender differences in the identity development of university students. Evidence from the present study would suggest that it is from within this complex social context that emerging adults must develop a distinct, cohesive, and adult sense of self.

Keywords: identity development; social belongingness; ego strengths; psychosocial maturity; social capital; emerging adulthood; transition to university

Acknowledgements

In 2003, when I returned to university after a 25 year hiatus, I had no idea that my academic journey would culminate with this thesis. My time at Carleton has been exciting and thought-provoking, and, to be honest, sometimes a little stressful. I have been fortunate to meet many wonderful individuals with whom I have shared interesting discussions, new ideas, and collaborative endeavours. I would like to take a moment to personally acknowledge several individuals who have played an integral part in my success at Carleton.

First, I would like to thank my thesis supervisor, Dr. Anne Bowker, for her guidance, support, and genuine interest in my work. Throughout my time in her lab over the past six years, Anne has encouraged me to attend conferences, make presentations, and connect with other researchers interested in identity development. I have greatly benefited from having Anne as a mentor and role-model and for this I am grateful.

I would also like to thank all the members of my thesis committee: Drs. Janna Fox, Janet Mantler, Timothy Pychyl, and Seth Schwartz. Their thoughtful and thought-provoking feedback and questions about my thesis-in-progress have helped me to produce a document of which I am very proud. In particular, early comments and suggestions about my analyses from Dr. Schwartz were very helpful and most appreciated. Also, many thanks are offered to Dr. Andrea Howard for her help with all matters statistical.

In my experience, graduate students are a supportive group and those in the Positive Youth Development lab are no exception. Belinda Boekhoven, whom I've known since my undergraduate days, has always been there for a needed word of

encouragement and support. Producing a thesis is a long, often solitary effort and I found much comfort and advice from the several incarnations of our lab's writing support groups. Special thanks go to Cecilia Jorgensen, for her patience and guidance this past summer, while she taught me how to use unfamiliar statistical software so that I could re-analyse my data. Cecilia's unfailing optimism and resourcefulness were instrumental in my persevering with the re-analyses. Graduate school is also an opportunity for give-and-take and our weekly lunch breaks at Mike's Place gave me a chance to return the favour of support to Cecilia. For these times I am also grateful.

I end these acknowledgements back where I started – in 2003. I would not have even entertained the notion of returning to school had it not been for the encouragement and support of my partner, Ken Desson, and our children, Rae and Rhys. Over the years, when I have doubted myself, my decisions, or my abilities, my loveys have been there to challenge these doubts. I thank them for all their kindness and love as we continue on our adventures.

Table of Contents

List of Tables

List of Figures

List of Appendices

Identity Development during Emerging Adulthood:
Transitioning through the University Experience

Identity formation, that is, the development of a cohesive and distinct sense of self within a valued community, is intrinsically linked with the writings of Erikson and his theory of psychosocial development (1963). According to the theory, personality development is best thought of as a series of turning points, most often described by Erikson as dichotomies of desirable qualities and dangers, or as "alternative basic attitudes" (1963, p. 251). Erikson's proposed eight stages (i.e., the turning points), each the focus of one aspect of **ego strength**[1] development: *Basic Trust* vs. *Basic Mistrust; Autonomy* vs. *Shame and Doubt; Initiative* vs. *Guilt; Industry* vs. *Inferiority; Identity* vs. *Role Confusion; Intimacy* vs. *Isolation; Generativity* vs. *Stagnation*; and, *Integrity* vs. *Despair*. Erikson conceptualized the resolution of each developmental turning point as a psychosocial crisis – one where individuals became so uncomfortable within their psychological situation that they adjusted their self-concept to incorporate their acquisition of the ego strength and thus, ameliorate the psychological discomfort (1963). Successful acquisition of the various ego strengths associated with each stage of development depended on the ratio of individuals' positive qualities outweighing their less desirable negative qualities, and of finding a balance between the two. For example, in order to be trusting one does not lose the ability to mistrust. In fact, the successful individual develops the ability to discern when it is appropriate to trust or mistrust a situation or an individual.

---

[1] Throughout this document, all bolded terms have been included in a glossary in order to clarify the meaning and/or usage of these terms and constructs within the field of identity development (see Appendix G).

In the psychosocial theory of lifespan development, Erikson contended that development was a holistic process, where each of the eight stages of psychosocial development was influenced by those experiences which came before and after, thus it was seen to be psychological development within one's social environment (1963). From within the identity formation literature, an Eriksonian-perspective on psychosocial development would specifically refer to the resolution processes of the eight ego strength crises (Erikson, 1963; Markstom, Sabino, Turner & Berman 1997). More generally however, psychosocial maturity has been defined as the development of a sense of responsibility, perspective, and self-regulation whereby the goals of socialization are integrated with those of individual development (Greenberger & Sørensen, 1974).

In his theory of lifespan development, Erikson (1963) proposed that ego strengths (psychosocial resources[2] such as, a sense of purpose or competence) are the result of interactions with the larger world during the process of individuation (Côté, 1997). Erikson did not see lifespan development as a strictly linear process where resolution of a particular crisis could only occur during a specific stage, or that the end of any stage represented the end of opportunities to acquire the associated psychosocial resources. Instead, Erikson contended that as individuals progress through the eight stages of lifespan development they modify and enhance the ego strengths associated with each stage, using these **identity capital resources** to find their way through their life challenges and to develop a fuller sense of their own identity (this specific process refers

[2] As a point of clarification, within the identity development literature, ego strengths are also referred to as psychosocial maturity or identity capital resources (Adams et al., 2006; Côté & Schwartz, 2002; Markstrom & Marshall, 2007). In the organizational psychology literature ego strengths (intangible psychological resources) are referred to as positive psychological capital (Luthans et al., 2004).

to the identity capital model, see Côté, 1997; or, Côté & Schwartz, 2002). Erikson's notions about identity development as an ongoing bi-directional process provide theoretical support for Arnett's ideas about the developmental period of **emerging adulthood** being an opportune time for individuals to explore issues associated with identity, as well as for the theoretical perspective of the **identity capital model** (Adams & Marshall, 1996; Arnett, 2000; Côté; Côté & Schwartz; Schwartz et al., 2011).

Identity Capital Model

Within the identity capital model, the processes of identity formation have been described as individuals utilizing their identity capital assets (both "intangible and tangible") to navigate their various life paths and commit to those roles, values, and attitudes which represent a more adult sense of identity (Côté & Schwartz, 2002, p. 575). Leaning heavily on his sociological background, Côté (1997) developed this model of identity formation that included what he referred to as, tangible identity capital. Concrete or tangible identity capital resources represent ways of behaving and/or possessions, such as a scholarship to attend university:

> Tangible attributes can include financial resources (including parent's financial capital), educational credentials (academic capital), social rewarded competencies (human capital; cf., Becker, 1964), fraternity/sorority and club/association memberships (social capital; cf., Coleman, 1988), speech patterns (linguistic capital; Bourdieu and Passeron, 1977), and parental social status (cultural capital; Bourdieu and Passeron, 1977).

> Based on the sociological literature, a number of these tangible resources should be interrelated.… [and] they should be effective as *passports* into various social and institutional spheres, … Once accepted, these forms of capital can be exchanged symbolically, emotionally, or pragmatically … a more privileged upbringing would be related to greater identity capital acquisition. (p. 578)

In contrast, psychological resources such as ego strengths, self-esteem, and self-worth are considered to be examples of intangible identity capital. In practice, individuals use their identity capital assets to guide and support their decisions about how to proceed in any given situation (Côté & Schwartz, 2002). Consider for example students who have academic funding (i.e., a tangible identity capital resource) but in order to continue receiving their scholarship, they must maintain a specific grade level. Drawing on intangible identity capital assets (i.e., ego strengths such as purpose and wisdom), these students conclude that the way to retain the tangible asset (the scholarship) is to maintain high grades by spending more time on academic pursuits rather than social events. Hence, identity capital resources (both tangible and intangible) affect how these individuals approach academic life.

More recently, some researchers from organizational psychology (see for example, Luthans, F., Luthans, K. W., & Luthans, B. C., 2004) have considered identity capital assets from a human resources perspective and divided the tangible and intangible identity capital resources described by Côté and Schwartz (2002) into four distinct groups: economic capital (tangible financial and concrete assets); human capital

(intangible resources, i.e., education and knowledge); social capital[3] (friends, family, and social networks); and positive psychological capital (intangible psychosocial assets, i.e., confidence, hope, and resilience). Luthans et al. (2004) have recommended that companies assess and consider the capital assets of all potential employees because social and positive psychological capital are seen as value-added resources.

Take for example, the ego strength of *Wisdom* that is associated with *Integrity* vs. *Despair*, the eighth and final stage of lifespan development (Erikson, 1963; Markstrom et al., 1997). Wisdom can be thought of as an individual's capacity to learn from past experiences and to apply those lessons to present situations. It also involves the ability to examine past failures or mistakes and to move forward rather than dwelling on or regretting past actions which cannot be changed (this path leads to less *Wisdom* and greater *Disdain*, the negative aspect on the developmental continuum of this ego strength). When the inner resources of *Wisdom* combine with those ego strengths of *Hope*, *Will*, *Purpose*, and *Competence*, an individual develops positive psychological capital resources such as *Optimism* and *Resilience* (Luthans et al., 2004). This example clarifies the processes associated with the ongoing development of the ego strength of

[3] According to Luthans et al. (2004), within the field of organizational psychology, the term social capital represents aspects of definitions from many disciplines (i.e., sociology, political science and economics). From a sociological perspective, the construct of social capital has been defined by Bourdieu (1985, p. 248), as "the aggregate of the actual or potential resources which are linked to possession of a durable network of more or less institutionalized relationships of mutual acquaintance or recognition." The usage of the term social capital by Côté (1997) and Luthans et al. are conceptually similar to Bourdieu's definition. Within this thesis, mirroring the practice of Côté (1997) and Luthans et al., examples of the positive benefits of social capital also include the negative consequences for the lives of individuals who lack, or have less access to this identity resource.

Wisdom as individuals are required to use moral reasoning and abstract thought to deal with the issues and events of their lives.

In the psychosocial theory of lifespan development, Erikson emphasized how the social context of one's life, both the relationships and the environment, was an essential part of identity development (1963). Within the identity capital model, social context is integral to identity development and considered to be another aspect of identity capital, namely social capital – one's friends, family, and social networks (Côté & Schwartz, 2002; Luthans et al., 2004). Empirical support has been found for the importance of social context within the identity development process. Individuals, who believed they were valued members of particular groups, or that they had important relationships with others, were more likely to be confident in the choices they made about their roles, values, and attitudes (Côté & Schwartz). Furthermore, Lee and Davis (2000) demonstrated that a successful transition to university was enhanced by the context of one's university experience, in particular, feelings of social belongingness and the perceived fit between student and university (Wintre et al., 2008). For those who examine identity formation, the main benefit of well-developed identity capital assets is that these resources help individuals to meet the challenges and opportunities they face daily.

Purpose of the Present Study

The main purpose of the present study was to examine **identity development** in an emerging adult population within the context of the transition to university using **Eriksonian-based measures** of identity formation (Côté & Roberts, 2005; Erikson, 1963; Markstrom et al., 1997). The rationale for this research was the perceived need to

use Eriksonian measures of both identity and ego strengths development in an effort to clarify how individuals progress along the **continuum of identity formation** from a state of confusion to synthesis. The importance of taking this design perspective for the present study was highlighted at panel discussions during a recent conference focused on developmental issues of adolescence and early emerging adulthood (SRA, 2014). The themes for the identity development symposia were centred on two main topics of discussion: first, was the need to connect current research questions back to Erikson's theoretical model; and, second, the need to recognize the importance of social context and environment to the processes of identity development (references to presentations by Moin Syed and James Côté, respectively, SRA 2014).

The present study examined participants' level of identity development using an Eriksonian measure, the Identity Issues Inventory (I_3) developed by Côté and Roberts (2005; see also, Roberts & Côté, 2014). A unique feature of the I_3 is that identity formation is assessed from two broad perspectives, each with two developmental task domains: self-identity with *Integration* and *Differentiation*; and societal identity with the domains of *Work roles* and *Worldview*. One advantage of the design of the I_3 is that it is expected to be sensitive enough to convey changes in participants' levels of commitment and exploration for the four developmental task domains at each of the time points (Times 1-3; where identity development was measured at three times, across the 1st and 2nd years of university). Another advantage of the I_3 is that because the identity task domains are assessed individually versus aggregating the scores, possible differences in developmental progress among the four aspects of identity formation can be investigated. Using the I_3, Côté and Roberts have demonstrated that identity development varies across

the different task domains depending on the age of the individuals (2005; Roberts & Côté). The longitudinal design of the present study made it possible to focus on individual identity development for a group of early emerging adults, aged 18-24, during their transition to university (Arnett, 2000).

By early emerging adulthood, most individuals have a well-developed self-concept but they are still in the midst of integrating all the contradictory pieces into a cohesive whole where they act and behave in the same manner regardless of the situation (Arnett, 2000; Roberts & Côté, 2014). Adolescent self-concepts develop within a social context of parental support and encouragement and lower expectations of personal responsibility and consequences for those decisions. Erikson (1963) referred to this social context as a psychosocial moratorium (Adams, Berzonsky, & Keating, 2006; Arnett, 2000; Côté, 2006). In 1968, Erikson proposed that given the extended time it was taking for identity development to occur, perhaps an institutionalized moratorium replaced the psychosocial moratorium. This more structured form of moratorium was envisioned as allowing individuals additional time to pursue post-secondary education and training before committing to their chosen adult roles, attitudes, and beliefs (Sica, Sestito, & Ragozini, 2014; Schwartz et al., 2011). Institutional moratoria could be described as the opportunities, challenges, and expectations that define the experiences of post-secondary education for emerging adults who are in the process of developing a cohesive sense of identity. With institutional moratoria however, for emerging adults, an increase in age and maturity is accompanied by a greater number of expectations, cautions, and consequences from society. For many emerging adults, this is the first time they will be asked to make decisions about their own lives and where they will be held

more accountable for those decisions (Arnett, 2000). These notions of accountability and responsibility are an inherent part of Erikson's (1963) description of the ego strength crises that underpin the stages of psychosocial development, in this case, of one's identity.

The present research was based on the assumption that the transition year to university represented an institutional moratorium that should foster the identity development (Adams et al., 2006; Côté, 2006; Erikson, 1968; Schwartz et al., 2011). Taking this perspective provided an opportunity to examine the influence on identity development of various aspects of social context and the university environment. That is, how aspects of social capital (i.e., social belongingness and fit with the university), as well as perceived stress levels and individuals' coping strategy use, function within this institutional moratorium to encourage or discourage identity development (Adams et al., 2006; Cohen & Janicki-Deverts, 2012; Côté & Schwartz, 2002; Lee & Robbins,1995; Markstrom & Marshall, 2007; Wintre et al., 2008).

Further theoretical support for the design of the present study came from the identity capital model, which suggests that psychosocial maturity has a strong, positive relationship with identity development and is seen by many as a foundational identity capital resource (Adams et al., 2006; Côté & Schwartz, 2002; Markstrom & Marshall, 2007). The central perspective of the identity capital model is that the function of ego strengths (identity capital assets) is to support the process of identity development (Côté & Schwartz). Individuals who possess greater levels of psychosocial maturity have also been shown to be further along in their identity development (Adams et al.; Anthis, 2014; Côté & Schwartz; Markstrom & Marshall). It was with these thoughts in mind that the

investigation of identity development in an early emerging adult population, within the context of the transition to university, using Eriksonian-based measures of identity formation, occurred.

Emerging Adulthood

A central tenet of the theory of lifespan development is that identity formation is the most important task for the adolescent developmental period (Erikson, 1963). In 1980, Erikson acknowledged the degree to which Western societies had changed over the ensuing two decades, by emphasizing the implications for identity formation, noting that although adolescence "… is the stage of an overt identity *crisis*, identity *formation* neither begins nor ends with adolescence: it is a lifelong development" (p. 122). In addition, much of the research in identity development has involved participants who are in late adolescence, often already in university, and thus, they should be considered emerging adults (Adams et al., 2006; Crocetti, Luyckx, Scrignaro, & Sica, 2011; Luyckx, Klimstra, Schwartz, & Duriez, 2013; Marcia, 1966; Vleioras & Bosma, 2005).

Research by Arnett (2000), has suggested that in Westernized[4], developed nations there is a distinct, transitional period between adolescence and young adulthood, called emerging adulthood (EA; 18-29 years of age). Within the research on identity

[4] Erikson (1963; 1968) was comparing identity development in traditional societies (i.e., well-defined paths from childhood to adulthood, usually by gender, little individual choice, may be present in larger societies; e.g., Amish communities in U.S. and Canada) to the less-defined pathways available to adolescents in Westernized-societies as a whole. Erikson was focused on the fact that difficulties arose when individuals did not have sufficient opportunity to explore these many pathways and choices – hence the benefit of psychosocial and institutional moratoria. Arnett continued this comparison of development within traditional vs. less-restrictive/defined societies. Some identity researchers also refer to post-capitalist (Sica et al., 2014) or post-modernist societies (Roberts & Côté, 2014), and the problems and challenges to cohesive identity development contained in each.

development in particular, this developmental period is often divided into two sections, early emerging adulthood (18-24 years of age) and late emerging adulthood (25-29 years of age). Identity development assessed for participants within these two age groups can then be compared to the identity development assessed for individuals who are 30 years and older (Côté & Roberts, 2005). Generally speaking, much of the research on emerging adulthood has found that most individuals within this developmental period neither self-identify as adolescents, nor adults (Arnett).

Further empirical support for Arnett's (2000) work delineating emerging adulthood as a distinct developmental period has come from a variety of research, including identity development, assessment of at-risk behaviour, and the use of social aggression (Ostrov & Houston, 2008; Raskin White & Jackson, 2004/2005; Roberts & Côté, 2014; Schwartz et al., 2010). In their work on social aggression, Ostrov and Houston stated that emerging adulthood is defined by essential biological, cognitive and social development, such as, "further separation/independence from caregivers, identity moratorium, the salience of peer and romantic relationships, fundamental shifts in moral reasoning, an increase in risk-taking behaviors, and changes in cognitive flexibility" (2008, p. 1149).

The benefit of emerging adulthood is that it affords individuals time for their social, emotional, and cognitive development to catch up with the rights and responsibilities that come with adulthood. This developmental period between adolescence and adulthood, makes the transition to post-secondary education an optimal time and place for individuals to explore who they are and who they hope to become, as well as for researchers to examine identity development within this group.

Post-secondary Education: an Institutionalized Moratorium for Identity Development

The transition to university presents first-year students with the prospect of experiencing many new opportunities and challenges that come with their initial forays into adult life. In North America and many European countries, it has become the normative experience for most high school students (more than 70%) to go on to some form of post-secondary education (Arnett, 2000; Guichard, Pouyaud, De Calan, & Dumora, 2012; Sica et al., 2014; Statistics Canada, 2010). This suggests that post-secondary education can be thought of as one of the major life experiences of early emerging adulthood (Anthis, 2014; Arnett, 2000; Côté, 2006). These normative experiences of continued educational pursuit lead to some questions that must be considered by parents, developmental psychologists, educators, and policy makers. Do the challenges we set for emerging adults during the transition to university undermine their individual efforts to develop an identity, or do these experiences actually provide the crises (challenges) which Erikson maintained were central to the acquisition of ego strengths/identity? More specifically, does the psychosocial moratorium provided to adolescents in support of their identity development continue in the form of an institutionalized moratorium for emerging adults when they pursue some form of post-secondary education or training?

Adams et al. (2006) found evidence to suggest that the supportive environment of institutionalized moratorium continued when emerging adults transitioned to university (or college or training). However, with this transition, emerging adults are expected by significant others (parents, friends, educators) to take more responsibility for, and to

understand the consequences of their actions and decisions (Côté & Roberts, 2005). Although the institutionalized moratorium allows individuals to try out different roles, behaviours, and attitudes that are available within the social environment of university life, some emerging adults find the transition to university more stressful and challenging (Schwartz et al., 2011). First year university students are expected to make many decisions and choices that will have consequences for their lives. These include developing a personal perspective, forming relationships with a diverse group of people, and learning to think critically. In short, they must decide who they are and what they want to do with the rest of their lives, but many have received little guidance on the best way to make these choices (Arnett, 2000; Côté, 2006; Côté & Roberts, 2005).

Research Goals and Theoretical Perspectives of the Present Study

The purpose of this study was to examine identity development in an emerging adult population, within the context of their transition to university. The present research assessed whether identity development that occurred during participants' first year of university was impacted by factors such as, psychosocial maturity, their use of particular coping strategies, perceived stress, as well as, university environment variables. In the pages that follow, Erikson's psychosocial theory of lifespan development (1963) will be reviewed, focusing on identity formation from an Eriksonian-perspective, and the work of current researchers in this area (Roberts & Côté, 2014; Schwartz, Zamboanga, Wang, & Olthuis, 2009). Furthermore, the field of emerging adulthood as a unique developmental period for the study of identity formation will be discussed, and the rationale for suggesting the transition to university as the most appropriate context in which to study identity development will be explored (Adams et al., 2006; Arnett, 2000;

Crocetti et al., 2011; Luyckx et al., 2013; Vleioras & Bosma, 2005). Finally, the literature will be reviewed for possible relationships between identity development and psychosocial maturity, coping strategy use, and aspects of social context, such as the university environment (Adams et al., 2006; Cohen & Janicki-Deverts, 2012; Côté & Schwartz, 2002; Lee & Robbins, 1995; Markstrom & Marshall, 2007; Wintre et al., 2008).

Erikson's Psychosocial Theory of Lifespan Development

> An optimal sense of identity … is experienced merely as a sense of psychosocial well-being. Its most obvious concomitants are a feeling of being at home in one's body, a sense of 'knowing where one is going,' and an inner assuredness of anticipated recognition from those who count (Erikson, 1968, p. 156).

Based on his work with the Sioux and Yurok peoples of the United States, and his counselling work with U.S. war veterans of World War II, Erikson (1963) theorized that many of the adjustment difficulties being experienced by these individuals could be explained, for the Sioux and Yurok peoples, by a discontinuity between their tribal history and culture with their daily life experiences, and for the veterans, as an incongruence between their attitudes and activities as soldiers with their pre-war attitudes and activities as civilians. Erikson suggested that the psychological discomfort being experienced by both groups centred on a condition he coined as **identity confusion**, that is, a lack of a consistent conception of ego or self. These therapy sessions made it clear to Erikson that the Freudian psychoanalytic theory he had been using was inadequate to explain these problems, and so, he began to develop a theory which was centred on the

ego of an individual and its relationship to the culture. Erikson proposed that during these psychosocial stages of ego development individuals form a series of orientations from themselves to their social world (1963).

Erikson's research work with children and his therapy-based work during the 1940-60s led to the formulation of a theory of personality development that was based on the 'epigenetic principle' (1963). Simply put, the epigenetic principle, as hypothesized by Erikson, posited that an individual's personality developed as the ego progressed through a series of interrelated stages much in the same way that different parts of the body develop in interrelated ways when the foetus is *in utero*. Erikson explained this process, stating "Anything that grows has a ground plan, and … out of that ground plan the parts arise, each part having its time of special ascendancy, until all parts have arisen to form a functioning whole" (1968, p. 92).

Erikson conceptualized and refined his theory of lifespan development during the 20th century, a very socially tumultuous and turbulent time in North American history (1963; 1968). In particular, the late 1960s was an era dedicated to finding one's self and a movement away from the more conservative, traditional roles available for young adults to assume. News reports were filled with incidents of protest against the political Establishment in general, and more specifically, to the U.S. war in Vietnam, with stories about conscientious objectors to the war being granted refuge in Canada. . Erikson recognized that social change often begins with young adults and that this was a very powerful time for individuals and their identity development. Social upheaval as a means to identity formation was evidenced in many Westernized societies by the vast

participation of young people in the civil rights movement, the anti-war movement, the feminist movement, and early efforts to be more environmentally aware.

Erikson's (1963) psychosocial theory of development has eight ego stages: *Basic Trust* vs. *Basic Mistrust; Autonomy* vs. *Shame and Doubt; Initiative* vs. *Guilt; Industry* vs. *Inferiority; Identity* vs. *Role Confusion; Intimacy* vs. *Isolation; Generativity* vs. *Stagnation*; and, *Integrity* vs. *Despair*. Each stage was seen to represent a critical period of development where successful resolution of the crisis due to the activation of ego strengths (i.e., senses of hope, will, purpose, competence, fidelity, love, caring, and wisdom) resulted in further psychosocial maturity which provided a stronger foundation for the next stage (Erikson, 1968; for a more recent review of ego strengths[5], see Markstrom & Marshall, 2007). These ego qualities become the criteria by which individuals can establish that their egos are "strong enough to integrate the timetable of the organism with the structure of social institutions" (1963, p. 246). For example, in Stage One, when infants' needs are met, psychologically they learn to trust others and the outside world. In the beginning that sense of trust is only extended to primary caregivers. As time goes on and the infants grow assured that their needs will be met by competent adults the infants also develop the ego strength of hope (Markstrom et al., 1997).

Erikson believed that this process demonstrated a developmental psychological change because when the infants extend their trust to others, the infants are hopeful that

---

[5] The *Psychosocial Inventory of Ego Strengths (*PIES) was created by Markstrom, et al. (1997) to examine the progress of individuals' ego strength acquisitions and their subsequent psychosocial maturity and adjustment. A more recent study using the PIES, by Markstrom and Marshall (2007) is referred to throughout the section on Erikson's psychosocial theory of lifespan development but the measure is not fully described until the end of the theory discussion.

competent adults will respond in a supportive way, thus justifying the infants' trust in others (1963). Although earlier theorists suggested that this stage resulted in a sense of confidence developing in the infant, Erikson maintained that in fact, it was a sense of trust. It could be that this capacity to extend greater trust towards the outside world is a precursor to the sense of confidence that is acquired as one negotiates the various stages.

Erikson noted the importance of fully realizing the ego strengths associated with all eight stages in order to achieve optimal personality development, and discussed how each stage built on the previous stages (1968). This 'epigenesis of identity' was described as a life-long process wherein the individual experienced personal growth from the perspective of their struggle to deal with the crisis of each stage "which the vital personality weathers, re-emerging from each crisis with an increased sense of inner unity, with an increase in good judgment, and an increase in the capacity 'to do well' according to his own standards" (1968, p. 92). In each stage, these crises are opportunities for self-exploration and provide continuity to the practices of how the individuals identify themselves (with examples of beliefs and choices clearly stated or displayed), as well as the ways in which the individuals are identified by their larger social community (expectations of behaviour and practices which allow the individual to be part of the same community).

Drawing on his experiences from anthropology, psychology, and sociology, Erikson stressed that there were three dimensions of these "senses" which were present in each individual simultaneously: "ways of *experiencing* accessible to introspection; ways of *behaving*, observable to others; and, unconscious *inner states* determinable by test and analysis" (1963; p. 251). Like Erikson, Côté and Levine (2002) also took an

interdisciplinary approach and posited that individuals have three aspects of identity which are used during the process of self-individuation, referring to them as ego identity, personal identity, and social identity, respectively.

Throughout his writings, Erikson maintained that a sense of identity (and thus, the ego strength of fidelity) continued to develop and change beyond adolescence, whilst incorporating individual life lessons and experiences (1963; 1968; 1980). Postulating that all the ego strengths (hope, will, purpose, competence, fidelity, love, care, and wisdom) existed in some manifestation throughout the lifespan, Erikson also stressed that each of the ego strengths had a critical time of development (i.e., the eight psychosocial stages). Markstom et al. (1997) described ego strength development in the following way: "Each ego strength is grounded in all those that are prior to its ascendance and, when mature, gives new meaning to all previous ego strengths and all those yet to reach ascendance" (p. 707; citing Erikson, 1985).

In the present study, one of the research questions of interest was nature of the influence of ego strengths development on identity formation. Based on Erikson's theoretical position, the other seven stages are briefly discussed, before more-fully examining Stage Five (*Identity* vs. *Role confusion*), in order to highlight the various ego strengths and their possible relationships to identity formation (1968; Markstrom & Marshall, 2007).

Stages One through Four. In Stage One, introjection and identification are two processes that prepare the individual for all of the subsequent stages but are crucially importantly for identity development during late adolescence and emerging adulthood (Erikson, 1968). Introjection is the most basic incorporation of another's image, that first

awareness for infants that they are not the same person as their mother (or the trusted individual who has, in an ideal world, been meeting all their needs). This nurturing relationship triggers the process of identification which "forms the very basis in the child for a component of the sense of identity which will later combine a sense of being 'all right,' of being oneself, and of becoming what other people trust one will become" (1968, p. 103). Markstom et al. (1997), who developed themes for the various ego strengths, have suggested that the successful resolution of Stage One results in the ability to be hopeful even in challenging situations and optimistic about one's future based on earlier experiences of having one's needs met.

In Stage Two, toddlers face the challenges associated with gaining a sense of autonomy – learning to walk and talk, and of mastering toilet training. The balancing act comes from allowing the child to exercise self-control and choice of action without endangering himself. Children who are encouraged and supported in their quest to be more independent gain a sense of autonomy, tempered by an awareness of the effort, challenges, and personal constraints that come with greater self-control and choice of action – in short, a greater sense of will (Erikson, 1963; Markstom et al., 1997).

By Stage Three, those preschoolers who have successfully transitioned the previous stages will have incorporated both a sense of trust and a sense of autonomy. A sense of initiative, as demonstrated by purposeful activities, allow individuals to imagine an achievable goal, assess situations, choose an action, and to move beyond those acts of defiance or independence most familiar in Stage Two. Erikson best captured what an optimal sense of initiative (the ego strength of purpose) adds to later identity development, stating "… a fulfilment of one's range of capacities … is prepared in the

firmly established, steadily growing conviction, undaunted by guilt, that 'I am what I can imagine I will be' (1968; p. 122).

The fourth stage is rooted in middle childhood and pre-pubescence where psychosocial developmental changes are centred on learning skills, rules, and knowledge, from competent others, which will be required throughout one's life (Erikson, 1963). During Stage Four, children must suppress the need to set goals and act on them as an individual, and instead the child must work with others, especially those who have greater skills in order to develop a sense of competence (Markstom et al., 1997). Successful manoeuvring of this stage requires children to incorporate ego strengths such as: hope and optimism which must be maintained when challenged by difficult tasks and lessons; determination and self-control which foster a sense of persistence and patience thus giving themselves permission to take the time needed to learn new skills; the courage to imagine realistic goals and then to purposefully follow them; and, the ability to recognize their achievements and competence and apply their new skills (Markstrom & Marshall, 2007). Crucial to a well-developed sense of industry is the requirement that children receive positive acknowledgement from valued others both for tasks well done (i.e., recognizing strategies and actions), and also for their efforts when they are less successful at a task (Erikson, 1963; Kroger, 2004).

Stages Six through Eight. Kroger (2004) makes the point that the three remaining stages (*Intimacy* vs. *Isolation; Generativity* vs. *Stagnation*; and, *Integrity* vs. *Despair)* are from the perspective of what is required to be in a relationship rather than individual needs (an 'I' to a 'We' point of view). This suggests that in order to successfully negotiate these stages one must have a well-developed identity resulting in a

secure and confident individual ready to engage with others (Erikson, 1963).In Stage Six, *Intimacy* vs. *Isolation* (ego strength of love is the focus), the challenge is for an individual to choose to be in a committed, reciprocated relationship with another person (forming a 'We') while still maintaining a strong sense of identity (Markstrom & Marshall, 2007). Stage Seven, *Generativity* vs. *Stagnation* has often been narrowly associated with child rearing activities; however it should include activities that occur in the broader society such as, how individuals demonstrate their concern for others' needs, their work roles, and their productive social contributions (i.e., ego strength of care). As role models, those with a well-formed sense of generativity validate the importance of caring for, nurturing, and teaching younger individuals in their midst (Kroger; Markstrom & Marshall). The eighth stage, *Integrity* vs. *Despair*, is the conclusion of Erikson's psychosocial theory of lifespan development and it involves looking both backward and forward at one's life. Markstrom and Marshall noted that a well-developed sense of integrity allows individuals to to accept their pasts, both successes and failures, thus showing a well-developed sense of wisdom. A life well-lived is purposeful and satisfied, without dwelling on or regretting past actions which cannot be changed.

Stage Five, Identity vs. Role Confusion. Erikson (1963) proposed that during Stage Five, youth not only have to deal with physical changes but also with the psychosocial expectations of significant others (and the social pressure this implies) as it relates to the roles, skills, and views, that youth will choose for themselves. Within Stage Five, individuals are immersed in the process of sorting and choosing the identifications (also referred to as self-concepts) they will commit to, explore further, or discard. Using the processes of differentiation (i.e., processes of sorting and exploring) and integration

(i.e., processes of discarding or committing to), an individual's identity development is 'activated' when these identifications, adopted during earlier stages, no longer feel right for the individual and changes are made to alleviate the tensions (Erikson; Côté & Roberts, 2005). This sorting of identifications is neither a simple, nor an easy process. Individuals face pressures to conform to societal roles and expectations from parents, peers, and other influential groups. They are also susceptible to these outside pressures as they strive to develop a sense of identity through their fidelity and commitment to an ideological world view, a productive and skills-based adult work role, and a personal set of ethical and moral values that enables them to become part of their desired social group (Erikson; Kroger, 2004; Côté & Roberts).

Erikson (1968) underlined the importance of an open, respectful dialogue between adolescents and their adult role models as they navigated the many possibilities of self that exist, noting that the development of a cohesive sense of identity required that adolescents have competent, successful adult role models to emulate. Erikson posited that a resolved identity "includes all significant identifications, but it also alters them in order to make a unique and reasonably coherent whole of them" (1968, p. 161).

Another essential aspect of Erikson's (1963, 1968) construct of identity is the need for both stability and continuity to be features of a fully formed identity. An individual's identity is stable over time and across situations, that is, you are the same person regardless of the social context (i.e. if you believe that you are a straight-forward and honest person, this does not change even in difficult situations). Similarly, the holistic process of identity development can be demonstrated by the way an individual's identity shows continuity through development, such that current identifications are

experienced, modified, and then kept or discarded, based on the individual's previous decisions. Kroger highlights the sequential and inclusive nature of the theory of lifespan development when she describes a sense of identity as follows:

> (T)he stage of *identity versus role confusion* is one of life's critical crossroads in the transition to adult life; not only must this stage incorporate a *trustworthy* 'I' who has evolved as an *autonomous* individual capable of *initiating* and completing satisfying tasks modeled by significant others, but it must also transcend such identifications to produce an 'I' sensitive to its own needs and talents and capable of chipping its own niche in the surrounding social landscape . . . it is only now possible to proceed to the stage of *intimacy* – that meeting of an 'I' with an 'I", each firm on its own identity (*emphasis* hers, 2004; p. 29).

Although Erikson (1980) still envisioned Stage Five being most actively addressed during adolescence, he also noted that identity formation was a life-long pursuit. In support of Erikson's perspective of the life-long process associated with identity development, more recent research has suggested that individuals continue to actively work on all aspects of their identity development well into emerging adulthood (EA, 18-29; Arnett, 2000; Côté, 2006; Sica et al., 2014). For the present study, the perspective espoused by Côté and Arnett is central. That is, when compared to more traditional cultures/settings, Westernized societies offer adolescents and emerging adults many more opportunities for personal growth and development but often with less explicit examples of how to 'get there' or achieve one's goals. With a plethora of roles,

views, and choices available it can take longer for individuals to settle on a sufficient 'I' that defines who they are in all relationships and social settings (Guichard et al., 2012).

An Eriksonian Model of Lifespan Development

To date, many researchers interested in Erikson's psychosocial theory of lifespan development, have focused solely on identity formation (and its ego strength of *Commitment* or *Fidelity*) thus separating it from the larger context of psychosocial development as related to the acquisition of all eight ego strengths. Markstrom et al. (1997) found this position to be limiting and went on to design the Psychosocial Inventory of Ego Strengths (PIES) to determine overall **psychosocial maturity** and adjustment by assessing the development of all eight ego strengths. The scores for the PIES subscales represent the degree of resolution an individual has achieved for each of the psychosocial stages as theorized by Erikson. Mirroring Erikson's work, Markstrom et al. (p. 709) developed contextual themes (including both their syntonic and dystonic tendencies[6]) for each of the eight ego strengths: *Hope* vs. *withdrawal; Will* vs. *compulsion; Purpose* vs. *inhibition; Competence* vs. *inertia; Fidelity* vs. *role repudiation; Love* vs. *exclusivity; Care* vs. *rejectivity;* and, *Wisdom* vs. *disdain*. As mentioned earlier, following the Eriksonian model, healthy adaptive psychosocial

---

[6] The definitions that most closely resemble Erikson's usage of the terms, syntonic and dystonic, in relation to ego identity development, throughout his writings, were found at Wikipedia, file accessed 08/01/2015: http://en.wikipedia.org/wiki/Egosyntonic_and_egodystonic

"(Ego)syntonic is a psychological term referring to behaviors, values, feelings that are in harmony with or acceptable to the needs and goals of the ego, or consistent with one's ideal self-image.

(Ego)dystonic is the opposite of egosyntonic and refers to thoughts and behaviors (e.g., dreams, impulses, compulsions, desires, etc.) that are in conflict, or dissonant, with the needs and goals of the ego, or, further, in conflict with a person's ideal self-image."

resolution of each of the stages comes from finding a balance between syntonic and dystonic tendencies of the ego strength.

Support for using the PIES in the present research, is based on Markstrom et al.'s (1997) work which assessed the relationships of both the subscale scores and the overall total PIES score and found that these scores were strong indicators of psychosocial well-being. In their research on the efficacy of the PIES measure, Markstrom and her colleagues found significant positive correlations were found between both the subscale scores (except for the *Care* subscale) and the overall PIES score with a variety of outcome variables, for example, identity achievement, purpose of life, self-esteem, empathy, positive coping, and internal locus of control (1997; 2007). The same studies found negative correlations between the PIES scores and two outcome variables, a sense of hopelessness and personal distress. In the latter study, Markstrom and Marshall found that compared to high school students, university students had both higher ego strength subscale and total scale scores. This finding suggested that individuals continued to address the challenges of acquiring and modifying earlier ego strengths beyond each one's critical period or stage. Markstrom et al.'s research with the PIES, inspired the research questions of this thesis, in particular: Does the initial level of psychosocial resources of incoming university students predict identity formation across the transition to university?

Erikson's original writings about psychosocial development across the lifespan are thoughtful, inclusive and thorough – however, they were not based on empirical data (1963, 1968). Instead, Erikson used his extensive clinical experience to develop the logical arguments upon which to base his theory. In the ensuing decades, others have

taken up the task of operationalizing Erikson's theory and collecting empirical data, with most of the work focusing on identity development from the neo-Eriksonian perspective of Marcia's (1966) identity status model. In addition, although relationships between the PIES and identity formation have been explored in earlier research, identity variables were measured using a variation of the identity status model, not an Eriksonian model of identity development (Adams et al., 2006; Anthis, 2014). The research presented in this thesis, forged new paths of inquiry about identity development, while also extending the work of others, by examining an Eriksonian model of identity development, the Identity Issues Inventory (I_3, Côté & Roberts, 2005; Roberts & Côté, 2014), in relation to the PIES, a model of lifespan development as theorized by Erikson and operationalized by Markstrom et al. (1997).

From Theory to Concrete Measures of Identity

Identity Status Models. In 1966, Marcia developed a semi-structured interview to assess Erikson's ideas about identity development. Marcia was focused on Stage Five, *Identity* vs. *Role confusion*, specifically the exploration and commitment aspects of an individual's identity status. Marcia used the term crisis interchangeably with exploration, to describe the process of sorting and experiencing various identifications and possibilities, and commitment referred to the level of personal investment shown for a given possibility within three developmental domains – occupation, religion, and political ideology. Marcia operationalized Erikson's theory by creating four identity statuses based upon participants' answers about their levels of exploration and commitment to a variety of developmental domain items to assess ego-identity.

The **Ego Identity Status model** has four statuses that are combinations of crisis (exploration) and commitment: *Identity Achievement* (commitment following a crisis); *Moratorium* (actively in crisis with vague commitments); *Foreclosure* (expressing commitments without experiencing any crises); and, *Identity Diffusion* (lack of commitment, may or may not have experienced a crisis). Marcia described the four identity statuses as "individual styles of coping with the psychosocial task of forming an ego identity" (1966; p. 558), while Kroger has suggested that the "statuses are observable phenomena linked to those underlying processes of ego growth described by Erikson (1968)" (2010; p. 683). For the past 40 years, much of the research on identity formation has included used Marcia's identity statuses as a starting point.

Subsequent researchers have developed self-report questionnaires to examine the identity statuses of large groups of individuals and the two measures most widely used are the revised Extended Objective Measure of Ego Identity Status (EOM-EIS-II; Bennion & Adams, 1986) and the Ego Identity Process Questionnaire (EIPQ; Balistreri, Busch-Rossnagel, & Geisinger, 1995). These self-report measures also expanded the three domains used by Marcia (1966) to include additional ideological and interpersonal aspects of identity as it pertains to 'philosophical lifestyle', friendships, dating, sex roles, and recreation (Grotevant, Thorbecke, & Meyer, 1982; as cited in Bennion & Adams).

The EOM-EIS-II and the EIPQ measure the exploration and commitment statuses of individuals within the eight domains and then assign participants to one of the four identity statuses defined by Marcia, but they use quite different procedures to do this (Balistreri et al., 1995; Bennion & Adams, 1986). Schwartz, who investigated the convergence of identity statuses designated by the EOM-EIS-II and the EIPQ, found

many discrepancies, noting that "across identity domains, the two measures yielded incompatible status assignments in the majority of cases. Further, individuals assigned to diffusion or foreclosure, on either measure, were least likely to be classified into the same status on both measures" (2004, p. 478).

In general, results from decades of research using identity statuses to examine identity development have indicated some patterns of progression through the four statuses, although there are also regressive movements from (identity) achievement or moratorium towards positions of (identity) diffusion or foreclosure (for a detailed review and meta-analysis see, Kroger, Martinussen & Marcia, 2010). This presents a problem for those who wish to use Erikson's notion of a continuum for identity formation anchored at one end with role confusion and at the other, identity synthesis. Côté and Schwartz (2002) found that although achievement and diffusion fit, moratorium and foreclosure do not fit on this developmental progression (as cited in Schwartz et al., 2009). The moratorium status is considered to be an active time of self-exploration, and thus can be seen as a time for working towards the status of achievement however, research has found some of the links between the moratorium status and psychosocial functioning to be puzzling (Schwartz et al., 2009). According to Schwartz et al. (2011), moratorium status, has been shown to have positive relationships with anxiety, depression, and poor well-being in high school students (citing Kidwell et al., 1995); with openness and curiosity in female emerging adults (citing Luckyx et al., 2006); and to anxiety, depression, and low self-worth in emerging adults (citing Schwartz et al., 2005). The authors expressed concern about an individual's ability to progress from a state of

moratorium to achievement given the associations it has with anxiety, depression, and low self-worth.

The status of foreclosure is anomalous to the Eriksonian model because this status describes individuals who have lots of commitments which they have made without any exploration. This indicates that for individuals with a foreclosed identity status there was no evidence of identity work, just the adoption of the commitments of significant others, such as parents (Kroger et al., 2010). During identity formation the goal is to develop a cohesive sense of identity and commit to a set of values and beliefs that define one's 'true self' while considering alternative choices and roles (Markstrom & Marshall, 2007). Kroger et al. hypothesized that identity formation, as measured using the Ego Identity Status model (Marcia, 1966), should show progressive developmental movements towards the achieved status. Results from their meta-analysis however, included significant regressive movements from both achievement and moratorium statuses to foreclosure, as well as from achievement to moratorium (2010).

Schwartz et al. (2011), citing the work of Marcia (1980), stated that although foreclosure has been evaluated as being a less resolved form of identity synthesis than the achievement status, the two status have very similar relationships with outcomes measuring psychosocial functioning. For example, both statuses are positively correlated with self-esteem and negatively correlated to internalizing problems (Schwartz et al. (2011); citing Waterman, 1999). Given these findings, foreclosure seems to be a troublesome status that does not fit within an Eriksonian model of identity development. Kroger et al. (2010) recommend further investigation of the contexts in which these regressive movements occur and any relationships that exist with psychosocial

functioning. Questions about identity stability and change raised by previous research have emphasized the need to continue assessing and analyzing various identity measures to find the best model to describe the formation of identity.

Erikson (1968) maintained that a cohesive sense of identity was the lynchpin of his model of lifespan development and as such, it should be associated with a variety of outcomes that support a state of psychological and behavioural well-being. For example, Markstrom and her colleagues (1997; 2007) found positive relationships between higher levels of fidelity (the total PIES score) and the following outcomes – purpose of life, self-esteem, empathy, positive coping, and internal locus of control. The same studies found negative correlations between the PIES scores and two outcome variables, a sense of hopelessness and personal distress. Roberts and Côté (2005; 2014) found positive relationships between the developmental task domains of the I_3 and measures of psychological health and well-being. In 2005, Schwartz wrote a thoughtful and compelling essay outlining his recommendations for expanding and refocusing work in the identity field, stating:

> Erikson posited identity as a central component of positive psychological functioning, of avoiding problematic mental health and social outcomes, and of discerning one's place in the world. It is time for research on identity to match the applied and public health emphasis that Erikson attributed to the identity construct (p. 306).

Schwartz has spent much of the intervening time following his own recommendations, and in 2009, Schwartz collaborated with others to examine identity development in emerging adults using several Eriksonian measures (the Erikson Psychosocial Stage

Inventory (EPSI), developed by Rosenthal, Gurney, & Moore, 1981; the Ego Identity Scale (EIS), and the Identity Confusion Inventory (ICI), both developed by Côté, 1984). Taking the recommendations of Schwartz et al. (2009) and Kroger et al. (2010) about the need to consider the influences of social context and psychosocial functioning, the present study assessed the identity development of emerging adults during the transition to university using two Eriksonian measures, the PIES (Markstrom et al., 1997) and the Identity Issues Inventory (I_3, Côté & Roberts, 2005). Table 1 demonstrates how the two measures complement Erikson's stages of the psychosocial theory of lifespan development (1963). In the present study, complete versions of both measures were utilised rather than focusing only on the identity subscale for ego strength development (Schwartz et al.) or on a subset of the ego strength subscales that occur before identity development (Adams et al., 2006; Anthis, 2014; Markstrom & Marshall, 2007). The present study used the I_3 based on two of its strengths. First, it incorporates Erikson's ideas about the multidimensionality of identity (i.e. "ways of *experiencing*, ways of *behaving*, and, unconscious *inner states*" (1963; p. 251) and secondly, the measure assesses both personal experiences and context by including the four developmental task domains of identity (there is a detailed discussion of the Identity Issues Inventory in the next section).

Table 1

Comparison of the Identity Issues Inventory in Relation to Erikson's Theoretical Model and Markstrom et al.'s Measure of Ego Strength Development

Psychosocial Stages of Lifespan Development Erikson (1963)	Psychosocial Inventory of Ego Strengths (PIES) Markstrom et al. (1997)	Identity Issues Inventory (I_3, Côté & Roberts, 2005).
Basic Trust vs. Basic Mistrust	Hope vs. Withdrawal	
Autonomy vs. Shame and Doubt	Will vs. Compulsion	
Initiative vs. Guilt	Purpose vs. Inhibition	
Industry vs. Inferiority	Competence vs. Inertia	
Identity vs. Role Confusion	Fidelity vs. Role repudiation	Integration Differentiation Work roles Worldview
Intimacy vs. Isolation	Love vs. Exclusivity	
Generativity vs. Stagnation	Care vs. Rejectivity	
Integrity vs. Despair	Wisdom vs. Disdain	

An Eriksonian Model of Identity Development. In the last 20 years, some researchers have tried to capture the fullness of Erikson's ideas about identity, specifically, how social context and personal experiences influence identity development. In my view, the work that encompasses both the essence and breadth of Erikson's ideas about identity development is the work done by Côté and Roberts, in particular their work to develop the Identity Issues Inventory (I_3, 2005), as well as Côté's theoretical perspective on identity formation as described using the identity capital model (1997; Côté & Schwartz, 2002). For the I_3, Côté and Roberts conceptualized identity formation as a process whereby individuals work through the developmental domains, grouped into 'self-identity tasks' (integration and differentiation) and 'societal-identity tasks' (workroles and world view), suggesting that social contexts and individual relationships must be considered in any examination of identity development (2005, p. 5).

The emphasis in the I_3 on social context and personal experiences meshes well with Erikson's (1968) notion of the importance of an institutional moratorium found in many Westernized societies (Côté and Roberts, 2005; see also, Roberts & Côté, 2014). Within this supportive developmental context (which has changed from a psychosocial into an institutional moratorium) adolescents can extend their exploration of possible roles, attitudes, and behaviours during emerging adulthood. Côté described institutional moratoria as "structured contexts for working through identity confusion and resolving an identity crisis … without them *(individuals)* being expected to accept or carry permanent responsibilities and commitments" (2006; p. 85-87). From this more sociological perspective, Côté recognized the sometimes daunting challenges faced by emerging

adults in non-traditional societies who do not have set pathways to guide their journeys to adulthood, noting that individuals must:

> (U)ndertake the *individualization process* – to self-direct their life course through various obstacles and opportunities. . . . For those without these normative influences to rely upon, individualization becomes a more solitary and precarious task, punctuated by periods of aimlessness and drifting as well as a series of trial and error experiences without any grand plan about future goals and commitments. (2006, p. 5).

Current examples of institutionalized moratoria would be post-secondary education, apprenticeships, mandatory military service (popular in many European countries), or community organizations such as the Peace Corps (U.S.A.) or Katimavik (Canada). In contrast to institutionalized moratoria, examples of less structured moratoria are travelling, taking on a variety of odd-jobs, or just hanging around (Erikson; Côté).

Some recent research about institutional moratoria has noted that it is not simply the training and educating parts of the moratorium that are important, nor even the expectations of significant others. Sica et al. found that for Italian emerging adults, because of the poor economic situation and so few career opportunities, "young people on the threshold of university are discouraged from making long-term decisions and developing a coherent identity" (2014, p. 159). These findings suggest that an integral aspect of a sufficient institutional moratorium may be pathways and opportunities from the education and training to a career and/or more adult roles. In many countries where fewer economic opportunities exist, it may be necessary for educators and policy makers to integrate co-operative education placements, internships, and apprenticeships into the

educational experience (an updated institutional moratorium). At the very least, this would provide emerging adults with opportunities to actively work at developing a cohesive identity, especially as it related to their work roles and worldviews (Côté, 2006; Roberts & Côté, 2014; Sica et al.).

Erikson (1963) conceptualized identity as being multidimensional, leading Côté and Levine (2002), to also take a more holistic approach when thinking about the process of identity development. Côté and Levine posited that individuals have three aspects of identity which are used during the process of self-individuation, referring to them as ego identity, personal identity, and social identity: ego identity (i.e., subjective awareness of one's experiences); personal identity (one's interpersonal behaviour); and, social identity (i.e., one's perception of the social roles held and the relative status of those roles within one's social milieu).

In developing the Identity Issues Inventory (I_3), Côté and Roberts, combined the three dimensions of identity (ego, personal, and social) with four of the five main developmental tasks of emerging adulthood – integration, differentiation, workroles, and world view (2005). Intimate relations was not included in this shorter version because Côté and Roberts incorporated Erikson's belief that an individual could not achieve a sense of intimacy (Stage Six: *Intimacy* vs. *Isolation)* before achieving a sense of identity. The authors' description of this domain as "a merger of a sense of identity with a sense of intimate commitment to a life partner" acknowledged that first an individual must achieve a confident sense of "I" before becoming part of a committed "We" (2005, p. 7). Using the I_3, Côté and Roberts operationalized identity formation into four developmental domains: integration and differentiation (considered self-identity tasks) and, work roles

and world view (considered societal-identity tasks), with each domain examined at three levels of identity – ego, personal, and social. In the present study, it was possible to examine the scores for the identity subscales and determine where individual identity work was occurring and which of the task domains presented greater (or fewer) challenges throughout the transition period to university. The four task domains associated with the I_3 are described as follows:

Integration. The task of integration refers to a personal sense of completeness where an individual develops a cohesive sense of self, or a "sense of unity . . . in th(eir) inner mental world" (Côté & Roberts, 2005, p. 6). This sense of unity is reflected in the stability of their relationships and behaviours with others, and the degree to which they feel comfortable and a part of their "validated niche and place" within the larger social setting. Individuals who have not achieved integration may appear "mentally confused" or unfocused; they will not be part of stable, supportive relationships; and they will not be involved members of their various social communities (p. 6).

Differentiation. For emerging adults, the continued process of individuation is known as differentiation (Adams & Marshall, 1996; Erikson, 1963). Côté and Roberts (2005, p. 6) have suggested that emerging adults develop a sense of individuality where they clearly see themselves as different from those around them and that this sense of individuality leads to as awareness that they can chart their own roles and life paths. From a social identity perspective, autonomous emerging adults are confident that they have created a distinct, successful place within their community. Those who have not achieved a sense of differentiation do not see themselves clearly nor, do they have distinct self-boundaries, and their lives are caught up in the lives of those close to them.

Likewise, undifferentiated individuals do not feel unique nor do they feel in control of their life paths, and they are very dependent upon their social communities and support systems (Côté & Roberts). In a study that examined the relationships between identity status, identity capital, and the process of individuation, Côté and Schwartz (2002) found that undifferentiated individuals (e.g., those with a status of *Foreclosure*), were in a state of developmental arrest, neither involved in acquiring identity capital nor actively involved in their individuation process.

Work roles. This social identity task requires that individuals learn and utilise skills that enable them to take part in "productive roles" within the larger community (Côté & Roberts, 2005, p. 6). The authors related this task back to Erikson's stages (1963) by suggesting that those who are successful in this domain combine their sense of industry with their sense of identity, thus incorporating a greater sense of purpose and competence about their abilities into their sense of self. Individuals having difficulties with this task domain have not developed a clear sense of their capabilities and competencies, nor do significant others recognize them as being so.

Worldview. The final developmental task that Côté and Roberts (2005) included in the I_3 was the formation of a worldview, noting that Erikson (1968) believed that a worldview allowed people to "derive a sense of meaning and purpose in life in terms of some 'thing' larger than themselves" (2005, p. 7). For many individuals, this "thing" can be a political ideology, organized religious beliefs, or more loosely structured ideologies such as, humanism or environmentalism. According to Côté and Roberts, individuals who lack a worldview do not have a sense of purpose that is embedded in a defined belief system; they do not have critical thoughts and arguments about pertinent issues; nor do

they follow any "informal or formal belief system in religion, politics, science, humanism, or the like." (p. 7).

Using the Identity Issues Inventory, Côté and Roberts demonstrated that throughout emerging adulthood, individuals continue to explore the various identity task domains, changing or reinforcing earlier commitments, and taking advantage of the many opportunities that are available during this stage (2005; Roberts & Côté, 2014). To date, their research using the I_3 has involved cross-sectional designs and has demonstrated developmental progression on each of the tasks, such that older participants scored higher on the four task domain subscales. In particular, Côté and Roberts found that the self-identity tasks of integration and differentiation were not fully resolved even by those participants who were more than 30 years old, but resolution of the social identity domain of work roles was near completion by the end of late emerging adulthood (25-29 years of age, Arnett, 2000).

In the present study, the importance of both social and psychological contexts in the acquisition of a cohesive identity was demonstrated. The longitudinal design of this work permitted the examination of the personal attitudes, attributes, and behaviours of emerging adults, during their first year of university. It was a unique opportunity to assess individuals' ongoing identity development and further acquisition of psychosocial resources (i.e., ego strengths), while also gauging their ability to successfully negotiate the challenges that come with this important transition.

The Transition to University as a Context for Identity Development

Research has shown that the successful transition to university is both a function of the attributes and skills which students 'bring with them' to university (e.g.,

psychosocial maturity, past academic achievements, self-competencies, and financial support), as well as the context of the university experience, such as one's feelings of social belongingness, the perceived fit between student and university, and students' perceived stressfulness of university life (Cohen & Janicki-Deverts, 2012; Lee & Davis, 2000; Markstrom et al., 1997; Wintre et al., 2008). Moreover, these relationships suggest that the transition to university provides emerging adults with an ideal opportunity (an institutionalized moratorium) for identity development (Arnett, 2000; Côté, 2006; Erikson, 1968). For many individuals who have just completed high school, university is the first chance to explore who they are and what they believe – in essence, how they self-identify within the larger society.

Côté and Roberts (2005) found that early emerging adults (18-24 years of age, Arnett, 2000) were very involved with the self-identity tasks of integration (developing a cohesive sense of self) and differentiation (developing a sense of individuality, separate from others). Utilizing the processes of integration and differentiation, individuals evaluate their experiences and decide which of their roles, attitudes, and beliefs best fit within their sense of self (Adams & Marshall, 1996). Positive social and academic experiences that lead to greater feelings of social belongingness and fit with the university are more likely to be incorporated into one's self-identity (Lee & Davis, 2000; Wintre et al., 2008). Scanlon, Rowling, and Weber investigated the effects of social belongingness during the transition to university in Australia (2007). Their research indicated that some students who felt less connected to others at school experienced identity instability or discontinuity. This discontinuity was evident in that some students no longer confident about their previous academic abilities, or, they described difficulties

in establishing a new social network at university. From Côté's and Roberts' perspectives, not only were the students having trouble integrating previous skills and behaviours into useful academic skills for university, but they were also unable to find their own niche where they felt valued (2005; Roberts & Côté, 2014).

Scanlon and her colleagues suggested that the relationships that students build with university personnel (i.e., faculty, teaching assistants, learning support, administrators) provided experiences that enriched students' understandings of how university life 'works' and what is expected of students. These findings also speak to the importance of social capital (i.e., family, friends, social networks; Luthans et al., 2004), and of how a successful institutional moratorium contributes to the identity development and psychosocial well-being of emerging adults (Côté & Schwartz, 2002; Erikson, 1968). Research by Scanlon et al. found that when universities did not provide frequent and lengthy opportunities for first-year students to interact with faculty and other university personnel, students began to question their academic abilities (identity discontinuity) and concluded that they were 'on their own' and expected to independently determine how to transition to university (2007). Based on a lack of social belongingness and fit with the university, students may not take advantage of, or even be aware of the academic and social support programs offered by the university. A cohesive sense of self and, subsequent academic success are both influenced by these first university experiences that help students to feel that they are an integral part of the university community where they are connected to others (Côté & Roberts, 2005; Lee & Davis, 2000; Scanlon et al.; Wintre et al., 2008).

According to Scanlon et al. (2007) there were two additional factors which exacerbated students' inabilities to integrate into the academic community – financial concerns and living arrangements. The authors found that students who needed to work while attending university and also those who lived off campus (i.e. not in university residences) were less involved, both socially and academically with other students. These students were less likely to self-identify as students (more likely to self-identify as 'working while going to school') and because they were not living on campus, these students had fewer opportunities to interact with their classmates both socially and academically. Compared to students who lived on campus and did not have financial concerns, this group of students was at a disadvantage because if they began to question their academic abilities or their abilities to negotiate the challenges of university life they would have less time (due to work responsibilities) and less social support from their peers. In the present study, possible relationships between demographic variables and the four task domains of identity development were explored.

In addition to being a time that challenges students' efforts for social and academic integration, the transition to university is also a time that influences individuals' psychosocial well-being (Adams et al., 2006; Scanlon et al., 2007). Some of the difficulties that may arise from an inability to fully integrate into the social and academic aspects of university life include: an inability to rely on personal psychosocial resources to support identity development (particularly the ego strengths of *Hope*, *Competence*, and *Wisdom*); greater use of less effective coping strategies (emotion-focused coping vs. problem-focused coping); and increased levels of perceived stress at university because students do not feel as though they belong or 'fit' (Cohen & Janicki-

Deverts, 2012; Matheson & Anisman, 2003; Markstrom & Marshall, 2007). Coping strategies are psychosocial tools used to deal with the stress and demands that are part of one's daily life. During the transition to university, levels of perceived stress, fit with one's chosen school, and a sense of social belongingness, are part of the specific environmental context experienced by students. Some research has shown that individuals with higher levels of perceived stress were more likely to practise high risk behaviours; or reported feeling depressed, or indicated lower levels of identity development (Cohen & Janicki-Deverts; Markstrom & Marshall; Schwartz, 2005; Schwartz et al., 2010).

Hypotheses

For the present study, there was a general expectation that identity development would be progressive across the first year of university and that there would be increases in the scores of the four task domains of identity. This hypothesis was based on earlier finding by Côté and Roberts (2005) that identity development occurred throughout emerging adulthood and beyond for social identity.

The second hypothesis was that psychosocial maturity, as represented by *PIES-Self*, would have a strong positive relationship with all four identity task domains (Adams et al., 2006; Anthis, 2014; Markstrom et., 1997). In addition, it was expected that this identity capital asset would also moderate the effects of the coping strategies, stress, university fit, and/or social belongingness, on the four task domains of identity by providing the necessary resources to buffer or enhance each of these experiences.

Possible relationships between the four task domains of identity with coping strategy use or, perceived levels of stress were explored to determine if earlier

relationships found were evident when using an Eriksonian-based measure of identity (Markstrom & Marshall, 2007). When stressed, individuals may be less able to deal with daily demands of university life and therefore, it was hypothesized that stress would be negatively related to identity development. There were two broad categories of coping strategies assessed in the present study, problem-focused coping (*PFcope*) and emotion-focused coping (*EFcope*). It was hypothesized that *PFcope* would be positively associated with identity development, whereas *EFcope* would be negatively associated with the four task domains (Markstrom & Marshall).

Lee and Robbins (1995) found that students with higher levels of stress reported lower levels of social belongingness within their campus environment. Côté and Schwartz (2002) have suggested that social belongingness has important connections to identity development because the degree to which one feels part of the larger community is reflected in both the development of a personal paradigm (*Worldview*) and a distinct sense of self (*Differentiation*). A strong sense of social belongingness has been found to provide a supportive context and thus, a positive relationship with identity development was hypothesized (Scanlon et al., 2007). Likewise, the second university environment variable, *Fit*[7] (as measured using the SUM, assessed the degree to which individual felt that the university was a good fit for them) has been shown to have a positive relationship with identity development (Wintre et al., 2008). The rationale for this relationship is that when students assess their fit they are also assessing their commitment to their chosen university. When a strong fit is reported, students are validating their original

[7] To clarify, the abbreviation SUM will be used to indicate references to the measure but when the construct is being discussed (a sense of fitting with the university) then *Fit* will be used (Wintre et al., 2008).

commitment that they have chosen the right university to attend (i.e., they are where they should be) and this was expected to be positively related to identity development.

Finally, it was hypothesized that psychosocial maturity would moderate the effects of coping strategies (*PFcope* and *EFcope*), stress, *Fit*, and/or social belongingness on the four task domains of identity – *Integration*, *Differentiation*, *Work roles*, and *Worldview*. Specifically, these relationships were as follows:

Coping strategies *(PFcope and EFcope)*. It was hypothesized that there would be a positive effect of problem-focused coping on all task domains of identity development. This relationship would be enhanced (increased) when psychosocial maturity was high. In contrast, it was expected that there would be a negative effect of emotion-focused coping on all task domains of identity development when psychosocial maturity was low.

Perceived Stress. It was hypothesized that the relationship between stress and identity development would be stronger when psychosocial maturity was low.

Fit with University. It was hypothesized that there would be a positive effect of *Fit* on all task domains of identity development and that this effect would be greater when psychosocial maturity was high.

Social Belongingness. It was expected that the relationship between social belongingness (a social capital asset) and all task domains of identity development would be stronger when psychosocial maturity was high.

Method

Recruitment of Participants

More than 800 first year students were recruited for Time 1 of this online study with 771 participants meeting the age requirement of early emerging adulthood, from 18-24 years (Arnett, 2000). At Time 2 (Winter 2011), 325 participants (41% of original sample) returned to complete the survey, whereas, Time 3 saw the return of 147 participants (19.5% of original sample). For Time 1, participants were recruited through the Psychology department participant pool online via SONA early in their first semester of university (Fall 2010) and also via recruitment announcements to first-year students in the Faculty of Arts and Social Sciences (FASS). Time 1 included a question requesting permission to contact the participants in regards to participating in subsequent phases of the study. Those participants who agreed to be contacted were emailed reminder invitations in February 2011 to participate in Time 2 of the study, and in September 2011 to participate in Time 3 of the study.

Participants. In the present study, at Time 1 there were 771 participants who were deemed eligible to participate at Time 1, with 554 (72%) female participants and 217 (28%) male participants. There were 325 participants at Time 2, with 254 female (78%) and 71 were male participants (22%). At Time 3, there were 150 participants, with 132 female participants (88%) and 18 male participants (12%). These sample sizes reflect the number of participants who participated in all three data collection waves. The numbers differ slightly from samples sizes reported in the Table 2 because those numbers reflect the number of participants in each data collection wave with no requirement of

subsequent participation. The Results section contains detailed information about dealing with participant attrition across the study.

Procedure – an Overview

The online consent page included time required to complete the survey, compensation for participation, as well as information about the confidentiality of the study, and participation and withdrawal guidelines. Before gaining access to the study, participants gave their consent to complete the measures online. For the final part of information gathering, participants provided written consent for the researcher to access their final grades from the Registrar's Office (January, 2011 and May, 2011). Participants were debriefed upon the completion of the study. Anonymity could not be protected as it was necessary to track and match participants' grades with responses however, all personal information gathered was kept strictly confidential and stored separately from the data. All identifying information was removed from the working datasets and will be destroyed in Fall 2014, three years after collection of the Time 3 data.

Measures

At the beginning of the study, a variety of demographic information (see Appendix A) were gathered, including participants' sex, age, high school average, place of residence (on campus, off campus, with parents), employment status, and financial concerns. The following descriptions pertain to the measures included in the present study. Not all measures were assessed at each of the three time periods and a list is included at the beginning of the appendices to indicate the measures used in each time period.

Sex of Participant. During each data collection wave, participants' self-reported sex was recorded (female participants were coded as "0"; males as "1"). Within the identity literature and research, evaluations of differences between female and male participants are referred to as gender differences. For ease of comparison, in the present study although only information on participants' sex was reported, these comparisons will be referred to as gender differences. In the identity literature, findings of gender differences are scant (Kroger, 2003). In a review of identity research from 1966 to 1995, Kroger noted that few gender differences had been found by researchers while investigating three major topics of identity development: identity status distributions; the developmental task domains of identity; and, the developmental processes associated with identity. Research findings from the I_3, did not indicate any gender differences for the four developmental task domains and so, no hypotheses regarding possible gender differences based were proposed (Côté & Roberts, 2005; Roberts & Côté, 2014).

Identity Issues Inventory (I_3, Côté and Roberts, 2005; Roberts & Côté, 2014; see Appendix B). This measure was developed specifically to examine identity development during emerging adulthood (EA, ages 18 – 29, Arnett, 2000). The present study was longitudinal and Côté and Roberts have suggested that the I_3 is particularly useful in assessing identity formation that occurs over time. The I_3 combines the three dimensions of identity (ego, personal, and social) with four identity development tasks of emerging adulthood – integration, differentiation, work roles, and worldview. Using a six-point Likert Scale – ranging from 1 to 6 (where, 1 = *Strongly Disagree* and 6 = *Strongly Agree*) participants were asked to rate the degree to which they agreed or disagreed with statements about their current behaviour.

A sample item from the *Integration* subscale was "Whatever happens, I still have a secure sense of who I am, deep inside." According to Dr. Côté (personal communication, June, 2010), the I_3 is a more psychometrically sound, shortened version of the Identity Issues Inventory - Long Form (III90), with Cronbach's alphas for the subscales of the I_3 ranging from .77 to .85 (Roberts & Côté, 2014). In the present study, Cronbach's alphas for the subscales of the I_3 were acceptable to good, ranging from .74 to .82. Identity development was assessed at all three time periods and the mean identity task domain scores for Time 1 through Time 3 can be found in Table 2.

Psychosocial Inventory of Ego Strengths *(*PIES, Markstrom et al., 1997; see Appendix C). The PIES measure has 32 items that are used to assess an individual's eight ego strengths (hope, will, purpose, competence, fidelity, love, care, and wisdom). Each of the ego strength subscales has two positively and negatively worded statements, representing the anchor points of the continuum between the ego strength and its corresponding antipathy, respectively (i.e., *Hope* vs. *withdrawal*). Using a five-point Likert Scale – ranging from 1 to 5 (where, 1 = *Does not describe me well* and 5 = *Describes me very well*) participants were asked to rate the degree to which the statements described them. A sample item from the *Hope* subscale was "No matter how bad things get, I am confident they will get better." When the measure was developed, Markstrom et al. (1997) found that the psychometric properties for the PIES ranged from acceptable to very good with Cronbach's alphas for the subscales from .58 to .79 (except the *Will* subscale with an alpha of .55), and .91 for the total ego strength score.

The common practice for previous research using the PIES measure has been to aggregate the scores for the first five subscales and not include the three subscales that

occur after the *Identity* vs. *identity confusion* stage (e.g., Adams et al., 2006; Anthis, 2014). In contrast, Erikson (1963) maintained that throughout the lifespan, ego strength development occurred. That is, individuals are able to apply and refine information and skills gained through experiences which result in changes to their ego strengths (also known as, psychosocial or identity capital resources). It was therefore hypothesized that the *Wisdom* subscale should be included as part of any self-identity development focused on ego strengths' grouping.

To test this hypothesis, prior to the full analyses being run, an exploratory factor analyses (EFA) of the PIES was conducted using the Time 1 sample ($N = 771$; Tabachnick & Fidell, 2007; Poster presentation, SRIF, 2011). An EFA was conducted because until the present study only a principal components analysis had been run on the PIES. The EFA resulted in the PIES being reduced from eight subscales to two factors, *PIES-Self* (*Hope, Will, Purpose, Competence, Fidelity*, and *Wisdom*) which measured participants' levels of psychosocial maturity in terms of self-development, and *PIES-Others* (*Love* and *Care*), which measured participants' levels of psychosocial maturity in terms of one's relationships with others (Markstrom & Marshall, 2007). The EFA of the scores for the 8 subscales resulted in 2 factors which accounted for 65% of the variance with the following loadings: Factor 1 - hope (.85), wisdom (.83), purpose (.73), competence (.70), will (.69), fidelity (.52); and Factor 2 – care (.59) and love (.57). Factor 1, (*PIES-Self*) contained the six ego strengths that are used by an individual to form a cohesive, well-developed identity resulting in a secure and confident individual ready to engage with others (Erikson, 1963). Factor 2 (*PIES-Other*) was comprised of the ego strengths that individuals need to be part of successful relationships. Cronbach's

alpha for the 2-factor model was 0.89. The present study uses the first factor, *PIES-Self* in the analyses and was assessed at all three time periods. The mean scores, for Time 1 through Time 3, can be found in Table 2.

In subsequent research, Markstrom and Marshall (2007) examined the relationship between the PIES and two broad coping strategies, hypothesizing that higher ego strength subscale scores would predict a greater use of problem-solving coping strategies compared to emotion-focused coping strategies. Although they found support for this hypothesis, the authors did not find that low ego strength subscale scores predicted greater use of emotion-focused coping strategies. The present study extended the work of Markstrom and Marshall by examining ego strength subscale scores in relation to participants' coping profiles (as generated by the SCOPE, Matheson & Anisman, 2003).

Survey of Coping Profiles Endorsed Scale (27-item SCOPE, Matheson & Anisman, 2003; see Appendix D). This 27-item scale measured 14 coping strategies that reflected how individuals deal with everyday problems and stresses (the SCOPE-27 is a shortened version of the SCOPE-44). Using a five-point Likert Scale – ranging from 0 to 4 (where, 0 = *Never* and 4 = *Almost always*) participants were asked to rate how often they have responded in specific ways when dealing with stressful situations and problems. A sample item for the problem-solving coping strategy is "Ordinarily, in recent weeks I made plans to overcome my concerns or problem." The SCOPE-44 (with 12 coping strategies) has been widely used to develop normative coping profiles for individuals and has been shown to be both valid and reliable. Although there are no published psychometric properties for the SCOPE-27, the Cronbach's alphas for the

SCOPE-44 subscales ranged from acceptable to very good (.61 to .86), except the active distraction subscale with an alpha of .56 (Matheson & Anisman, 2003).

During the prospectus defense of the present study, committee members suggested combining the 14 subscales into broader coping strategy categories to reduce the number of predictor variables. In a more recent article, the designers of the measure suggested that there were two broader categories for conceptually grouping the 12 subscales of the SCOPE-44: cognitive-behavioural strategies (i.e., problem-solving, cognitive restructuring, rumination, active and cognitive distraction) and socio-emotional strategies (i.e., humour, social support seeking, emotional expression, other and self-blame, emotional containment, and passive resignation (Kelly, Matheson, Ravindran, Merali, & Anisman, 2007).

There were some methodological hurdles that prevented a simple grouping of the SCOPE-27 subscales into cognitive-behavioural and socio-emotional strategies as was done with the SCOPE-44. First, the SCOPE-27 had two additional subscales (*Wishful thinking* and *Religious*) but 17 fewer items to assess these subscales. Second, internal reliability of a subscale cannot be assessed with two items. Third, despite conducting numerous factor analyses during the present study, the SCOPE-27 did not produce any two-factor models that contained all 27 items or 14 subscales. Based on discussions with several colleagues who have greater expertise in quantitative statistics, a decision was made to examine all 27 items from the SCOPE-27 to determine which had face validity for being part of either a problem-focused coping or an emotion-focused coping category and then to use factor analysis to develop a two-factor model from these items (A. Howard, personal communication, October 21, 2013). The reason for choosing problem-

focused coping and emotion-focused coping as the two representative categories was that past research had shown relationships between identity development and these two broader coping strategies thus suggesting some possible avenues of exploration for the present study (Markstrom & Marshall, 2007).

This process resulted in the creation of two factors to represent coping strategies. The first factor, problem-focused coping (*PFcope*) was created by combining the scores from three subscales (*Problem solving, Cognitive restructuring,* and *Social Support Seeking*). The Cronbach's alpha for the six-item *PFcope* was .74. The second factor, emotion-focused coping (*EFcope*), was created by combining the scores from three other SCOPE subscales (*Wishful thinking, Rumination,* and *Self-blame*). The Cronbach's alpha for the six-item *EFcope* was .81. For the present study, coping strategies were assessed at all three time periods. The mean coping scores for the two categories (ranging from 0 to 4) for all three time points can be found in Table 2.

Campus Connectedness Scale (Lee & Davis, 2000; see Appendix E). This 14-item scale is an adaptation of a more general measure, the Social Connectedness Scale, developed by Lee and Robbins (1995) which was further revised by Lee, Bowen, and Keough (1999, as cited in Lee & Davis, 2000) in order to assess the level of psychosocial belongingness students experienced within their university campus environment. Lee and Robbins (1995) found that the campus connectedness was positively associated with a sense of community and self-esteem; and negatively correlated with psychological stress. Using a six-point Likert Scale – ranging from 1 to 6 (1 = *Strongly Disagree* and 6 = *Strongly Agree)*, participants were asked to indicate their level of agreement with statements about their social experiences at Carleton (e.g. "Other students make me feel

at home on campus"), with higher scores reflecting a greater sense of belongingness. Cronbach's alpha for the original scale was .92 and in the present study the alpha was .90. Campus connectedness was used to assess social belongingness at two of the time points in the present study, Time 2 and Time 3. The mean campus connectedness scores (Time 2 and Time 3) ranging from 1 to 6, can be found in Table 2.

Student-University Match (SUM) Questionnaire (Wintre et al., 2008; see Appendix F). This 17 item measure assessed the perceived fit (*Fit*) between the student and the university. For example, participants were asked, "To what extent do you feel there is a match between you and your needs and that of Carleton University with respect to the social environment at school?" Using a five-point Likert scale – ranging from 1 to 5 (where 1 = *Absolutely no fit*, and 5 = *A great fit*), students rated their perceived match between their needs, and those of Carleton, with higher scores reflecting a greater fit (*Fit*). Cronbach's alpha for the original scale was .87 and in the present study the alpha was .90. In the present study, *Fit* was assessed at Time 2 only and the mean SUM score (Time 2), that ranged from 1 to 5, can be found in Table 2.

Perceived Stress Scale (PSS-10, Cohen, & Williamson, 1988; see Appendix G). To control for the general stress level of participants, the 10-item PSS-10, developed by Cohen and Williamson (1988) was included in the present study. The PSS-10 was used to assess the degree to which participants perceived situations in their lives as stressful, focusing on "how unpredictable, uncontrollable, and overloading respondents find their lives" (Cohen & Janicki-Deverts, 2012). Using a five-point Likert Scale – ranging from 0 to 4 (where, 0 = *Never* and 4 = *Very often*) participants were asked to rate how often they perceived their lives to be stressful. A sample item for the PSS-10 was

"In the last month how often have you felt angered because of things that were outside of your control?" The higher the total score, the greater the perceived level of stress (i.e., based on the sum of responses to the four positively worded and six negatively worded items). According to Cohen and Janicki-Deverts, the Cronbach's alphas for the PSS-10 ranged from good .78 to very strong .91. In the present study, the Cronbach's alpha for this measure was very good at .87. Perceived stress levels were assessed at two of the time points in the present study with mean PSS-10 scores (Time 2 and Time 3), ranging from 0 to 4 (see Table 2).

Results

This longitudinal study examined how identity formation, within four developmental task domains (*Integration*, *Differentiation*, *Work roles*, and *Worldview)*, varied during the first year of university, and which, if any, of the predictor variables might be influential after controlling for incoming levels of identity (I_3 measure, Côté & Roberts, 2005). With respect to the predictor variables, recall that in an effort to reduce the overall number of predictor variables, for two of the measures only some of the subscales were included in the analyses.

The PIES measure was factor analysed (Markstrom et al., 1997; see Methods section for detailed account). This procedure resulted in the PIES being reduced from eight subscales to two factors, *PIES-Self* and *PIES-Others*, which measured participants' levels of psychosocial maturity in terms of self-development and one's relationships with others. Since the focus of the present study was on identity formation, only the ego strengths most relevant to self-development, those contained in *PIES-Self* factor, were included in the analyses. This is also the common practice for previous research using the PIES measure (see, for example, Adams et al., 2006; Anthis, 2014).

Coping strategy measures often have many subscales that are combined to reflect whether or not the strategy is considered to be problem-focused (generally seen as being more adaptive) or emotion-focused (generally considered less adaptive). In the case of the SCOPE-27 (the coping measure used in the present study), to assess their respective links with identity development, a decision was made to combine six of the 14 subscales into two broad coping categories, problem–focused coping and emotion-focused coping

(*PFcope* and *EFcope*, respectively, see Methods section for a detailed account; Matheson & Anisman, 2003).

Preliminary Analyses

Initial data collection using Carleton University's psychology participant pool yielded 880 participants. A visual assessment of the data set indicated that 10 participants were missing all data for all variables except for the demographic measures of the study. These participants were removed from the data set. Despite setting study requirements of first-year status and being aged 18-24 years old, some of the remaining 870 students were not eligible to participate. Eligibility requirements were based on research questions that were focused on assessing the effects of the transition university on students' adjustment and identity development. The first semester of students' transition was the ideal time to collect both incoming levels of identity development and psychosocial maturity in order to determine where students "were at" when they began university. Previous research by Côté and Roberts (2005) established that identity development was most active for all four task domains during early emerging adulthood (18-24 years of age), therefore this age bracket was chosen as the second eligibility requirement. Of the 880 original participants, 771 participants met both the age and first-year status requirements of the present study and those who did not were dropped from the subsequent analyses.

This data set had several multi-item scales that need to be combined into total scores. In addition, several of the variables had subscales, for example, the identity variable is comprised of four developmental task domains. After verifying that all item scores fell within their plausible ranges, cumulative and mean scores were calculated for

each of the variables and/or subscales. For all variables, at each data collection wave, the number of participants who did not have at least 80% complete items ranged from 0% to 4.8%.

Demographic Statistics. At Time 1 there were several demographic variables of interest: *Sex* – there were 554 female and 217 male participants (72% and 28%, respectively), with a mean age of 18.35 years (*SD* = 1.47); *Abode* – where participants lived in the parental home (334 participants, 43%), a Carleton university residence (312 participants, 41%), or in off-campus housing (125 participants, 16%); *JobStatus* of participants (Not employed – 440, 57%; Employed Part-time – 331, 43%); and finally, Financial concerns about paying for their education (No concerns – 266, 35%; Some concerns – 371, 48%; Many Concerns – 135, 17%).

Participant Attrition. Of the 771 first year students who were deemed eligible to participate at Time 1, 325 students returned to participate in Time 2 of the study during the Winter 2011 semester (41% of original sample), and, 150 returned for Time 3 of the study during the Fall 2011 semester (19.5% of original sample)[8]. Consequently, from Time 1 to Time 3 of this short-term longitudinal study, those participants with complete data for all variables were less than 20% of the original sample. To examine whether or not there were differences between participants who completed both phases of the study

[8] The sample size reported here for each data collection wave (Times 1-3) reflects the number of students who participated in all three data collection waves. These sample sizes differ from the *N* listed for the descriptive statistics in Table 2 because the descriptive statistics are for all participants in a particular data collection wave, even those who did not participate in all three data collection waves. Including all participants from a particular data collection wave is a preparatory step required before conducting missing data techniques. It is also the source of the most accurate descriptive statistics that are then compared to the descriptive statistics from the imputed data sets (Enders, 2010; Geiser, 2012).

Table 2

Comparison of Mean Scores for Variables Measured at Times 1-3 with the Mean Scores from the 110 Imputed Datasets at Times 1-3

Variables	Time 1		Time 2		Time 3	
	Original *n* = 787	Imputed *n* = 811	Original *n* = 325	Imputed *n* = 811	Original *n* = 240	Imputed *n* = 811
	M(SD)	*M(SD)*	*M(SD)*	*M(SD)*	*M(SD)*	*M(SD)*
Identity subscales (III-V48)						
Integration	4.31 (.69)	4.31 (.69)	4.31 (.68)	4.30 (.66)	4.34 (.74)	4.44 (.73)
Differentiation	4.25 (.72)	4.25 (.72)	4.27 (.70)	4.27 (.68)	4.26 (.74)	4.36 (.72)
Work roles	4.00 (.63)	4.00 (.62)	3.96 (.64)	3.98 (.62)	3.88 (.66)	4.00 (.68)
Worldview	3.97 (.70)	3.98 (.70)	4.04 (.69)	4.04 (.67)	4.04 (.77)	4.12 (.75)
PIES-*Self*	3.42 (.59)	3.41 (.59)	3.43 (.58)	3.42 (.56)	3.42 (.63)	3.50 (.63)
SCOPE						
E*motion-focused coping*	2.33 (.80)	2.33 (.80)	2.22 (.78)	2.23 (.77)	2.28 (.76)	2.22 (.76)
Problem-focused coping	2.21 (.70)	2.21 (.70)	2.10 (.68)	2.12 (.68)	2.12 (.71)	2.12 (.70)
PSS	*NM*	*NM*	1.90 (.63)	1.89 (.62)	1.99 (.69)	1.88 (.74)
SUM	*NM*	*NM*	3.81 (.51)	3.79 (.51)	*NM*	*NM*
CC	*NM*	*NM*	4.33 (1.06)	4.33 (1.04)	4.13 (1.10)	4.23 (1.08)

Note. Original = the dataset with listwise deletion for cases with missing values; Imputed = mean scores for variables based on the 110 imputed datasets created to deal with missingness; *III-V48* = Identity Issues Inventory; *PIES-Self* = Psychosocial Inventory of Ego Strengths – Self subscale; *PSS-10* = Perceived Stress Scale; *SCOPE* = Survey of Coping Profiles Endorsed – two subscales: Problem-focused coping and Emotion-focused coping; *SUM* = Student-University Match; *CC* = Campus Connectedness; *NM** = Not Measured at that Time point

compared with those who did not, independent samples *t*-tests were conducted for all continuous variables (Phase 1 = *T1* to *T2*; Phase 2 = *T2* to *T3*). None of the *t*-tests indicated any significant differences between the two groups on any of the variables.

A closer look at the attrition rates for participants who completed all three data collection waves indicated that attrition might be related to gender (i.e., 76% attrition rate for female participants compared to a 92% attrition rate for male participants). Once again, independent samples *t*-tests were used to compare the eight dependent variable scores for women and men (i.e., the four *T2* identity domains and the four *T3* identity domains). Results of the *t*-tests showed that gender was related to some of the dependent variables. In the present study, differences between males and females were found for the scores of *T2* Integration ($p = .019$), *T4* Integration ($p = .019$), and, *T4* Differentiation ($p = .021$). Interestingly, of all the variables measured in the present study only *Sex* had no missing values. Based on these results and the large difference in the attrition rates a decision was made to control for gender in the proposed regression analysis (Collins, Schaefer, & Kam, 2001).

Missing Data

A decision was made to deal with the missing data by using one of the modern techniques available, such as multiple imputation (MI) or full-information maximum likelihood (FIML) because these methods allow for the retention of all cases and the maintenance of optimal power for subsequent analyses (Graham, Olchowski, & Gilreath, 2007). According to Enders, further advantages of using MI or FIML for dealing with missing data include the need for less-restrictive assumptions about why the data are missing, as well as, these techniques resulting in less-biased parameter estimates (2010).

Given the apparent relationship between gender and attrition in the present study, the missing data mechanism for the present study could be considered to be missing at random (MAR). The MAR mechanism suggests "that a systematic relationship exists between one or more measured variables and the probability of missing data" (Enders, 2010, p. 6). By controlling for gender in the multiple imputation model the missing values on the dependent variables become random after conditioning on missingness and the missing data mechanism could be considered missing completely at random (MCAR; Graham, 2012). Furthermore, having controlled for gender, this can be considered ignorable missingness, and the multiple imputation should result in unbiased parameter estimates (Enders).

Multiple Imputation Analysis

The choice to use the multiple imputation technique (MI) was based on the fact that MI creates complete case data for the desired number of imputations; then the chosen analysis is conducted on all the imputed data sets; and finally, the results for all the data sets are pooled (Enders, 2010; Graham, 2012). In the present study, interaction effects were created to assess the possible moderating influence of psychosocial maturity (an identity capital resource) on several of the other predictor variables (i.e., Phase 1 – the two coping strategies, as well as perceived stress, social belongingness, and fit with the university; and, in Phase 2 – the two coping strategies, as well as perceived stress and social belongingness). The interaction effects represent the product term of the two centred variables and must be included in the imputation step in order to be part of the regression models (analysis step). Multivariate multiple regression analysis (that is, regressions with multiple predictor and outcome variables) in the present study followed

the approach recommended by Enders and included both "main effects and product terms as predictor variables." (2010, p. 266). Finally, several auxiliary variables were included in the imputation stage to account for possible correlations between variables with missingness and those variables that were not included in the subsequent analysis step (Collins et al., 2001).

For the present study, 110 data sets were imputed with the goal of maintaining statistical power at near theoretical levels (80% power) and sensitive enough to detect even small effect sizes (Enders, 2010; Graham et al., 2007). To conduct the multiple imputation process for the present study Mplus 7.0 was used (Muthén & Muthén, 2012). Results of the multivariate multiple regressions, for all 110 data sets were generated and then pooled. The descriptive statistics and correlations for the variables at Times 1 through 3 are shown in Tables 2 through 5. The values in Table 2 represent a comparison of the means and standard deviations for all variables from the original data sets (i.e., where the decreasing *N* demonstrates the effects of listwise deletion), with those pooled values from the 110 imputed data sets (where $N = 811$ for all three time periods).

With Tables 3 through 5, the correlation tables demonstrate that the dependent variables are more than moderately correlated with each other making multivariate analysis an appropriate strategy (Tabachnick & Fidell, 2007). More specifically, in Table 4 the correlations among the four Phase 1 dependent variables (i.e., the *T2* Identity task domains – *Integration*, *Differentiation*, *Work roles*, and *Worldview*), ranged from .49 to .87. As shown in Table 5, the correlations among the four Phase 2 dependent variables, (i.e., the *T3* Identity task domains – *Integration*, *Differentiation*, *Work roles*, and *Worldview*), ranged from .51 to .86.

Table 3

Correlations between all Continuous Variables at Time 1 (N = 811)

Measure	1	2	3	4	5	6	7
Integration	1.00						
Differentiation	.86	1.00					
Work roles	.65	.69	1.00				
Worldview	.52	.53	.50	1.00			
PIES-Self	.71	.76	.66	.48	1.00		
EFcope	-.34	-.39	-.28	-.18	-.47	1.00	
PFcope	.24	.21	.27	.27	.28	.22	1.00

Note. Identity Task domains: *T1 Integration; T1 Differentiation; T1 Work roles*; and*, T1 Worldview*; *T1 PIES-Self* = Psychosocial Inventory of Ego Strengths – *Self* subscale; SCOPE subscales are: *T1 EFcope* = Emotion-focused coping; and, *T1 PFcope* = Problem-focused coping.

All correlations are significant at $p < .001$.

Table 4

Correlations between all Continuous Variables at Time 2 (N = 811)

Measure	1	2	3	4	5	6	7	8	9	10
Integration	1.00									
Differentiation	.87**	1.00								
Work roles	.65**	.71**	1.00							
Worldview	.55**	.56**	.49**	1.00						
PIES-Self	.76**	.78**	.68**	.52**	1.00					
EFcope	-.30**	-.37**	-.36**	-.25**	-.51**	1.00				
PFcope	.24**	.23**	.27**	.22**	.27**	.18**	1.00			
PSS	-.49**	-.54**	-.45**	-.34**	-.65**	.58**	-.05	1.00		
SUM	.45**	.41**	.39**	.35**	.41**	-.10*	.16**	-.29**	1.00	
CC	.64**	.59**	.47**	.36**	.54**	-.24**	.21**	-.36**	.50**	1.00

Note. Identity Task domains: *T2 Integration; T2 Differentiation; T2 Work roles*; and*, T2 Worldview*; *T2 PIES-Self* = Psychosocial Inventory of Ego Strengths – Self subscale; SCOPE subscales are: *T2 EFcope* = Emotion-focused coping; and, *T2 PFcope* = Problem-focused coping; *T2* PSS = Perceived Stress Scale; *T2* SUM = Student-university Match; and, *T2* CC = Campus Connectedness.

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

Table 5

Correlations between all Continuous Variables at Time 3 (N = 811)

Measure	1	2	3	4	5	6	7	8	9
Integration	1.00								
Differentiation	.86**	1.00							
Work roles	.68**	.67**	1.00						
Worldview	.53**	.54**	.56**	1.00					
PIES-Self	.79**	.80**	.66**	.51**	1.00				
EFcope	-.42**	-.45**	-.36**	-.22**	-.49**	1.00			
PFcope	.35**	.27**	.29**	.27**	.38**	.15*	1.00		
PSS	-.51**	-.49**	-.44**	-.30**	-.66**	.65**	-.15*	1.00	
CC	.57**	.54**	.39**	.34**	.59**	-.32**	.31**	-.48**	1.00

Note. Identity Task domains: *T3 Integration; T3 Differentiation; T3 Work roles*; and, *T3 Worldview*; *T3PIES-Self* = Psychosocial Inventory of Ego Strengths – Self subscale; SCOPE subscales are: *T3 EFcope* = Emotion-focused coping; and, *T3 PFcope* = Problem-focused coping; *T3* PSS = Perceived Stress Scale; and, *T3* CC = Campus Connectedness.

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

At this point, it is important to recall that when Côté (2006) operationalized identity formation into four developmental domains he further categorized them into two groups: *Integration* and *Differentiation* could be considered self-identity tasks; and, *Work roles*, and *Worldview* could be considered social-identity tasks. The next step in the analyses was to conduct a multivariate multiple regression (that is, a regression with multiple predictor and outcome variables) on the 110 datasets generated using multiple imputation in Mplus 7.0 (Muthén & Muthén, 2012).

Multivariate Multiple Regression Analysis

A multivariate multiple regression analysis was conducted in order to explore the influences of personal and contextual variables on identity development for Phase 1 (*T1* predicting *T2*) and Phase 2 of the study (*T2* predicting *T3*). As noted earlier, to control for any influences associated with gender, this variable was entered into the model first. In addition, to account for participants' incoming levels of identity development, in Phase 1, the four *T1* identity tasks were included next (for Phase 2, the four *T2* identity tasks were included). The goal of multivariate multiple regression analysis is to estimate the various paths between predictor and outcome variables while allowing the paired variables to be correlated within the model.

In Mplus 7.0, a saturated model is generated during the multivariate multiple regression analysis (Enders, 2010). Since saturated models always report that there "is a perfect fit with the observed data," Geiser (2012, p. 33) has indicated that there is only one acceptable assessment of model fit within the Mplus output – the independence model (i.e., the chi-square test for the baseline model which tests the assumption that the model contains uncorrelated variables). In the present data, the Mplus output indicated a

significant model with $\chi^2 = 1089.29$, $df = 228$, $p < .0001$, demonstrating that the correlations between the variables were significantly different from zero and that this was a meaningful estimation of a regression model (Geiser).

The multivariate multiple regression model was run with each phase of the study entered as a separate step (see Table 6). This hierarchical technique was beneficial because examining all the dependent variables at once provided a more complete and fuller context from which to discuss the predictability of identity development. That is to say, it was possible to discuss the influences of the various predictor variables for each the outcomes in relation to the other dependent variables within each step of the model (Mvreg, UCLA Mplus guide, n.d.). It was also possible to discuss the combined or cumulative effects of the predictor variables in relation to the various identity outcomes where several of the predictor variables were significant (Schwartz & Finley, 2010).

Phase 1. For Phase 1 of the present study, the regression model was used to assess the amount of variance that was accounted for in participants' *T2* identity development (*Integration*, *Differentiation*, *Productive/Work roles*, and *Worldview*), by the following predictor variables: sex of participant; the four *T1* identity task domains (*Integration*, *Differentiation*, *Productive/Work roles*, and *Worldview*); *T1* psychosocial maturity; the two *T1* personal coping strategies; *T2* psychological stress levels, and the *T2* university environment variables (a sense of belongingness and student-university fit). Interaction terms were created for psychosocial maturity and the five predictor variables (*EFcope x PIES, PFcope x PIES*, *PSS x PIES*, *SUM x PIES,* and *CC x PIES*), to investigate the potential moderating effect of psychosocial maturity on the relationships between the predictor variables and *T2* identity development. As stated earlier, this was a

multivariate multiple regression model therefore all four dependent variables were included in this step.

Phase 2. One of the goals of the present study was to determine if *T3* identity development could be predicted using variables measured at Times 2 and 3, thus demonstrating a continuation of the relationships established for Phase 1 of this study. For Phase 2, this step of the regression assessed the amount of variance that was accounted for in participants' *T3* identity development (*Integration*, *Differentiation*, *Productive/Work roles*, and *Worldview*), by the following predictor variables: sex of participant; the four *T2* identity task domains (*Integration*, *Differentiation*, *Productive/Work roles*, and *Worldview*);; *T2* psychosocial maturity; both *T2* personal coping strategies, *T3* psychological stress levels, and *T3* social belongingness (Note: student-university fit was not measured at Time 3). Interaction terms were created for psychosocial maturity and the four predictor variables (*EFcope x PIES, PFcope x PIES*, *PSS x PIES*, and *CC x PIES*), to investigate the potential moderating effect of psychosocial maturity on the relationships between the predictor variables and *T3* identity development.

The unstandardized regression coefficients (*b*) for the outcome variables regressed on the predictor variables, as well as the *p*-values for significant associations for all variables in the regression model are summarized in Table 6 by phase. Recall that this model was a two-step hierarchical multivariate multiple regression (Step 1 = Phase 1 and Step 2 = Phase 2). For each phase of the regression model, the main effects of the predictor variables on the four identity task domains (outcome variables) are discussed before the moderating effects of psychosocial maturity are explored.

Table 6

Multivariate Multiple Regression Predicting Phase 1 and Phase 2 Identity Development from Identity Domains, Psychosocial Maturity, Coping Strategies, Stress, and University Environment Factors

Phase 1	T2 Identity Task Domains				Phase 2	T3 Identity Task Domains			
	INT	DIFF	WR	WV		INT	DIFF	WR	WV
R^2	.69	.70	.60	.53		.66	.65	.61	.48
Sex	-.18***	-.14***	-.09	-.10	Sex	.14*	.06	.20**	.16
T1 Identity					T2 Identity				
INT	.33***	.07	-.01	.03	INT	.36***	.04	-.07	.03
DIFF	.04	.34***	-.01	-.06	DIFF	.15	.47***	.01	-.10
WR	-.08	.03	.50***	-.17**	WR	.08	.14*	.67***	-.02
WV	.02	-.02	-.02	.58***	WV	-.07	.03	-.03	.57***
PIES-Self	.17**	.15*	.09	.15	*PIES-Self*	.11	-.04	.05	.07
EFcope	-.02	.01	-.04	-.05	*EFcope*	.05	-.001	.02	-.01
PFcope	-.07*	-.10**	-.01	-.02	*PFcope*	.02	-.004	-.06	.001
PSS	-.13***	-.19***	-.10**	-.12*	PSS	-.21***	-.20***	-.20***	-.15*
SUM	.11*	.07	.18***	.11*	SUM	*NM*	*NM*	*NM*	*NM*
CC	.21***	.18***	.09***	.06	CC	.14***	.15***	.11*	.13*
Interactions					Interactions				
EFcope x PIES	.14**	.11*	.09	.01	*EFcope x PIES*	.20**	.14	.01	.11
PFcope x PIES	.04	.03	.03	.10	*PFcope x PIES*	-.01	-.05	-.01	-.12
PSS x PIES	.02	.04	.11	.01	*PSS x PIES*	.05	.01	.22*	.18
SUM x PIES	.08	.16*	.05	-.09	*SUM x PIES*	*NM*	*NM*	*NM*	*NM*
CC x PIES	-.01	.01	.05	-.01	*CC x PIES*	.06	.09	.17**	.12

Note. Four Identity domains: INT = *Integration;* DIFF = *Differentiation;* WR = *Work roles*; and, WV = *Worldview*; *PIES-Self* = Psychosocial Inventory of Ego Strengths – Self subscale; SCOPE subscales: *EFcope* = Emotion-focused coping; *PFcope* = Problem-focused coping; PSS = Perceived Stress Scale; SUM = Student-university Match (*NM* = not measured at Time 3); and, CC = Campus Connectedness – measure of social belongingness. *p < .05; **p < .01; ***p < .001.

Phase 1 Results

Gender. As shown in Table 6, two of the four identity task domains, *T2 Integration* and *T2 Differentiation*, were significantly, negatively predicted by gender (where female participants were coded as "0"). In the present study, these findings suggested that on average, men scored .18 and .14 lower than women, on *T2 Integration* and *T2 Differentiation* respectively, after controlling for all other variables in the model. There were no significant main effects of gender, on either *T2 Work roles* or *T2 Worldview* identity task domains.

***T1* Identity Task Domains.** It was hypothesized that *T1* identity task domains would be the largest predictors of their corresponding *T2* task domain (i.e., *T1 Integration* predicting *T2 Integration*) and, this was the case, as demonstrated in Table 6. All four *T2* identity task domains were significantly and positively predicted by their corresponding *T1* identity task domain. Specifically, the unstandardized regression coefficients for these relationships were: *T2 Integration* with, $b = .33$, $t(788) = 4.77$, $p < .001$; *T2 Differentiation* with, $b = .34$, $t(788) = 4.88$, $p < .001$; *T2 Work roles* with, $b = .50$, $t(788) = 10.36$, $p < .001$; and, *T2 Worldview* with, $b = .58$, $t(788) = 13.54$, $p < .001$. In addition, *T2 Worldview* was significantly and negatively predicted by *T1 Work roles* with, $b = -0.17$, $t(788) = -2.70$, $p = .007$.

Psychosocial Maturity (*PIES-Self*). As predicted, psychosocial maturity had a positive relationship with *T2* identity development. As shown in Table 6, only two of the main effects were significant, those for the self-identity tasks of *T2 Integration* and *T2 Differentiation* with, $b = .17$, $t(788) = 2.73$, $p = .006$; and, $b = .15$, $t(788) = 2.24$,

$p = 0.025$, respectively. The main effects for the social identity tasks of *T2 Work roles* and *T2 Worldview* did not reach significance.

Coping Strategies (*EFcope* and *PFcope*). In Phase 1, problem-focused coping (*PFcope*) was a significant, negative predictor of two of the four identity task domains, *T2 Integration* and *T2 Differentiation* with, $b = -.07$, $t(788) = -2.09$, $p = .037$; and, $b = -.10$, $t(788) = -2.80$, $p = 0.005$, respectively. The direction of the main effects was contrary to expectations, as was the lack of significant effects for the remaining two identity domains, *T2 Work roles* and *T2 Worldview*. Similarly, the hypothesized negative main effects for emotion-focused coping and the four identity task domains were not realized.

Perceived Stress (PSS). Participants' level of perceived psychological stress was a significant, negative of all four *T2* identity task domains: *T2 Integration* with, $b = -.13$, $t(788) = -3.48$, $p < .001$; *T2 Differentiation* with, $b = -.19$, $t(788) = -4.95$, $p < .001$; *T2 Work roles* with, $b = -.10$, $t(788) = -2.67$, $p = .008$; and, *T2 Worldview* with, $b = -.12$, $t(788) = -2.26$, $p = .024$. These main effects were also in the direction hypothesized.

Fit with University (SUM). Participants' perceived fit with the university (*Fit*) was assessed using the Student-university Match (SUM) measure and was expected to have a positive relationship with all four aspects of *T2* identity development. As shown in Table 6, there were significant, positive main effects for *T2 Integration*, *T2 Work roles* and *T2 Worldview;* but not for *T2 Differentiation* (i.e., *T2 Integration* with, $b = .11$, $t(788) = 2.16$, $p = .031$; *T2 Work roles* with, $b = .18$, $t(788) = 3.36$, $p = .001$; and, *T2 Worldview* with, $b = .11$, $t(788) = 2.10$, $p = .035$.

Social Belongingness (CC). In the present study, participants' level of social belongingness on campus was measured using the Campus Connectedness (CC) scale

and was hypothesized to have a positive relationship with all four aspects of *T2* identity development. As shown in Table 6, there were significant, positive main effects for three of the four identity outcomes: *T2 Integration* with, $b = .21$, $t(788) = 8.47$, $p < .001$; *T2 Differentiation* with, $b = .18$, $t(788) = 7.25$, $p < .001$; and, *T2 Work roles* with, $b = .09$, $t(788) = 3.24$, $p = .001$. In Phase 1 of the present study, social belongingness was not a significant predictor of *T2 Worldview*.

Interaction Effects. As shown in Table 6, in Phase 1, there were significant interaction terms for two of the four identity domains, *T2 Integration* and *T2 Differentiation*. An interaction utility was used to explore the significant interactions (Preacher, Curran, & Bauer, 2006), and a primer written by Preacher (2003) aided the interpretation of the confidence regions (http://quantpsy.org/interact/interactions.htm).

For the interaction term, *EFcope x PIES*, when the simple slopes were tested, the confidence regions indicated that at lower levels of psychosocial maturity, emotion-focused coping was a significant predictor of *T2 Integration* ($Z_{cv1} = -0.594$ is a significant conditional value of *PIES*, when *Z* at lower band of confidence region = -0.027). This finding suggested that the effect of emotion-focused coping on the process of integration was only significant when levels of psychosocial maturity were low. Looking at Figure 1 it would seem that low levels of incoming psychosocial maturity were unable to buffer the effects of emotion-focused coping on *T2 Integration*. This finding highlighted the fact those first-year students with lower levels of psychosocial maturity were more likely to have greater difficulty dealing their individual stressful situations because they had fewer psychological resources to counter the negative effects of less-adaptive emotion-focused coping strategies.

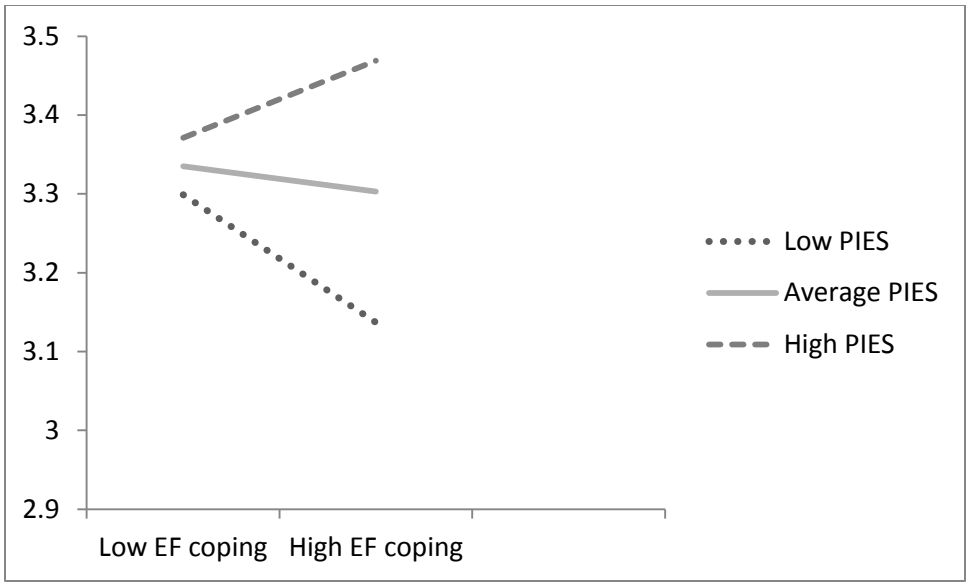

Figure 1. Interaction between Emotion-focused coping (*EFcope*) and Psychosocial Maturity (*PIES-Self*) in Predicting *T2 Integration*

For example, students can distract themselves by wishing away their concerns about a poor grade. Or, they can repeatedly discuss their plight with a friend, but these strategies do not help individuals to find ways to improve their grades. This result has implications for educators who know that the transition to university is a particularly stressful time for students, leading to a greater use of emotion-focused coping strategies (i.e., *Wishful thinking, Rumination,* and *Self-blame*).

Two of the interaction terms, *EFcope x PIES* and *SUM x PIES*, were significant predictors of *T2 Differentiation* (see Table 6). As was the case for *T2 Integration*, when the simple slopes for *EFcope x PIES* were tested, the confidence regions indicated that at lower levels of psychosocial maturity, emotion-focused coping was a significant predictor of *T2 Differentiation* (Z_{cv1} = -0.594 is a significant conditional value of *PIES*, when *Z* at lower band of confidence region = -0.032). This finding demonstrated that the effect of emotion-focused coping on the process of differentiation was significant when levels of psychosocial maturity were low. As shown in Figure 2, low levels of psychosocial maturity were unable to buffer the effects of emotion-focused coping on *T2 Differentiation*, similar to the situation found for *T2 Integration* (see Figure 1).

Figure 3 indicates that for the interaction term, *SUM x PIES*, when the simple slopes were tested, the confidence regions suggested that at higher levels of psychosocial maturity, *Fit*[9] was a significant predictor of *T2 Differentiation* (Z_{cv3} = 0.594 is a significant conditional value of *PIES*, when *Z* at higher band of confidence region = 0.044). This finding established that the effect of *Fit* on the process of differentiation was significant when levels of psychosocial maturity were high, suggesting that

[9] Recall that the abbreviation SUM (Student-University Match) will be used to indicate references to the measure but when the construct is being discussed (i.e., a sense of fitting with the university) then *Fit* will be used (Wintre et al., 2008).

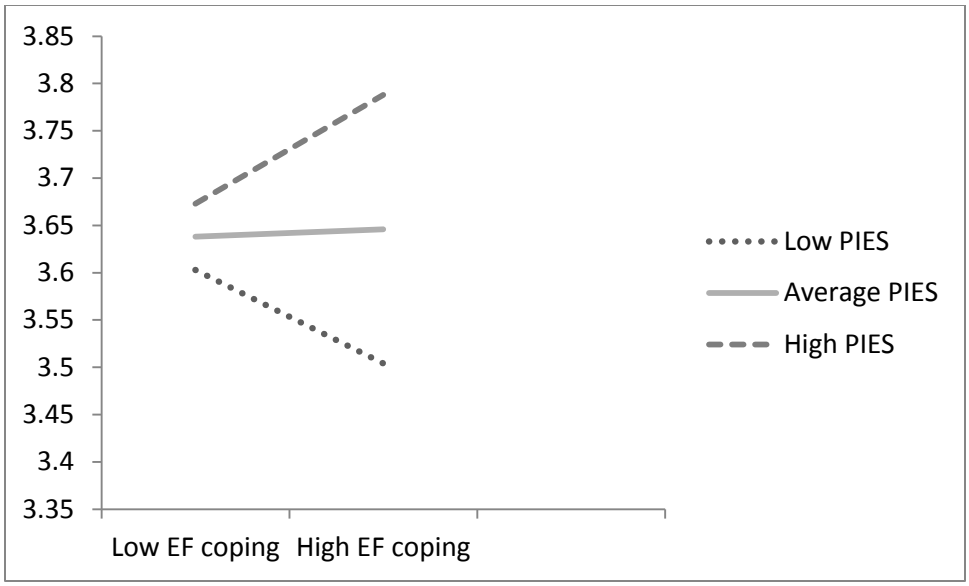

Figure 2. Interaction between Emotion-focused coping (*EFcope*) and Psychosocial Maturity (*PIES-Self*) in Predicting *T2 Differentiation*

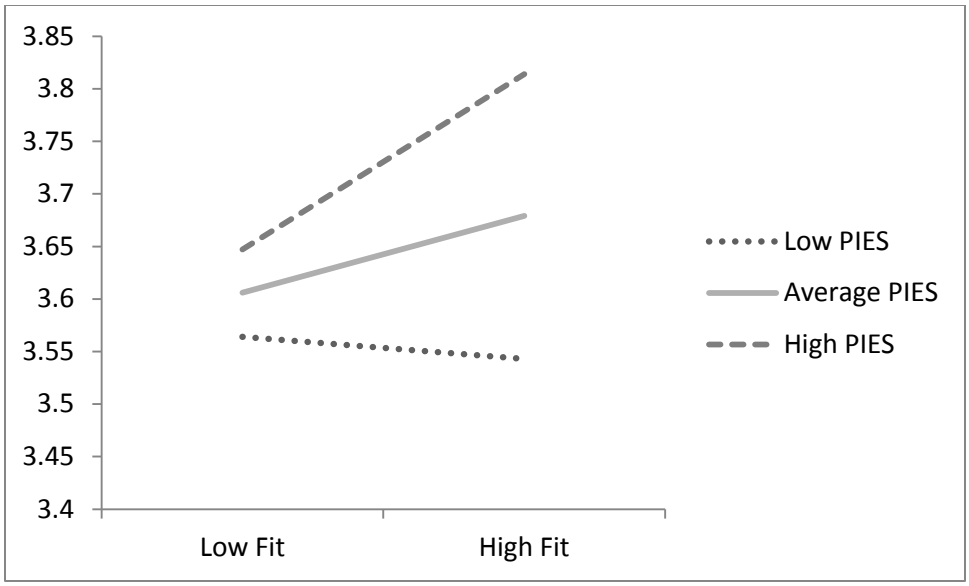

Figure 3. Interaction between Fit with the University (*SUM*) and Psychosocial Maturity (*PIES-Self*) in Predicting *T2 Differentiation*

psychosocial maturity may enhance individuals' abilities to become distinct and valued members of the university community. For example, when individuals have a greater sense of purpose or commitment, the more strongly individuals believe that they have chosen the best or right school to attend, and subsequently the greater are their abilities to become part of their university community life.

Phase 2 Results

Gender. In Phase 2, two of the four identity task domains, *T3 Integration* and *T3 Work roles*, were significantly, positively predicted by gender (where female participants were coded as "0"). As shown in Table 6, the direction of the relationships indicated that on average, men scored .14 and .20 higher than women participants, on *T3 Integration* and *T3 Work roles* respectively, after controlling for all other variables in the model. There were no significant main effects of gender on either *T3 Differentiation* or *T3 Worldview* identity task domains.

T2 Identity Task Domains. It was expected in Phase 2 that *T2* identity task domains would be the largest predictors of their corresponding *T3* task domain (i.e., *T2 Integration* predicting *T3 Integration*). As in Phase 1, *T2* identity scores were used to take into consideration levels of identity development at the end of first year (see Table 6). All four *T3* identity task domains were significantly and positively predicted by their corresponding *T2* identity task domain: *T3 Integration* with, $b = .36$, $t(788) = 3.49$, $p < .001$; *T3 Differentiation* with, $b = .47$, $t(788) = 4.01$, $p < .001$; *T3 Work roles* with, $b = .67$, $t(788) = 9.30$, $p < .001$; and, *T3 Worldview* with, $b = .57$, $t(788) = 7.36$, $p < .001$. In addition, *T3 Differentiation* was significantly and positively predicted by *T2 Work roles* with, $b = 0.14$, $t(788) = 1.97$, $p = .049$.

Psychosocial Maturity (*PIES-Self*). Psychosocial maturity (*T2*) was hypothesized as having positive relationship with *T3* identity development. This was not the case, as shown in Table 6, as there were no significant relationships with any of the *T3* identity task domains.

Coping Strategies (*EFcope* and *PFcope*). In Phase 2, as shown in Table 6, there were no significant relationships between any of the four *T3* identity task domains and either problem-focused coping (*T2 PFcope*), or emotion-focused coping (*T2 EFcope*).

Perceived Stress (PSS). In Phase 2, all four *T3* identity task domains (*Integration*, *Differentiation*, *Work roles*, and *Worldview*) were significantly and negatively predicted by participants' level of perceived psychological stress (see Table 6): *T3 Integration* with, $b = -.21$, $t(788) = -3.65$, $p < .001$; *T3 Differentiation* with, $b = -.20$, $t(788) = -3.74$, $p < .001$; *T3 Work roles* with, $b = -.20$, $t(788) = -3.95$, $p < .001$; and, *T3 Worldview* with, $b = -.15$, $t(788) = -2.25$, $p = .024$.

Social Belongingness (CC). For social belongingness, in Phase 2, as shown in Table 6, there were significant, positive main effects for all four of the *T3* identity task domains: *T3 Integration* with, $b = .14$, $t(788) = 3.26$, $p = .001$; *T3 Differentiation* with, $b = .15$, $t(788) = 3.31$, $p = .001$; *T3 Work roles* with, $b = .11$, $t(788) = 2.31$, $p = .021$; and, *T3 Worldview* with, $b = .13$, $t(788) = 2.27$, $p = .024$.

Interaction Effects. In Phase 2 of the present study, similar to the results from Phase 1, only some of the interaction terms were significant for two of the four identity domains, *T3Integration* and *T3 Work roles* (see Table 6). As shown in Figure 4, when the simple slopes were tested for the interaction term, *EFcope x PIES*, the confidence regions indicated that at lower levels of psychosocial maturity, emotion-focused coping

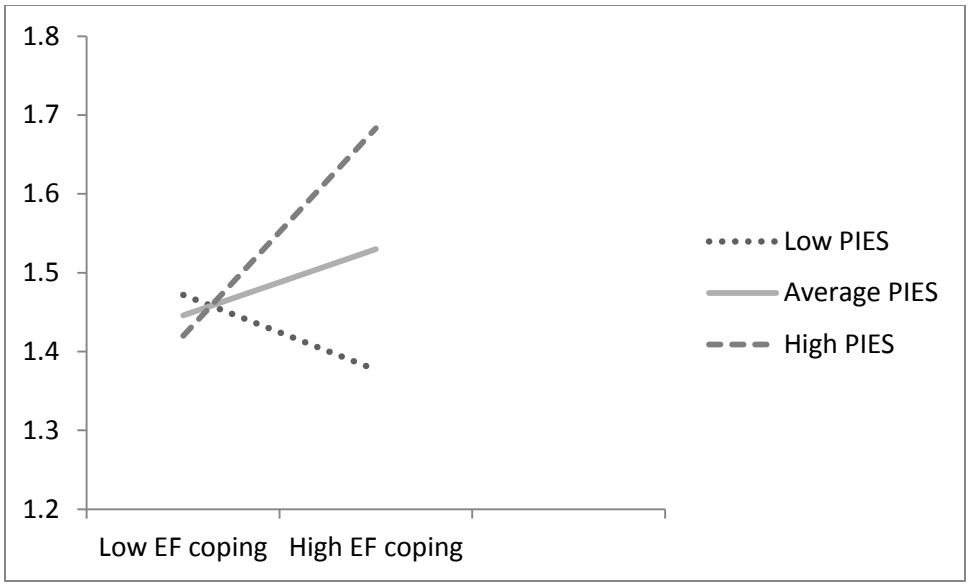

Figure 4. Interaction between Emotion-focused coping (*EFcope*) and Psychosocial Maturity (*PIES-Self*) in Predicting *T3 Integration*

was a significant predictor of *T3 Integration* (Z_{cv1} = -0.581 is a significant conditional value of *PIES*, when *Z* at lower band of confidence region = -0.046). Similar to the results from Phase 1, this finding suggested that once again the effects of emotion-focused coping strategies for *T3 Integration* were only significant when levels of psychosocial maturity were low. As shown in Figure 4, low levels of psychosocial maturity were unable to buffer the effects of emotion-focused coping on *T3 Integration*.

Two of the Phase 2 interaction terms, *PSS x PIES* and *CC x PIES*, were significant predictors of *T3 Work roles* (see Table 6). As shown in Figure 5, when the simple slopes for *PSS x PIES* were tested, the confidence regions indicated that at lower levels of psychosocial maturity, perceived stress was a significant predictor of *T3 Integration* (Z_{cv1} = -0.581 is a significant conditional value of *PIES*, when *Z* at lower band of confidence region = -0.087). This finding demonstrated that the effect of stress for the process of integration was only significant when levels of psychosocial maturity were low, indicating that low levels of psychosocial maturity were unable to mitigate the effects of perceived stress on *T3 Integration*. For emerging adults, the transition to university is both an exciting and stressful time as there are many life decisions that need to be made. This result makes clear to educators and parents, the importance of psychosocial maturity in dealing with the stresses related to first-year university.

Finally, as shown in Figure 6, examination of the simples slopes for the interaction term *CC x PIES*, established that social belongingness was a significant, positive predictor of *T3 Work roles* at both average and higher values of psychosocial maturity (i.e., 0 SD and +1 SD, where Z_{cv2} = 0 and Z_{cv3} = 0.581, respectively, when *Z* at upper band of confidence region = -0.0017). While developing the I_3, Côté & Roberts

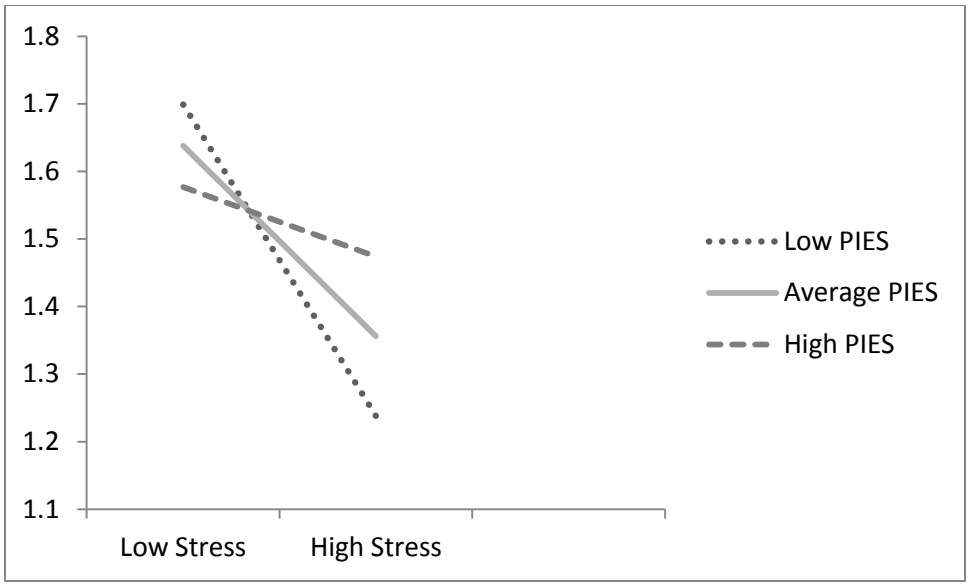

Figure 5. Interaction between Perceived Stress (PSS) and Psychosocial Maturity (*PIES-Self*) in Predicting *T3 Work roles*

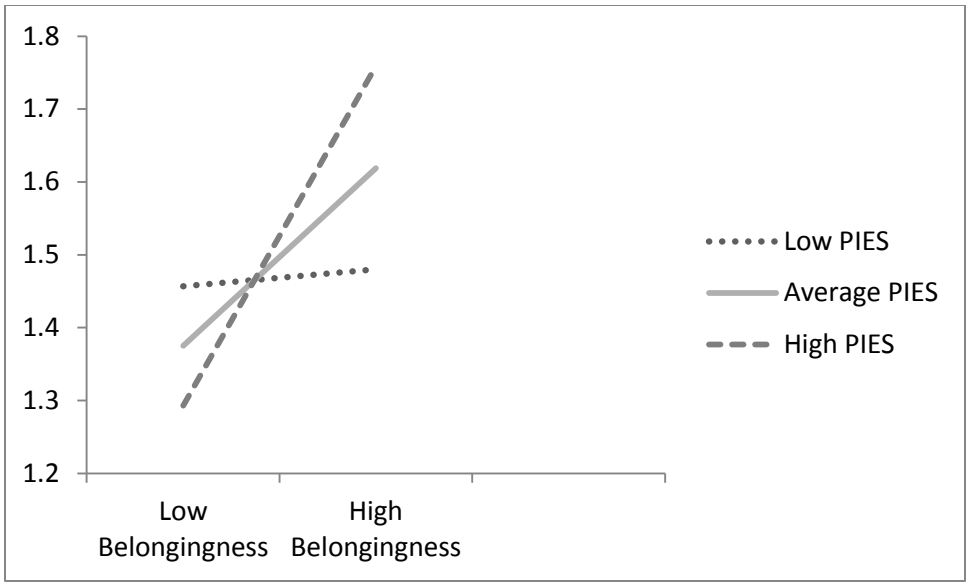

Figure 6. Interaction between Social Belongingness (CC) and Psychosocial Maturity (*PIES-Self*) in Predicting *T3 Work roles*

postulated that the social identity task of *Work roles*, required individuals to combine their sense of industry with their sense of identity in order to develop a clear sense of their capabilities and competencies (2005). These results established that psychosocial maturity may further enhance the already-positive relationship between social belongingness and developing greater confidence about their skills and abilities.

Summary of Results for the Multivariate Multiple Regression Analysis

To summarize the results of the multivariate multiple regression analysis, the findings for Phase 1 and Phase 2 will be compared and contrasted. Table 6 lists the R^2 values (ranging from .48 to .70) indicating the total amount of variability explained by the model for each of the eight dependent variables. As hypothesized, incoming identity task domains were the largest predictors of their corresponding outcome identity domain (i.e., *T1 Integration* was the largest predictor of *T2 Integration* and *T2 Integration* was the largest predictor of *T3 Integration*). In terms of the other expected associations, there was support for some, but not all, of the hypothesized relationships.

Previous research using the I_3 measure does not suggest any differences related to gender, therefore it was hypothesized as not predicting identity development (Côté & Roberts, 2005; Roberts & Côté, 2014). The results for both phases of the present study indicated that gender was indeed a significant factor in predicting some of the developmental tasks of identity. Specifically, in Phase 1, males scored lower than female participants, on *T2 Integration* and *T2 Differentiation* respectively, compared to Phase 2, where males scored higher than female participants, on *T3 Integration* and *T3 Work roles* respectively.

As hypothesized, in both Phase 1 and Phase 2, psychosocial maturity had a positive relationship with identity development. However, in Phase 1 only two of these main effects were significant, those for the self-identity tasks of *T2 Integration* and *T2 Differentiation*. The main effects for the social identity tasks of *T2 Work roles* and *T2 Worldview* did not reach significance. In Phase 2, psychosocial maturity did not significantly predict any of the four *T3* task domains of identity (*Integration*, *Differentiation*, *Work roles*, and *Worldview*).

Both types of coping strategies were expected to predict identity development, with emotion-focused coping (*EFcope*) having negative relationships and problem-focused coping (*PFcope*) having positive relationships with the identity task domains. Contrary to expectations, neither the predicted direction nor significance of the relationships was fully realized in either phase (see Table 6). For example, in Phase 1, although problem-focused coping (*PFcope*) was a significant predictor of two of the four identity task domains, *T2 Integration* and *T2 Differentiation*, the main effects were negative not positive. For both Phase 1 and 2, some of the remaining non-significant main effects were in the predicted direction while others were not.

In both phases, social belongingness (an aspect of social capital), as hypothesized, had a significant, positive main effect with all but one of the identity task domains (i.e., Phase 1 – *T2 Worldview*). In Phase 1, *Fit*, the second aspect of social capital examined as part of the university environment context, had a positive relationship with all four *T2* identity task domains, but only three of the main effects were significant, with the main effect of *Fit* on *T2 Differentiation* not reaching significance. Participants' perceived fit

with the university (*Fit*) was assessed using the Student-university Match (SUM) measure at Time 2 only as part of Phase 1.

Finally, it was hypothesized that psychosocial maturity would moderate the effects of the other predictor variables on the four task domains of identity. Results indicated that in each phase of the present study, psychosocial maturity moderated two of the four task domains of identity development (i.e., Phase 1 – *T2 Integration* and *T2 Differentiation*; Phase 2 – *T3 Integration* and *T3 Work roles*). Simple slopes analysis for each of the six significant interactions demonstrated that psychosocial maturity moderated the relationships between these predictor variables and some of the developmental domains of identity.

Discussion

The premise of this study was that identity development does not occur in a vacuum – it is very much the product of individual choices and decisions within a set of social experiences and situations (Adams & Marshall, 1996; Erikson, 1968). Erikson described the fifth stage of his theory on lifespan development, *Identity* vs. *Role Confusion*, as a time when the individual is focused on resolving the ego strength of *Commitment* (also known as *Fidelity*; 1963). During this time, individuals explore and assess numerous roles, values, beliefs, and self-concepts (process of differentiation) before committing to those attitudes and behaviours chosen as fitting into one's more cohesive sense of self (process of integration). Erikson maintained that individuals utilised their ego strengths, in particular those related to self-development (e.g., *Hope, Will, Competence, Purpose*, and *Wisdom*) to help them explore these possible roles and beliefs before committing to them (the processes of developing a sense of one's Work roles and an adult worldview). Erikson believed that ego strengths were the "criteria … by which the individual demonstrates that his ego, at any given stage, is strong enough to integrate the timetable of the organism with the structure of social institutions" (1963, p. 246).

The developmental period of emerging adulthood is a time when many of the attitudes and behaviours committed to in adolescence are called into question by the new ideas and opportunities which come with a social context full of more adult demands (Arnett, 2000; Adams & Marshall, 1996). Over the last 50 years, Westernized societies have continued to function as though there are universal, dominant pathways and experiences available for all adolescents to 'just become' adults (Guichard et al., 2012).

Given that individuals in Westernized societies have many alternatives from which to choose, and an emphasis on following one's dreams, previous research has shown that it takes some emerging adults a longer time and a more circuitous route to find the best path for them to become a productive adult member of their community (2000; Côté, 2006; Luyckx et al., 2013; Roberts & Côté, 2014). It may be that making choices from a seemingly endless list can be a daunting task when the ultimate goal is to become a unique individual who is a valued part of a social community. It may also be that the experiences and opportunities that are part of the institutional moratorium do not necessarily lead to the expected result (i.e., a career or job; or an adult, intimate relationship; see Anthis, 2014; Guichard et al.; Sica et al., 2014). Erikson and others have emphasized the need to include the influence of social context and environment in the examination of identity development within emerging adulthood (Adams & Marshall; Arnett; Côté; Erikson, 1963; 1968).

Recent research has begun to more fully explore these connections. Take for example, the identity capital perspective which investigates the way in which social context (social capital resources associated with connections with others such as friends, family, and social networks) enables individuals to confidently and competently approach new challenges and opportunities (Côté & Schwartz, 2002). First-year university students, before addressing issues that affect their self-concept, need to make many concrete decisions that shape their social environment – which school to attend, what courses to take, living on or off campus; and whether or not their high school friends are at the same school. It is from within this complex social context that emerging adults must continue their identity work (Adams & Marshall, 1996; Arnett, 2000; Côté; 2006;

Côté & Schwartz). Research findings from the present study highlighted the importance of psychosocial maturity, social belongingness, and *Fit*, in particular, as capital resources that were most supportive of identity development during the first year of university (Anthis, 2014; Lee & Davis, 2000; Markstrom & Marshall, 2007; Wintre et al., 2008). Moreover, by establishing incoming levels of identity development and psychosocial maturity the present study was able to assess the influence of other factors such as participants' stress levels and coping strategy use on subsequent identity work. Of note were the findings demonstrating the detrimental effects of perceived stress on all aspects of identity development for both phases of the study, perhaps by undermining the efforts of some individuals (Cohen & Janicki-Deverts, 2012).

In the present study, it was expected that identity development would be positively influenced by both psychosocial maturity (as represented by individuals' ego strength development) and social capital (as represented by individuals' sense social belongingness and fit with the university). From an Eriksonian perspective, psychosocial maturity represented the degree to which any of the ego strengths were resolved, and as such, the level of achievement of the ego qualities individuals had acquired affected their subsequent commitments to beliefs and actions during identity development (Markstrom et al., 1997). The present research took an identity capital model perspective and evaluated participants using a measure of identity (I_3, Côté & Roberts, 2005) in which ideas about identity formation were merged from both developmental psychology and sociological perspectives (as Erikson did). This design provided a unique method of examining identity development by assessing the degree to which an individual has formed a distinct and cohesive sense of self within a social network where s/he is valued

and seen as an adult (Adams & Marshall, 1996; Côté, 1997; Côté & Schwartz, 2002; Roberts & Côté, 2014).

This research examined social capital by assessing individuals' sense of social belongingness and their perceived fit with the university (*Fit*; Lee & Davis, 2000; Wintre et al., 2008, respectively). The role of social capital is to provide individuals with supportive tangible and intangible resources (e.g., the benefits associated with one's friends, family, and social networks) that encourage identity development (Côté & Schwartz, 2002; Luthans et al., 2004). The relationship between social capital assets and identity development may also suggest that emerging adults transitioning to post-secondary education or training, are expected by those adults around them (e.g., parents, friends, educators) to take more responsibility for, and to understand the consequences of their actions and decisions. There also seems to be an implicit societal expectation for emerging adulthoods that this somewhat structured institutionalized moratorium is an opportunity for them to decide on some of the more adult roles they wish to pursue (Adams et al., 2006; Arnett, 2000; Côté, 2006; Erikson, 1963; 1968).

The most important contribution of the present study to the research on identity development may be the influences of the capital resources that were found. Psychosocial maturity (i.e., ego strengths), the first identity capital resource of interest, was found to significantly and positively predict two self-identity tasks *T2 Integration* and *T2 Differentiation*. Also, in both phases of this study, psychosocial maturity was a significant moderator for the effects of three of the four identity task domains. These results provided support for Erikson's (1963) theory of lifespan development, as well as the theoretical contentions outlining the importance of social context for identity

development (Adams & Marshall, 1996), and as put forth in both the identity capital model and the Identity Issues Inventory (I_3; Côté, 1997; Côté & Roberts, 2005; Côté & Schwartz, 2002).

Psychosocial Maturity Predicting Identity Development

The results found in the present study support the theoretical propositions of Erikson's (1963) theory of lifespan development and the identity capital model, but they also raise questions as to why psychosocial maturity did not significantly predict all four identity tasks or moderate all the effects. In the present study, the *PIES-Self* subscale was used to assess the relationship between participants' psychosocial maturity and the development of a cohesive, distinct, and adult sense of self (Adams et al., 2006; Anthis, 2014; Markstrom & Marshall, 2007). Perhaps the individual relationships between the various ego strengths and the identity tasks are changed (i.e., enhanced or masked) when the aggregated subscale of *PIES-Self* is used instead of exploring each of the separate ego strengths which make up psychosocial maturity. This line of thought will be further explored later during the discussion of implications.

Côté and Schwartz (2002) have suggested that identity capital resources, such as psychosocial maturity and social capital, are fundamental to the process of identity development. Other research has demonstrated support for these relationships by suggesting that individuals who possess more resolved levels of psychosocial maturity were more likely to be further along in their identity development (Adams et al., 2006; Anthis, 2014; Markstrom & Marshall, 2007). These previous findings were supported in the present study by the positive relationships shared by psychosocial maturity with each of the four *T2* identity task domains.

In Phase 1, for two of the four task domains, *Integration* and *Differentiation*, there were significant, positive relationships with psychosocial maturity. These relationships exemplified the role of capital resources in supporting the development of identity for emerging adults (Côté & Schwartz, 2002; Erikson, 1963). It may be the case that individuals who were more psychosocially mature, were also more resilient or optimistic when facing adversity, or perhaps some students became more confident about their skills and abilities when successful (Luthans et al., 2004). According to developmental theories about identity formation, as individuals face the new experiences of emerging adulthood they should be evaluating, re-working, or discarding beliefs and behaviours adopted during adolescence, whilst also acquiring new attitudes and roles (the process of differentiation). As individuals modify old self-concepts and acquire new ones, the self-identity process of integration is used to pull all their disparate parts together to enable students to become unique individuals within their new university community (Adams et al., 2006; Anthis, 2014; Markstrom & Marshall, 2007).

For the present study, the significant, positive associations between psychosocial maturity and self-identity development (i.e., both *Integration* and *Differentiation*) may suggest that the influence of psychosocial maturity manifested as greater psychological support for emerging adults to more confidently make choices and decisions about 'who they are' within the university environment. The findings also inform the ongoing discussion by educators, mental health practitioners, and educational policy makers: about why some individuals are taking longer to transition from adolescence into adulthood; and, why individuals do not uniformly benefit from the experiences, challenges, and opportunities that are available in high school. Results from the present

study indicated that for first-year university students, lower levels of purpose, hope, competence, and perseverance (all ego strengths assessed using the *PIES-Self* subscale) resulted in these students being less-prepared and able to take on the more-adult roles and responsibilities associated with university. It might be worthwhile for interested stakeholders to re-examine and evaluate the goals and learning outcomes associated with high school education in order to determine changes to programming that could result in students acquiring greater levels of psychosocial maturity (e.g., applied life skills training such as learning to cook or design a budget which may results in students feeling more competent).

Interaction effects. In both phases of the present study, the relationship psychosocial maturity had with other variables tended to be one of moderation. This research demonstrated that during the transition to university, psychosocial maturity moderated the influences of emotion-focused coping, perceived stress, *Fit*, and social belongingness on *Integration*, *Differentiation*, and *Work roles*. In the present study, psychosocial maturity represented a stable set of identity capital resources that could be accessed by emerging adults to meet the challenges, demands, and opportunities of a productive adult life (Adams et al., 2006; Anthis, 2014; Markstrom & Marshall, 2007). There are implications of these moderating effects for parents, educators, employers, and human resources departments. Recall that Luthans et al. (2004) recommended taking into consideration all of the capital assets of employees, not just economic and human capital. These findings support the idea that identity and social capital resources are important resources that can be relied upon by individuals to cope with school or workplace adjustment, as well as to be more successful or gain a competitive edge.

Integration. For both phases of the study, the effect of emotion-focused coping on the process of integration was moderated by psychosocial maturity. However, the results indicated that individuals needed to have an average or high level of psychosocial maturity in order to buffer the effects of emotion-focused coping on the development of a cohesive self.

Differentiation. The effect of emotion-focused coping on the process of differentiation was moderated by psychosocial maturity in Phase 1 of this research. However, the effect of using emotion-focused strategies, on the process of differentiation was only diminished when individuals had an average or high level of psychosocial maturity.

The second significant interaction term for *Differentiation* in Phase 1, was the moderation by psychosocial maturity on the effect of *Fit*. As shown in Figure 3, this moderation demonstrated that for high levels of psychosocial maturity, the effects of *Fit* in helping students to develop a distinct sense of self within a valued community were enhanced.

Results of the present study indicated that for participants, low levels of psychosocial maturity were unable to mitigate the effects of emotion-focused coping strategies on their self-identity development (i.e., *Integration* and *Differentiation*). That is, these factors appeared to create a situation in which some students were less able to differentiate among the actions, behaviours, and strategies that would enable them to best deal with challenges in their lives, thus making the individuation and integration processes more difficult (Adams et al., 2006; Cohen & Janicki-Deverts, 2012; Markstrom & Marshall, 2007).

Work roles. In Phase 2, psychosocial maturity moderated the influences of perceived stress and social belongingness on *Work roles*. It may be that, because this is a more evaluative and skills-based domain, psychosocial maturity does not have a direct effect on *Work roles*, but instead moderates one's self-assessment of skills and abilities by enhancing or buffering the ways in which the individual interacts with the environment. This could manifest in several ways, for example, greater confidence in one's self-assessment of competence or, the ability to maintain hope and optimism in spite of setbacks, such as poor midterm grades (Luthans et al., 2004).

In the present study, the effect of perceived stress on *Work roles* was moderated by psychosocial maturity. Specifically, individuals with low levels of psychosocial maturity were unable to buffer the effects of stress as they developed a greater sense of competence and commitment to their current skill levels and abilities. Results for the second moderating effect of *Work roles* demonstrated that, for first-year university students, both average and higher values of psychosocial maturity enhanced the already-positive relationship between social belongingness and developing greater confidence about their skills and abilities.

Summary of interaction effects. The six interaction effects represented the hypothesized relationship of how psychosocial maturity (an identity capital resource) provided integral support for identity development (Anthis, 2014; Côté & Schwartz, 2002; Luthans et al., 2004; Markstrom & Marshall, 2007). Furthermore, they established that psychosocial maturity can serve a protective role – buffering the individual from the negative consequences of emotion-focused coping or stress, while bolstering the positive impacts of *Fit* and social belongingness. The interaction effects also provided further

support for Erikson's theory of lifespan development, as well as, the identity capital model (1963; Côté & Schwartz).

These results have implications for educators and university administrators who have been tasked with the responsibilities of encouraging greater student engagement and commitment to the university. For the majority of students, the first year of university is one long, continuous learning curve for all aspects of their lives, not just the acquisition of knowledge and facts. Both the buffering and enhancing qualities of psychosocial maturity are indicative of the importance of ego strengths for the identity development that occurs during emerging adulthood. In the present study, it may have been that individuals with higher levels of psychosocial maturity had access to more internal resources that helped them to be more resilient and more hopeful in the face of negative experiences. Based on the relationship found between psychosocial maturity and identity development, university educators and counselling services (i.e., student and academic success counsellors, as well as, mental health practitioners) could benefit from having more detailed information about students' incoming levels of psychosocial maturity. By taking into consideration incoming levels of psychosocial maturity, practitioners and educators would have a better idea of which students might be at greater risk of having problems meeting the challenges associated with university life and appropriate assessments and interventions could be developed and implemented. It is also worth exploring in future research, whether or not it is a greater acquisition of a particular ego strength (e.g., a sense of purpose) compared to an individual's overall psychosocial maturity that leads to a greater resiliency on the part of the student.

For emerging adults during the transition to university, these moderating relationships indicated that individuals with higher levels of psychosocial maturity were able to benefit from their feelings of social belongingness and *Fit* within the university community. Students were also able to deal with the effects stress by: drawing on their sense of wisdom (the ability to learn from past experiences and apply these lessons to current situations); maintaining a sense of purpose that their goals are worthwhile and attainable; and, being confident in their academic skills and abilities (*Competence*; Côté & Schwartz, 2002; Markstrom & Marshall, 2007).

As the results have shown, psychosocial maturity had an important relationship with most of the identity task domains across both phases of the study, as evidenced by their positive relationships (except *T3 Differentiation*) and interaction effects with all but *Worldview*. It may be the case that when constructing a *Worldview*, individuals rely on some ego strengths more than others. It might be worthwhile going back to the data to explore the possible relationships each of the individual ego strength subscales had with the various identity domains. This future research could lead to a greater understanding of the processes and mechanisms involved in identity development during this period.

In terms of the relationships between psychosocial maturity and the Phase 2 identity domains perhaps assessing concurrent levels of each measure would indicate different relationships than those found in the present study. One of the research goals of this study was to investigate Erikson's idea about ego strengths supporting identity development. To do this, participants' 'incoming' ego strength development was assessed to determine whether or not this predicted identity development across the transition to university (i.e., at Time 2). The assessment for Phase 2 occurred after

participants had been away from school for the summer break. This five month break may have impacted on the ability of ego strengths measured at *T2* to predict *T3* identity development.

Social Capital Predicting Identity Development

The second important contribution of this research to identity formation was in determining that both a sense of belongingness and *Fit* were shown to be critical aspects of social capital (the second identity capital resource of interest). These results demonstrated that social belongingness significantly and positively predicted identity development for all but one of the identity task domains (not *T2 Worldview*), in both Phase 1 and Phase 2 of the present study (Côté & Schwartz, 2002; Lee & Davis, 2000; Luthans et al., 2004; Wintre et al., 2008). In the present study, *Fit*, which was measured at Time 2 only, significantly and positively predicted identity development in Phase 1 for all but the task domain of *T2 Differentiation*. In addition, psychosocial maturity was found to moderate the effects of *Fit* and social belongingness on *T2 Differentiation* and *T3 Work roles*, respectively. Variations in the roles of social capital and psychosocial maturity were noted as a function of the type of identity domain in question.

Côté and Schwartz (2002) have suggested that the degree to which one feels part of the larger community provides a supportive context for identity development to occur. From an Eriksonian perspective, the importance of being connected to others is a fundamental part of identity development – specifically, that the relationships and the environment of one's life are integral parts of all facets of identity formation (1963; Adams & Marshall, 1996). Likewise, research has shown that a successful transition to university is enhanced by the context of one's university experience, in particular,

feelings of social belongingness and the perceived fit between student and university (*Fit*; Lee & Davis, 2000; Wintre et al., 2008). Social belongingness and *Fit* are both considered to be definitive aspects of social capital.

In the present study, social belongingness represented the degree to which students believed they had close relationships with other students; they were connected to the university environment and supported in achieving their goals, and they were valued members of the university community (Côté & Schwartz, 2002; Lee & Davis, 2000). Greater levels of social belongingness were predictive of greater identity resolution for all but *T2 Worldview*. The questions that assessed social belongingness asked about more than just friendships. They also tried to ascertain whether or not students had trusted companions (e.g., *I feel that I can share personal concerns with other students*). Perhaps a sense of social belongingness is only achieved when there are real connections that involve trust and close bonds. It may be that from within these safe relationships and contexts, individuals feel able to commit to the beliefs, roles, and behaviours that define them. These feelings of social connectedness may also allow individuals to tap into other capital assets that are involved in identity development such as the ego strengths of trust, hope, purpose, and competence (Anthis, 2014; Côté & Schwartz; Luthans et al., 2004; Markstrom & Marshall, 2007). With higher levels of *Fit*, students are validating their original commitment that they have chosen the right university to attend (i.e., they are where they should be). In Phase 1, *Fit* positively predicted identity development for all but the task domain of *T2 Differentiation,* where there was a positive but non-significant association between *Fit* and *Differentiation* (Wintre et al., 2008).

Across the first year of university, a greater sense of social belongingness and *Fit* was fundamental to the self-identity task of *Integration*. A sense of social belongingness may reflect the degree to which students had access to a positive university environment that was supportive of their efforts to develop a more cohesive sense of self. These feelings of connectedness seemed to enhance the *Integration* process whereby individuals made commitments about how the disparate aspects of ones' self (i.e., the roles, values, and beliefs) could be brought together (Côté & Roberts, 2005). In a similar fashion, the integration process was enhanced when students believed they had chosen to attend the right university (*Fit*).

Emerging adults depend on their social capital resources in order to individuate themselves from the larger groups to which they belong, by thinking about who they are in specific social and environmental contexts (i.e., the process of *Differentiation*). Results from the present study demonstrated that those students who felt more connected to others on campus made choices and commitments that deepened their relationships with their groups while also defining themselves as individuals (Adams & Marshall, 1996; Côté & Roberts, 2005). As discussed earlier, the effect of participants' degree of *Fit* on *Differentiation* was moderated by psychosocial maturity. Psychosocial maturity (an identity capital resource) enhanced students' perceived fit with the university, leading to increased positive influences on the process of evaluating and assessing how they are alike or different from others in their larger social groups and communities. It may be that both aspects of social capital are important (i.e., both have positive relationships) but in the case of *Differentiation*, feeling like one belongs socially is more important than the

more 'academic' sense of feeling like one has chosen the 'right' university (Lee & Davis, 2000; Wintre et al., 2008).

Within the task of *Work roles,* individuals are expected to determine their competence by assessing their skills and abilities they require to meet the challenges and opportunities of university and emerging adulthood. More specifically, the identity work of this domain involves individuals making a greater commitment to those skills and areas of study in which they believe they are most competent or that they most enjoy, and then deciding how to proceed into their adult work lives using these resources (Côté & Roberts, 2005). For this particular social identity task domain, results from the present study suggested that feeling a greater sense of social belongingness within a valued community (*Fit*) may have provided a supportive social structure where individuals could flourish and continue to grow into their roles as productive, competent adults.

For the fourth identity domain of *Worldview,* results indicated that a sense of social belongingness and *Fit* created a positive university environment that was conducive to building strong relationships with others, as well as a space from which to develop a personal perspective that reflected those relationships. In Phase 1, although *Fit* was a significant predictor of *T2 Worldview*, social belongingness was not. It would seem that *Fit* was the more important aspect of social capital, suggesting perhaps that during first year, individuals began to identity as part of the social group 'university student' because they were satisfied with their academic fit. However, by the beginning of second year (Phase 2), students have also begun to rely on their sense of belongingness to shape their personal perspective and worldview. Perhaps by feeling a true sense of belonging, emerging adults were able to be more self-confident about sharing their

personal beliefs and critical arguments. Thus, individuals were able to add to the collective perspective whilst working on their own unique voices and views. In effect, having a well-developed personal perspective would mean that the individual was an active, contributing member of the group, whose actions and opinions were valued by the group (Côté, 2006; Côté & Schwartz, 2002; Luthans et al., 2004).

The overall aim of this section was to investigate the relationships between social capital resources and identity development within emerging adulthood during the transition to university. The results demonstrated that the relationships between social capital resources and identity development have important implications for those interested in lifespan development, as well as those involved with providing post-secondary education. Previous research has suggested that individuals with more resolved identities are better able to cope with the demands of university life and, perhaps, to graduate in a timely-fashion with a set of personally-valued skills and abilities (Adams et al., 2006; Scanlon et al., 2007). In contrast, when faced with challenging situations, some individuals who have lower levels of social capital resources, may decide to leave school without trying to improve their situation (i.e., they decide not to deal with their identity confusion). Individuals with lower levels of social belongingness and *Fit* may have less access to supportive peers and social networks. Their decision to leave may be based on their belief that they do not belong and are not a valued member of the university community (Adams et al.; Côté & Schwartz, 2002; Guichard et al., 2012; Scanlon et al.; Sica et al., 2014).

For post-secondary institutions, the implication of the results for the present study is that in order to facilitate identity development, universities must create institutional

moratoria that are perceived by students as being authentic environments in which they can thrive – that is, authentic spaces in which individuals can have worthwhile experiences that lead to identity development and desired adult roles. For example:

1) The creation of connections with valued others who, in turn, provide feedback, guidance, and thoughtful support. These social interactions help individuals to commit to roles, values, and beliefs that indicate a greater understanding of the wider world and their place within that world.

2) Increased capacity and opportunities for individuals to critically think about issues beyond the needs of the self. For example, seminars and workshops that link students' academic lives to possible career choices, perhaps by developing additional skills demonstrating career options available and how one gains access to careers.

3) Opportunities to develop skills and abilities that encourage individuals to become the more-adult version of themselves that they have imagined (i.e., co-operative placements; practicums and internships; mentoring positions working with younger students).

When students feel more connected to others within their social environment, it is possible that they are more ready to take advantage of the challenges and opportunities available. Perhaps because they believe they are valued members of the larger community, individuals are less concerned with the negative consequences associated with trying new experiences (e.g., not being the best at the task or failure). Individuals with a greater sense of social belongingness and *Fit* may feel more supported in their learning and thus, they trust others to help them should they falter. It would seem that, for post-secondary institutions, it is not simply a matter of providing a range of services

that students can choose to access. It appears that the initial step for universities may be to provide opportunities for first-year students to form meaningful connections to others within the academic community who serve as role models and mentors (i.e., professors, teaching assistants, more senior students, and administrators). These meaningful connections could enhance feelings of social belongingness and *Fit*, which in turn help individuals to develop personal resources for addressing possible problems and imagining themselves as successful adults who are an integral part of a larger social community (Adams et al., 2006; Guichard et al., 2012; Luthans et al., 2004; Scanlon et al., 2007; Sica et al., 2014).

The Effects of Stress and Coping Use on Identity Development

Across both phases of the present study, stress was the only factor that significantly predicted identity development for all four task domains. In addition, psychosocial maturity moderated the negative effects of stress on *T3 Work roles* and the negative effects of emotion-focused coping (*EFcope*) for *Integration* (both *T2* and *T3*) and *T3 Differentiation*. Unexpectedly, problem-focused coping (*PFcope*), hypothesized as the more adaptive coping strategy, significantly and negatively predicted both self-identity tasks in Phase 1 (Matheson & Anisman, 2003). In previous research, both emotion-focused coping strategies and stress levels have been linked to less resolved forms of identity development, poorer decision-making, and increased risk taking among emerging adults. This same research found links between problem-focused coping and more resolved forms of identity, a greater sense of purpose, and well-being (Markstrom & Marshall, 2007; Schwartz et al., 2010).

Results of the present study indicated that for first-year university students, their levels of perceived stress interfered with all aspects of identity development. For *Integration* and *Differentiation*, higher levels of perceived stress fostered an environment that may have made it more difficult for some individuals to personally define themselves within the university context while trying to commit to the roles, skills, and beliefs that were more reflective of their current social context. Furthermore, the results suggested that both emotion-focused and problem-focused coping strategies manifested as less effective means of coping with stress. In terms of emotion-focused coping this may have been because individuals were not dealing with their actual problems but rather reliving the experience (*Rumination*), pretending it did not exist (*Wishful thinking*), or blaming themselves (*Self-blame*). In the case of problem-focused coping, perhaps seeking social support or using problem-solving techniques learned in high school were not as effective in first-year university situations. It may be that instead of finding answers and solutions from supportive others students instead ruminated or became stuck within the problem. Also, recall that institutional moratoria are defined by their additional rights and responsibilities wherein emerging adults are expected to learn how to deal with their own difficulties and problems and become more independent (Erikson, 1963; Côté, 2006). Those individuals struggling with the move from psychosocial to institutional moratoria may also be relying on skills and techniques learned in adolescence or they may expect parents (or other adults) to take care of any problems they face. In summary, based on the results of the present study, these three factors appeared to create a situation in which some students were less able to differentiate among the actions, behaviours, and strategies that would enable them to best deal with challenges in their lives, thus making

the individuation and integration processes more difficult (Adams et al., 2006; Cohen & Janicki-Deverts, 2012; Markstrom & Marshall, 2007).

Across the study, for the social identity task of *Work roles*, greater levels of stress appeared to hamper the ability of some students to acknowledge their skills and expertise, and subsequently, to commit to self-assessments that were both productive and competent within the university setting. In Phase 2 however, this particular relationship was also buffered by the effects of psychosocial maturity demonstrating the importance of identity capital resources, such as a sense of competence and purpose, for emerging adults (Côté & Schwartz, 2002; Luthans et al., 2004). For the second social identity domain, *Worldview*, for both phases of the present study, results established that for those individuals who had higher levels of perceived stress, trying to develop a critical, personal perspective within the university context was a more challenging process. It is understandable how this reflective task could be hindered by the inner turmoil created by an atmosphere of increased perceived stress (Cohen & Janicki-Deverts, 2012; Schwartz et al., 2010).

These results lead one to think about the possible implications of higher perceived stress levels of students, as well as, their choices of coping strategies. It is impossible to remove all the sources of stress from university life. This is an inherently stressful time for emerging adults who are in the midst of their identity development while immersed in a highly competitive academic situation. It may be that this institutional moratorium is less stressful than the 'real world', but there are still plenty of expectations and consequences that concern students. Parents, educators, and other concerned adults could use the results of the present study to develop some possible strategies that could help

individuals deal with challenges and opportunities associated with post-secondary education and training.

Well before students begin university, parents should consider having a positive discussion with their children in which they assess and reflect about their personal strengths and weaknesses. As part of this discussion, students should develop short and long term realistic goals for university with a focus on highlighting any skills or abilities that could help them achieve their goals. This particular exercise can enhance an individual's sense of purpose and motivation, making individuals more aware of what their goals are and how they can be achieved. Individuals benefit from being confident and self-assured about their strengths because during stressful times this confidence helps students to deal with their problems more effectively. This conversation is also a reminder that these students have a back-up support system at home which can be added to the support system from the university setting.

Although many universities provide academic success counselling and a variety of personal counselling programs, it can be very hard to recruit those students who most require help. Supportive and/or intervention programs might be considered more accessible if these study sessions also had a social component, such as peer-assisted study groups, because this this would give students opportunities to connect with other students over a common academic issue. The importance of social capital resources (both social belongingness and *Fit*) for the identity development of students was also highlighted by the present research. Increased social capital resources may enable individuals to more readily ask for help from their peers and social networks. Universities should endeavour to offer first-year seminar classes and tutorials that have fewer students, thus providing

additional settings in which students can connect. It may be more expensive than a massive lecture class, but based on the findings of this present study the benefits for individual students could be far-reaching.

Relationships between Demographic Variables and Identity Development

Gender Differences. As discussed earlier, few gender differences have been reported within the identity development literature (Kroger, 2003). Similarly, research findings from the I_3, did not find gender differences for any of the four developmental identity task domains (Côté & Roberts, 2005; Roberts & Côté, 2014). Interestingly, in the present research, when all the variables were regressed simultaneously, gender differences were found for three of the four identity tasks – *Integration*, *Differentiation*, and *Work roles*. In Phase 1 of this study, results showed that compared to women, on average, men scored lower on both *Integration* and *Differentiation*. In contrast, by Phase 2, findings indicated that compared to women, on average, men scored higher on both *Integration* and *Work roles*, raising the question: Why might these differences exist?

These results regarding gender differences in self-identity (i.e., *Integration* and *Differentiation*) may, more generally reflect gender differences in the psychosocial development of emerging adults, particularly in social and emotional development. That is, female emerging adults may simply be more mature and have more resolved self-identities than men. It may be that women are able to more easily make social connections to aid with their learning, compared to men, who may instead take longer to understand and take advantage of the benefits of social capital resources. Psychosocial developmental differences may also explain why men scored lower than women in Phase 1, at the beginning of university, when perhaps men were less socially adept.

Alternatively, these findings could illustrate that in emerging adulthood, men and women have different levels of confidence in their abilities (i.e., over-confident or less confident about their ego strengths – hope, purpose, competence). Varying access to identity capital resources may result in different approaches to academic success or to coping with difficulties. Also, the fact that men score higher on two of the identity development indices at Phase 2, at the beginning of second year, may suggest that the institutional moratorium has been particularly 'helpful' to men during the transition year to university. Although the present study did not set out to specifically investigate gender differences in identity development, gender differences were found. Future research should include the examination of gender differences when assessing the process of identity formation.

Financial Concerns and Residence. Previous research done by Scanlon and her colleagues (2007) in Australia, suggested that the transition to university and subsequent identity development could be influenced by students' financial concerns and their place of residence. In the present study, these relationships were not found. There are several possible reasons why similar connections were not found in the present study. The demographic statistics for the present study showed that living arrangements for participants were either the parental home (43%), a university residence (41%), or in off-campus housing (16%). Demographics for the Australian research showed that living arrangements for participants were either the parental home (47%), a university residence (12%), or in off-campus housing (41%). It may be that those participants who live in the parental home and in campus residences are more similar than those who live off-campus on their own. In the present study only 16% of students lived off campus compared with 41% in the Scanlon et al. (2007) study. In the Australian study, it was the participants

living off campus on their own who reported more difficulties in their transition to university life. Perhaps in the present study, those students who lived off-campus were older (nearer to 24 than 18 years of age) than those students with the other living arrangements and so they had established social connections with others; or it might be that this group was not large enough for significant differences to be apparent (only 16% of participants). Given the importance of social belongingness to optimal identity development, it might be worthwhile exploring connections between the demographic variables and social capital. It may be that demographic differences are more apparent in their influence on the social capital resources of students and this might be responsible for the Australian findings (Scanlon et al., 2007).

Once again, previous work by Scanlon et al. (2007) reported associations between financial concerns/paid work and transition-related difficulties. In the Australian study, participants indicated their financial concerns by reporting the number of hours of paid work they performed each week: 59% were not employed, 12% had part-time work, and 29% worked more than 10 hours per week. Scanlon et al. interpreted their numbers as meaning participants had no financial concerns if they did not perform paid work. In the present study, in an attempt to gain more specific information, participants answered two questions related to these issues and the breakdown was as follows: employment status of participants (Not employed – 57%; Employed Part-time – 43%), and whether participants had financial concerns about paying for their education (No concerns – 35%; Some concerns – 48%; Many Concerns – 17%). The various levels for each of the categories did not significantly differ in their relationships with the four identity task domains. In future research it might be beneficial to ask students if they believe their

parents have any financial concerns about funding their university education, because, in the present study, the majority of students were receiving the bulk of their funding from their parents.

Limitations and Future Directions

Although the present study had several strengths, there were also some limitations that must be considered. First, the sample used in this study was a university sample of first-year students and did not include participants from other post-secondary facilities (e.g., colleges). This limitation might not inhibit the ability to generalize the results for different types of education because, in Canada (and many Westernized societies), the normative experience is to go from high school to some type of post-secondary education or training. However, the sample is also limited to early emerging adults (aged 18-24 years) who came to university and does not include those individuals (albeit, a minority) who chose other paths (e.g., proceeded directly to the workforce or travelled). More specifically, this limitation may indicate that the university sample is not necessarily representative of the larger early emerging adult population, and that the results may not be generalizable to individuals outside the university setting. To understand the possible effects of this limitation, future studies could examine the identity development of early emerging adults from a wider variety of post-high school settings (i.e., university, college, training, and workforce).

The second limitation of the present study was the preponderance of females in the sample at all three time points (females made up 72% of the sample). This is a common limitation for studies that recruit participants from the psychology pool at university. In preliminary tests, there was no invariance associated with participant's sex

found at any of the time points. One possible solution would be to also recruit participants from some of the more male-dominated faculties at the university (e.g., engineering or computer science).

The third limitation of the present study was that all the measures were self-report surveys and other studies have indicated that the relationships among the results may have been inflated by common methods variance. Self-reports are, however, a very cost-effective method of investigating psychosocial constructs such as identity development where it is important to get as much information from participants as possible. In future studies it could be beneficial to also include some personal narratives from the participants, or some independent sources of information about individuals (participation in student success initiatives; GPA, or club membership).

Concluding Thoughts

Identity development is at the heart of Erikson's theory of psychosocial development (1963). For the past 50 years, research into identity development has demonstrated that, although identity work begins in adolescence, it continues well into emerging adulthood in Westernized societies (EA, 18-29 years of age; Arnett, 2000). In particular, the findings from the present study demonstrated the benefits of using Eriksonian-based measures of identity formation to explore the influences of ego strengths and social capital resources on subsequent identity development in an emerging adult population, within the context of the transition to university.

The importance of linking empirical evidence to the foundational theory of identity development cannot be understated. Too often in the past, researchers have attempted to explain the process of identity development either using static measures

(e.g., based on Identity Status model, Marcia, 1966), and/or a cross-sectional design. The longitudinal design, with three measurement time points across a full year of participants' lives, adds credibility to the findings of the present study. Much of the research on identity development has been either cross-sectional, or, at best, longitudinal for two time points. By collecting data across first year and into second year, the present study was able to show participants' developmental trajectories within each of the four identity task domains. In addition to using Erikson's theory of lifespan development, the present study adopted the complementary theoretical perspective of the identity capital model, making it possible to determine if aspects of social and identity capital influenced the task domains of identity development differently (I_3, Côté and Roberts, 2005; Roberts & Côté, 2014). Both the I_3 and the identity capital model incorporate aspects of developmental psychology and sociological perspectives ideas about identity. Adoption of this second theory enhanced the ability of the present study to explain variations in identity development that are dependent upon individuals' 'incoming' ego strengths and social capital (social belongingness and *Fit*).

Another benefit of using the I_3 is that it is a more sensitive, process-focused measure of identity development that captured participants' self-assessment of each of the four identity task domains (Côté and Roberts, 2005; Roberts & Côté, 2014). Furthermore, rather than combining the four domain scores into one score representing overall identity development, the I_3 allows the researcher to demonstrate that identity development (shown as progressions) does not occur evenly across the four domains. In addition, in the present study, analysing the data in one multivariate multiple regression model, highlighted particular domains where early emerging adults struggled, or were

more successful, as they faced the challenges and opportunities of first-year university life (e.g., personal assessment of competencies that occurs in *Work roles*). The results in the present study demonstrated that the I_3 can provide concerned adults with a clearer picture of the strengths and needs of first-year university students' as they continued their identity work.

The design of this study led to some important findings regarding identity development and identity capital resources – that is, both a sense of belongingness and *Fit* (social capital) and psychosocial maturity are essential identity capital assets necessary for optimal identity development. With respect to these findings, results highlighted that one's sense of social belongingness predicted greater identity resolution for all identity domains across both phases of research (except *T2 Worldview*). An implication of the importance of social belongingness may be that individuals who are in the midst of defining themselves are more trusting, confident, and successful when they believe they are a valued and supported member of a specific community (i.e., a community of friends or people who care; Lee & Davis, 2000). In Phase 1, *Fit* positively predicted identity development for all but the task domain of *T2 Differentiation,* with higher levels of *Fit* demonstrating that students were validating their original commitment that they were where they should be (Wintre et al., 2008). These results are further evidence of the need for identity researchers to consider the role of social context and environment when assessing identity development, as advocated by Erikson (Côté & Roberts, 2005; Markstrom et al., 1997; Schwartz et al., 2009). This underlines the value of an institutional moratorium, and, more specifically, of peer support study sessions

because these are not only opportunities for students to get academic help but also provide opportunities to build relationships with other students.

The next important finding about identity development is that individuals modify and enhance their psychosocial maturity/ego strengths (identity capital resources) to find their way through their life challenges and to develop a fuller sense of their own identity (Côté, 1997; Côté & Schwartz, 2002; Erikson, 1963). Depending on their experiences, this can be a re-commitment to presently held ego strengths, or it can lead to distress and confusion about the adequacy of personal skills, abilities, and attitudes. As individuals continue to develop their ego strengths, matching inner resources with the challenges of life, this process results in greater levels of hope, optimism, resilience, and confidence (Luthans et al., 2004).

A key implication of these findings is that university administrators, educators, and mental health practitioners would be well advised to consider the impact of developmental processes on the psychosocial well-being of first-year students when developing both academic and personal support programs. For example, after receiving midterm grades, many first-year students struggle to figure out why they are not achieving the same academic success they reached in high school. This could be an opportune time for faculty, teaching assistants, and university personnel to reach out and remind students that there are concerned individuals willing to help. The range of supportive programs currently offered by universities is impressive, but for students feeling less competent or self-assured, perhaps overwhelming. It could be that a solution to students' difficulties might be as simple as review sessions with teaching assistants from core courses that target specific difficulties, or weekly peer-assisted study sessions

that focus more generally on course content. With the results of this study highlighting the importance of social belongingness, *Fit*, and psychosocial maturity, as well as the influence of perceived stress on students, the first step, however, may be to begin a dialogue with students and try to forge relationships. This is quite a labour-intensive proposition for universities to undertake yet it could ultimately be considered a cost-effective strategy. For decades, universities have tried to determine how to provide a four year university program that results in timely completion rates and high levels of student retention. Designing and offering programs that assist students in developing foundational academic and life skills could lead to greater feelings of competence and academic success for students and greater levels of retention and completion rates for the universities.

The use of Eriksonian measures of identity development and development of individuals' psychosocial resources is perhaps the most important strength of the present study (Côté & Roberts, 2005; Markstrom et al., 1997). As such, the use of these two measures to assess identity development tested Erikson's conjecture that, as individuals progress through their lives, they modify and enhance the ego strengths associated with each lifespan stage, using a variety of identity capital resources to find their way through their life challenges and to develop a fuller sense of their own identity (Côté, 1997; Côté & Schwartz, 2002; Erikson, 1963). The present study is part of a more recent movement to empirically demonstrate Erikson's theory of identity formation within the larger lifespan model using Eriksonian-based measures (for alternative design strategies, see for example, Luyckx et al., 2013; Schwartz et al., 2009). The success of the present study

should encourage future researchers to include Eriksonian measures of identity development within their designs.

References

Adams, G.R., Berzonsky, M.D., & Keating, L. (2006). Psychosocial resources in first-year university students: The role of identity processes and social relationships. *Journal of Youth and Adolescence, 35*, 81–91. doi: 10.1007/s10964-005-9019-0

Adams, G., & Marshall, S. (1996). A developmental social psychology of identity: Understanding the person-in-context. *Journal of Adolescence*, *19*, 429-442.

American Psychological Association. (2010). *Publication manual of the American Psychological Association* (6th ed.). Washington, D.C.: American Psychological Association.

Anthis, K. S. (2014). Hope, Will, Purpose, Competence, and Fidelity: Ego strengths as predictors of career identity. *Identity: An International Journal of Theory and Research*, *14*, 153-162. doi: 10.1080/15283488.2014.892001

Arnett, J.J. (2000). Emerging adulthood: A theory of development from the late teens through the twenties. *American Psychologist, 55*, 469-480. doi: 10.1177/002204260503500202

Balistreri, E., Busch-Rossnagel, N.A., & Geisinger, K.F. (1995). Development and preliminary validation of the Ego Identity Process Questionnaire. *Journal of Adolescence, 18,* 179-190. doi: 10.1177/0743558400154005

Bennion, L.D., & Adams, G.R. (1986). A revision of the extended version of the Objective Measure of Ego Identity Status: An identity instrument for use with late adolescents. *Journal of Adolescent Research, 1*, 183-198. doi: 10.1177/074355488612005

Bourdieu, P. (1986). The Forms of Capital. In J. G. Richardson (Ed.), *Handbook of Theory and Research for the Sociology of Education* (pp. 241-258). New York, NY: Greenwood Press.

Cohen, S., & Janicki-Deverts, D. (2012). Who's stressed? Distributions of psychological stress in the United States in probability samples from 1983, 2006 and 2009. *Journal of Applied Social Psychology*, *42*, 1320-1334. doi: 10.1111/j.1559-1816.2012.00900.x

Cohen, S., & Williamson, G. (1988). Perceived stress in a probability sample of the U.S. In S. Spacapam & S. Oskamp (Eds.), *The social psychology of health: Claremont Symposium on Applied Social Psychology*. Newbury Park, CA: Sage.

Collins, L. M., Schafer, J. L., & Kam, C. M. (2001). A comparison of inclusive and restrictive strategies in modern missing data procedures. *Psychological Methods*, *6*, 330-351.

Côté, J. E. (1997). An empirical test of the identity capital model. *Journal of Adolescence*, *20*, 421-437.

Côté, J. E. (2006). Emerging adulthood as an institutionalized moratorium. Risk and benefits to identity formation. In J. J. Arnett & J. L. Tanner (Eds.), *Emerging adults in America* (pp. 85-116). Washington, DC: American Psychological Association.

Côté, J. E., & Levine, C. G. (2002). *Identity formation, agency, and culture: A social psychological synthesis*. Mahwah, NJ: Lawrence Erlbaum Associates.

Côté, J.E., Markstrom, C., & Schacter, E. (2014, March). Panel discussion. In P. Dreyer (Chair), *Toward a Social Science of Psychosocial Identity: How we can Revitalize*

Identity Studies by Reintroducing the "Social". Symposium conducted at the biennial meeting of the Society for Research on Adolescence, Austin, TX.

Côté, J. E, & Roberts, S. E. (2005). *Identity Issues Inventory (III): Preliminary Manual*. Unpublished Manuscript, University of Western Ontario, London, Canada.

Côté, J. E., & Schwartz, S. J. (2002). Comparing psychological and sociological approaches to identity: Identity status, identity capital, and the individualization process. *Journal of Adolescence*, *25*, 571–586. doi: 10.1006/jado.2002.0511

Crocetti, E., Luyckx, K., Scrignaro, M., & Sica, L. S. (2011). Identity formation in Italian emerging adults: A cluster-analytic approach and associations with psychosocial functioning. *European Journal of Developmental Psychology*, *8*, 558–572. doi:10.1080/17405629.2011.576858.

Enders, C. K. (2010). *Applied missing data analysis*. New York, NY: Guilford.

Erikson, E.H. (1963). *Childhood and society* (2nd ed.). New York: Norton.

Erikson, E.H. (1968). *Identity: Youth and crisis*. New York: Norton.

Erikson, E.H. (1980). Identity and the life cycle. New York: Norton.

Geiser, C. (2012). *Data analysis with Mplus*. New York, NY: Guilford.

Graham, J. W. (2012). *Missing data: Analysis and design*. New York, NY: Springer. doi:10.1007/978-1-46144018-5_1

Graham, J. W., Olchowski, A. E., & Gilreath, T. D. (2007). How many imputations are really necessary? Some practical clarifications of multiple imputation theory. *Prevention Science*, *8*, 206–213.

Greenberger, E., & Sørensen, A. (1974). Toward a Concept of Psychosocial Maturity. *Journal of Youth and Adolescence*, *3*, 329-358.

Guichard, J., Pouyaud, J., De Calan, C., & Dumora, B. (2012). Identity construction and career development interventions with emerging adults. *Journal of Vocational Behavior*, *81*, 52-58. doi:10.1016/j.jvb.2012.04.004

Kelly, O., Matheson, K., Ravindran, A., Merali, Z., & Anisman, H. (2007). Ruminative coping among patients with dysthymia before and after pharmacotherapy. *Depression and anxiety*, *24*, 233-243. doi: 10.1002/da.20236

Kroger, J. (2003). Identity development during adolescence. In G.R. Adams & M.D Berzonsky (Eds.), *Blackwell handbook of adolescence*, 204-226. Oxford, UK: Blackwell.

Kroger, J. (2004). *Identity in Adolescence: The balance between self and other (3rd ed.).* New York: Routledge.

Kroger, J., Martinussen, M., & Marcia, J.E. (2010). Identity status change during adolescence and young adulthood: A meta-analysis. *Journal of Adolescence, 33*, 683–698. doi: 10.1016/j.adolescence.2009.11.002

Lee, R.M., & Davis, C. III. (2000). Cultural orientation, past multicultural experience, and a sense of belonging on campus for Asian American college students. *Journal of College Student Development, 41*, 110-115.

Lee, R. M., & Robbins, S. B. (1995). Measuring belongingness: The social connectedness and the social assurance scales. *Journal of Counseling Psychology, 42,* 232-241. doi: 10.1037/0022-0167.42.2.232

Luyckx, K., Klimstra, T. A., Schwartz, S. J., & Duriez, B. (2013). Personal identity in college and the work context: Developmental trajectories and psychosocial

functioning. *European Journal of Personality*, *27*, 222-237. doi: 10.1002/per.1903

Luthans, F., Luthans, K. W., & Luthans, B. C. (2004). Positive psychological capital: Beyond human and social capital. *Business Horizons*, *47*, 45-50. doi: 10.1016/j.bushor.2003.11.007

Marcia, J. E. (1966). Development and validation of ego identity status. *Journal of Personality and Social Psychology*, *5*, 551–558. doi: 10.1037/h0023281

Markstrom, C.A., & Marshall, S.K. (2007). The psychometric properties of the Psychosocial Inventory of Ego Strengths for high school students. *Journal of Adolescence, 30*, 63-79. doi: 10.1016/j.adolescence.2005.11.003

Markstrom, C.A., Sabino, V., Turner, B., and Berman, R. (1997). The psychosocial inventory of ego strengths: development and assessment of a new Eriksonian measure. *Journal of Youth and Adolescence*, *26*, 705-722. doi: 10.1023/A:1022348709532

Matheson, K., & Anisman H. (2003). Systems of coping associated with psychological distress: A profile perspective. *Stress, 6,* 223-234. doi: 10.1080/10253890310001594487

Menard, L., & Bowker, A. (2012). *Factor Analysis of the Psychosocial Inventory of Ego Strengths (PIES-32, Markstrom, Sabino, Turner, & Berman, 1997).* Presented at the Society for Research on Identity Formation (SRIF) conference, Vancouver, BC, Canada, March 7-10.

Muthén, L.K. & Muthén, B.O. (1998-2012). Mplus User's Guide. Seventh Edition. Los Angeles, CA: Muthén & Muthén.

Ostrov, J. M., & Houston, R. J. (2008). The utility of forms and functions of aggression in emerging adulthood: Association with personality disorder symptomatology. *Journal of Youth and Adolescence*, *37*, 1147-1158. doi: 10.1007/s10964-008-9289-4

Paiz, J.M., Angeli, E., Wagner, J., Lawrick, E., Moore, K., Anderson, M., . . . Keck, R. (2013, November 23). *APA Style and Formatting Guide.* Retrieved from http://owl.english.purdue.edu/owl/resource/560/01/

Preacher, K. J., Curran, P. J., & Bauer, D. J. (2006). Computational tools for probing interaction effects in multiple linear regression, multilevel modeling, and latent curve analysis. *Journal of Educational and Behavioral Statistics*, *31*, 437-448.

Raskin White, H. & Jackson, K. (2004/2005). Social and psychological influences on emerging adult drinking behavior. *Alcohol Research & Health, 28*, 182-190.

Roberts, S.E., & Côté, J. E. (2014). The Identity Issues Inventory: Identity stage resolution in the prolonged transition to adulthood. *Journal of Adult Development*, *21*, 225-238. doi: 10.1007/s10804-014-9194-x

Rosenthal, D. A., Gurney, R.M., & Moore, S. M. (1981). From trust to intimacy: A new inventory for examining Erikson's stages of psychosocial development. *Journal of Youth and Adolescence, 10,* 525-537. doi: 10.1007/BF02087944

Scanlon, L., Rowling, L., & Weber, Z. (2007). 'You don't have like an identity . . . you are just lost in a crowd': Forming a student identity in the first-year transition to university. *Journal of Youth Studies, 10*, 223-241. doi: 10.1080/13676260600983684

Schwartz, S.J. (2005). A new identity for identity research: Recommendations for expanding and refocusing the identity literature. *Journal of Adolescent Research, 20*, 293-308. doi: 10.1177/0743558405274890

Schwartz, S. J., Beyers, W., Luyckx, K., Soenens, B., Zamboanga, B. L., Forthun, L.F.,. . . Waterman, A. S. (2011). Examining the light and dark sides of emerging adults' identity: A study of identity status differences in positive and negative psychosocial functioning. *Journal of Youth and Adolescence*, *40*, 839-859. doi: 10.1007/s10964-010-9606-6

Schwartz, S. J., Forthun, L. F., Ravert, R. D., Zamboanga, B. L., Rodriguez, L., Umaña-Taylor, A. J., . . . Hudson, M. (2010). Identity consolidation and health risk behaviors in college students. *American Journal of Health Behavior, 34*, 214-224.

Schwartz, S. J., Zamboanga, B. L., Wang, W., & Olthuis, J. V. (2009). Measuring identity from an Eriksonian perspective: Two sides of the same coin? Journal of Personality Assessment, 91, 143-154. doi: 10.1080/00223890802634266

Sica, L. S., Sestito, L. A., & Ragozini, G. (2014). Identity Coping in the First Years of University: Identity Diffusion, Adjustment and Identity Distress. *Journal of Adult Development*, *21*, 159-172. doi: 10.1007/s10804-014-9188-8

Statistics Canada (2010, July 14). University enrolment. *The Daily.* Retrieved April 6, 2011 from [http://www.statcan.gc.ca/daily-quotidien/100714/dq100714a-eng.htm].

Syed, M., Grotevant, H. D., Azmitia, M., & Seginer, R. (2014, March). Bridging Multiple Theories: Root Metaphors and the Study of Ethnic Identity. In C. Leaper (Chair),

Bridging Identities During Adolescent Development: A Symposium in Honor of Catherine Cooper. Symposium conducted at the biennial meeting of the Society for Research on Adolescence, Austin, TX.

Tabachnick, B. G., and Fidell, L. S. (2007). *Using Multivariate Statistics, 5th ed.* Boston: Allyn and Bacon.

Vleioras, G., & Bosma, H. A. (2005). Are identity styles important for psychological well-being? *Journal of Adolescence*, *28*, 397–409. doi:10.1016/j.adolescence.2004.09.001

Wintre, M.G., Knoll, G.M., Pancer, S.M., Pratt, M.W., Polivy, J., Birnie-Lefcovitch, S., & Adams, G.R. (2008). The transition to university: The student-university match (SUM) questionnaire. *Journal of Adolescent Research, 23*, 745-769. doi: 10.1177/0743558408325972

Appendices

Appendix A: Demographic Variables

1) Sex: _____ Female _____ Male

2) Age: _____

3) Is English your first language? □ Yes □ No

If the answer is no, subsequent questions are:
What is your first language? *and* When did you learn to speak English?

4) Please indicate your student status (circle one):
a) Ontario domestic student
b) Out-of-province student
c) International student
d) Other (please specify): _____

5) What is your current classification in university?
a) 1st year b) 2nd year c) 3rd year d) 4th year

6) How many courses are you currently taking? _____

7) How many of your courses are on CUTV? _____

8) How many of your courses have tutorials? _____

9) Did you begin university at your current institution or elsewhere? (check one)
□ Started here □ Started elsewhere

10) Please indicate your academic major(s) or your expected major(s):
_____

11) How would you characterize your enrolment? □ Full-time □ Part-time

12) Approximate academic average in final year of high school (percentage %):
_____

13) While attending university, I am currently living in (circle one):
a) a residence hall
b) my parents' home
c) a relative's home
d) an off-campus apartment or house
e) other (please specify):_____

14) a) Please indicate your employment status (check one):

- □ Employed full-time
- □ Employed part-time
- □ Not currently employed

b) If employed, is the job: □ on-campus? □ off campus?

c) On average, how many hours per week do you work? (circle one)

a) 1-5
b) 6-10
c) 11-15
d) 16-20
e) 21-25
f) 26-30
g) More than 30

15) How do you plan to support yourself financially while you study at university? Please indicate the amount you expect to receive ***for this school year*** from each of the following sources.

	Source of funds	None	Less than $1000	$1000 to $3000	$3001 to $6000	$6001 to $10000	More than $10000
1.	Family (Parents, relatives, spouse/partner)						
2.	Personal earnings & savings (e.g. from summer job)						
3.	Financial aid that must be repaid (e.g. OSAP, bank loans)						
4.	Financial aid that does not need to be repaid (scholarships, bursaries, grants/outside funding)						
5.	Other funding						

16) Do you currently have concerns about being able to fund your university education?
(check one)

□ No concerns (I will have sufficient funds)
□ Some concerns (I will most likely have sufficient funds)
□ Many concerns (I'm not sure if I will have sufficient funds to complete university)

Phases I – Expected Use of On-Campus Services

Directions: Carleton offers a wide range of academic and personal services to meet students' needs. Using the 4-point scale please indicate *how likely is it* that you will make use of these services during this school year at Carleton?

	Very likely	Likely	Somewhat likely	Not at all likely
Advising Centre – Offers one-on-one academic advising.	4	3	2	1
Learning Support Services – Offer study skills workshops, 1-on-1 study skills help, study rooms, or a tutor referral service.	4	3	2	1
Writing Tutorial Service – Offers assistance with academic writing.	4	3	2	1
Peer Assisted Study Sessions (PASS) – Offers weekly peer-facilitated workshops for any student taking selected courses.	4	3	2	1
Career Centre – offers students career development and employment preparation.	4	3	2	1
Health and Counselling Services – treats health concerns; offers counselling, has a resource centre, and a student peer program.	4	3	2	1
Recreation and Athletics - offers students a wide range of sport, fitness and recreational activities.	4	3	2	1

Phases II – Actual Use of On-Campus Services

Directions: Carleton offers a wide range of academic and personal services to meet students' needs. Using the 4-point scale please indicate how often *you made use* of these services during the past school year at Carleton?

	Once per week	Once or twice per month	Once or twice per term	Never
Advising Centre – Offers one-on-one academic advising.	4	3	2	1
Learning Support Services – Offer study skills workshops, 1-on-1 study skills help, study rooms, or a tutor referral service.	4	3	2	1
Writing Tutorial Service – Offers assistance with academic writing.	4	3	2	1
Peer Assisted Study Sessions (PASS) – Offers weekly peer-facilitated workshops for any student taking selected courses.	4	3	2	1
Career Centre – offers students career development and employment preparation.	4	3	2	1
Health and Counselling Services –treats health concerns; offers counselling, has a resource centre, and a student peer program.	4	3	2	1
Recreation and Athletics - offers students a wide range of sport, fitness and recreational activities.	4	3	2	1

Appendix B: Identity Issues Inventory
(Côté & Roberts, 2005)

Instructions: Using the 6 point scale, indicate the extent to which you agree or disagree with the following statements as they relate to you and your behaviours.

Identity Issues Inventory (V-48)							
Item	Statement	Strongly Disagree	Disagree	Somewhat Disagree	Somewhat Agree	Agree	Strongly Agree
1.	I feel like I have grown into a "whole" person.	1	2	3	4	5	6
2.	I feel like I have fully matured into being my own person.	1	2	3	4	5	6
3.	I have certain abilities that make it possible for me to be effective in the work I choose to undertake.	1	2	3	4	5	6
4.	My beliefs and values relate to something that is much more important than my own individual needs.	1	2	3	4	5	6
5.	Whatever happens, I still have a secure sense of who I am deep inside.	1	2	3	4	5	6
6.	I am in control of my own emotions.	1	2	3	4	5	6
7.	I think of myself as a competent person who makes productive contributions to society.	1	2	3	4	5	6
8.	My beliefs and values provide me with a firm sense of purpose in life.	1	2	3	4	5	6
9.*	I often feel confused about who I am deep inside.	6	5	4	3	2	1
10.*	I have a difficult time thinking and acting decisively.	6	5	4	3	2	1
11.*	I really don't know if I have the right talents to maintain a good job.	6	5	4	3	2	1
12.*	My beliefs and values are mostly geared to satisfying my own immediate needs.	6	5	4	3	2	1
13.*	There is a struggle inside of me about who I really am.	6	5	4	3	2	1
14.*	Sometimes other people feel like I rely on them too much emotionally.	6	5	4	3	2	1
15.*	I do not feel like I have the necessary skills to get (or keep) the kind of job I would really like to have.	6	5	4	3	2	1

16.*	My sense of purpose in life mainly involves gratifying my own immediate, personal needs.	6	5	4	3	2	1
17.	My friends think I behave maturely.	1	2	3	4	5	6
18.	Most of the time, I dress and act in ways that reflect the kind of person that I really am.	1	2	3	4	5	6
19.	People in my life think that I have some useful talents or skills.	1	2	3	4	5	6
20.	I often speak up about what I believe in.	1	2	3	4	5	6
21.	My friends and family see me as a responsible person.	1	2	3	4	5	6
22.	My behaviour is generally consistent in all situations.	1	2	3	4	5	6
23.	I have certain skills or talents that I use in my life.	1	2	3	4	5	6
24.	People in my life know me as someone with firm beliefs and values.	1	2	3	4	5	6
25.*	I *act* like a different person, depending on the social situation.	6	5	4	3	2	1
26.*	I continually change the way I present myself to others to get the best out of the situation I'm in.	6	5	4	3	2	1
27.	People who know me recognize me in terms of certain talents and skills.	1	2	3	4	5	6
28.	I make sure that my day-to-day behaviour reflects my underlying beliefs and values.	1	2	3	4	5	6
29.*	People who know me well often treat me like I'm immature.	6	5	4	3	2	1
30.*	If I think someone won't approve of me, I pretend to have characteristics that I don't really possess.	6	5	4	3	2	1
31.*	When people think of who I am, they do not associate me with any specific talents or skills.	6	5	4	3	2	1
32.*	People in my life do not know me as someone with consistent beliefs or values.	6	5	4	3	2	1
33.	I belong to a community of like-minded people with whom I will be happy to closely associate indefinitely.	1	2	3	4	5	6

34.	I have found my niche (unique place of belonging) in life.	1	2	3	4	5	6
35.	I have as much formal education as I ever wanted to get.	1	2	3	4	5	6
36.	I live my life in way that is consistent with a firm set of values and beliefs (religious, political, secular or otherwise) associated with some organized groups.	1	2	3	4	5	6
37.	I am recognized as an adult member of an established social group.	1	2	3	4	5	6
38.	Others would recognize me as a self-sufficient adult.	1	2	3	4	5	6
39.	I have a job (or homemaking role) that I am happy keeping for the foreseeable future.	1	2	3	4	5	6
40.	Other people know me as a member of a social group that espouses strong values and beliefs.	1	2	3	4	5	6
41.*	I have been unable to find a meaningful group of like-minded people with which to affiliate on a more or less permanent basis.	6	5	4	3	2	1
42.*	I have not been able to achieve the type of self-sufficiency expected of an adult.	6	5	4	3	2	1
43.*	I do not yet have the educational credentials necessary to get the kind of job I would ultimately like to have.	6	5	4	3	2	1
44.*	The way that I live my life is not based on any widely accepted religious or political beliefs.	6	5	4	3	2	1
45.*	I have not been able to become a member of a “community” that will support who I am.	6	5	4	3	2	1
46.*	I’m still not sure where I fit in adult society.	6	5	4	3	2	1
47.*	I have yet to find a job (or homemaking role) that would gain me the respect I deserve.	6	5	4	3	2	1
48.*	Others do not generally think of me as someone who commits to any causes or organized beliefs systems.	6	5	4	3	2	1

Note: Items with an asterisk are reverse-coded when scored. This will not be obvious to participants.

Appendix C: Psychosocial Inventory of Ego Strengths
(PIES, Markstrom et al., 1997)

Instructions: Read each item carefully, then using the 5-point scale, indicate the degree to which it describes you.

Psychosocial inventory of Ego Strengths (PIES)						
Item	Statement	Describes me Very Well	Describes me Well	Sort of Describes me	Does Not Really Describe me	Does Not Describe me Well
1.	When things don't go my way, I remind myself of the positive things in my life.	5	4	3	2	1
2.*	I find I can easily be distracted even when I really need to finish a task.	1	2	3	4	5
3.*	I really don't know what I want out of life.	1	2	3	4	5
4.	I am involved in a variety of activities that allow me to use my skills and abilities.	5	4	3	2	1
5.*	I have trouble accepting a particular purpose or role in life.	1	2	3	4	5
6.	I have experienced feelings of love with someone outside of my family.	5	4	3	2	1
7.*	I don't have time to deal with other people's problems.	1	2	3	4	5
8.	I feel okay with the way I've handled my life so far.	5	4	3	2	1
9.*	When I feel really down, I have a hard time believing that things are going to get better.	1	2	3	4	5
10.	In many ways, I have control over my future.	5	4	3	2	1
11.*	Fear keeps me from striving for many of my goals.	1	2	3	4	5
12.	I have strengths that enable me to be effective in certain situations.	5	4	3	2	1
13.*	I'm not really sure what I believe in.	1	2	3	4	5
14.	My friends and I believe we can disagree on things and still be friends.	5	4	3	2	1
15.*	Beyond my closest friends and family, I'm not that concerned about the needs of other people.	1	2	3	4	5

16.	I'm not afraid of what the future has in store for me.	5	4	3	2	1
17.	No matter how bad things get, I am confident they will get better.	5	4	3	2	1
18.*	I feel like I don't have control over my life.	1	2	3	4	5
19.	When I think of my future, I see a definite direction for my life.	5	4	3	2	1
20.*	I really don't know what strengths or skills I have to offer society.	1	2	3	4	5
21.	When I make a commitment to something, I stick with it.	5	4	3	2	1
22.*	I don't think I have really loved anyone outside of my family.	1	2	3	4	5
23.	When I see someone with a need, I help in whatever way I am able.	5	4	3	2	1
24.*	I'm afraid of what might happen to me in the future.	1	2	3	4	5
25.	I'm usually able to resist when I'm tempted to do something that's not in my best interest.	5	4	3	2	1
26.*	When something doesn't work out the way I had hoped, it makes me feel like just quitting everything.	1	2	3	4	5
27.	Even though I'm sometimes afraid of failing, if there's something I want to do I try to do it.	5	4	3	2	1
28.*	Even when I have opportunity to do things I might be good at, I usually can't get started.	1	2	3	4	5
29.	I don't pretend to be something that I'm not.	5	4	3	2	1
30.*	When I am in a close relationship with someone, I tend to lose sight of my interests and goals.	1	2	3	4	5
31.	When I know someone is having a difficult time, I really feel concerned about them.	5	4	3	2	1
32.*	When I reflect on the past, I feel sadness and regret.	1	2	3	4	5

Note: Items with an asterisk are reverse-coded when scored. This will not be obvious to participants.

Appendix D: Survey of Coping Profiles Endorsed

(27-item SCOPE, Matheson & Anisman, 2003)

The purpose of this questionnaire is to find out how people deal with their problems or the stresses in their lives. The following are activities that you may have done. After each activity, please indicate the extent to which you would use this as a way of dealing with problems or stresses in recent weeks.

Survey of Coping Profiles Endorsed (27-item SCOPE)						
Item	***Ordinarily, in recent weeks I. . .***	Never	Seldom	Some-times	Often	Almost Always
1.	accepted that there was nothing I could do to change my situation.	1	2	3	4	5
2.	blamed myself for my problems.	1	2	3	4	5
3.	told others I was really upset.	1	2	3	4	5
4.	asked others for help or advice.	1	2	3	4	5
5.	spent a lot of time thinking about my problem.	1	2	3	4	5
6.	took time for recreation or pleasure activities.	1	2	3	4	5
7.	made plans to overcome my concerns or problem.	1	2	3	4	5
8.	avoided thinking about my problem.	1	2	3	4	5
9.	told jokes about my situation.	1	2	3	4	5
10.	thought a lot about who was responsible for my problem (besides me).	1	2	3	4	5
11.	worried about my problem a lot.	1	2	3	4	5
12.	made humorous comments or stories about my situation..	1	2	3	4	5
13.	wished the situation would just go away or be over with.	1	2	3	4	5
14.	thought a lot about how I brought my problem on myself.	1	2	3	4	5
15.	decided to wait and see how things turned out.	1	2	3	4	5

16.	tried to keep my mind off things that were upsetting me.	1	2	3	4	5
17.	sought reassurance and emotional support from others.	1	2	3	4	5
18.	thought about how my problem was caused by other people.	1	2	3	4	5
19.	cried, even if someone else was around..	1	2	3	4	5
20.	looked for how I could grow and learn through my situation.	1	2	3	4	5
21.	told myself that other people have problems like mine.	1	2	3	4	5
22.	did things to keep busy or active (eg., exercised, went out).	1	2	3	4	5
23.	held in my feelings.	1	2	3	4	5
24.	daydreamed about how things may turn out.	1	2	3	4	5
25.	tried to act as if I wasn’t feeling bad.	1	2	3	4	5
26.	took steps to overcome the problem.	1	2	3	4	5
27.	turned to God or my faith.	1	2	3	4	5

Appendix E: Campus Connectedness Scale
(Lee & Davis, 2000)

Directions: The following statements reflect various ways in which you may describe your experience on this ***entire*** university campus. Rate the degree to which you agree or disagree with each statement using the following scale (1 = Strongly Disagree and 6 = Strongly Agree). There are no right or wrong answers, please do not spend too much time with any one statement and please try not leave any unanswered.

1. There are people on campus with whom I feel a close bond

2. I don't feel that I really belong around the people that I know on campus

3. I feel that I can share personal concerns with other students

4. I am able to make connections with a diverse group of people

5. I feel so distant from the other students

6. I have no sense of togetherness with my peers.

7. I can relate to my fellow classmates

8. I catch myself losing all sense of connectedness with college life

9. I feel that I fit right in on campus

10. There is no sense of brother/sisterhood with my university friends

11. I don't feel related to anyone on campus

12. Other students make me feel at home on campus

13. I feel disconnected from campus life

14. I don't feel I participate with anyone or any group

Appendix F: Student-University Match Questionnaire
(SUM, Wintre et al., 2008)

Directions: Please indicate the extent to which you feel there is a match between you and your needs with those of Carleton University in regard to each of the items below. Items are rated on a Likert scale from 0-4 (where 0 = *Absolutely No Fit* and 4 = *A Great Fit*).

1. The physical environment	0	1	2	3	4
2. The student body	0	1	2	3	4
3. The student ethnic mix	0	1	2	3	4
4. The political climate	0	1	2	3	4
5. The intellectual climate	0	1	2	3	4
6. The distance from my family	0	1	2	3	4
7. The social environment	0	1	2	3	4
8. The amount of freedom/independence	0	1	2	3	4
9. The anonymity	0	1	2	3	4
10. The amount of student participation	0	1	2	3	4
11. The academic goals	0	1	2	3	4
12. The critical debate	0	1	2	3	4
13. The relevance of material in my courses	0	1	2	3	4
14. The academic challenges	0	1	2	3	4
15. The level of assistance available	0	1	2	3	4
16. The variety of courses	0	1	2	3	4
17. The programs available	0	1	2	3	4

Appendix G: Perceived Stress Scale
(PSS-10, Cohen, & Williamson, 1988)

Instructions: The questions in this scale ask you about your feelings and thoughts during the last month. In each case, using the 5-point scale ranging from 0 = *never* to 4 = *very often*, please indicate how often you felt or thought a certain way.

Response scale: 0 = Never
1 = Almost Never
2 = Sometimes
3 = Fairly Often
4 = Very Often

1. In the last month, how often have you been upset because of something that happened unexpectedly?

2. In the last month, how often have you felt that you were unable to control the important things in your life?

3. In the last month, how often have you felt nervous and "stressed"?

4. In the last month, how often have you felt confident about your ability to handle your personal problems?

5. In the last month, how often have you felt that things were going your way?

6. In the last month, how often have you found that you could not cope with all the things that you had to do?

7. In the last month, how often have you been able to control irritations in your life?

8. In the last month, how often have you felt that you were on top of things?

9. In the last month, how often have you been angered because of things that were outside your control?

10. In the last month, how often have you felt difficulties were piling up so high that you could not overcome them?

Appendix H: Glossary of Terms

Ego Identity Status model (Marcia, 1966): Marcia described the four identity statuses as "individual styles of coping with the psychosocial task of forming an ego identity" (1966; p. 558). The four statuses are combinations of exploration and commitment: *Identity Achievement* (commitment following exploration); *Moratorium* (actively exploring with vague commitments); *Foreclosure* (expressing commitments without experiencing any exploration); and, *Identity Diffusion* (lack of commitment, may or may not have experienced exploration).

Ego strengths: Ego strengths are central to Erikson's theory of psychosocial development (1963) and to his related ideas about individuals' overall psychosocial adjustment and well-being. "Erikson defined ego strengths as 'certain qualities which begin to animate man pervasively during successive stages of his life' (Erikson, 1965, p. 3). They are labelled as 'ego virtues', 'inherent strengths', 'vital strengths', and 'basic strengths' in various writings (Erikson, 1964, 1965, 1968a, 1985) …" (Markstrom & Marshall, 2007, p. 64). Each of the eight stages of Erikson's lifespan theory is associated with the need to acquire particular ego strengths, for example, Stage 1 and the ego strength of trust. In addition, each of the eight stages is considered to be an optimal time (or **crisis** point) to develop the specific ego strengths for each stage. Erikson stated that ego strength development occurred along a continuum – flowing from the **dystonic** to the **syntonic** aspects of each of the ego strengths (i.e., from identity (or role) confusion to identity synthesis (a cohesive sense of self).

Ego-syntonic and Ego-dystonic: "Ego-syntonic is a psychological term referring to behaviors, values, feelings that are in harmony with or acceptable to the needs and goals of the ego, or consistent with one's ideal self-image. Ego-dystonic is the opposite of ego-syntonic and refers to thoughts and behaviors (e.g., dreams, impulses, compulsions, desires, etc.) that are in conflict, or dissonant, with the needs and goals of the ego, or, further, in conflict with a person's ideal self-image." (Wikipedia, file accessed 08/01/2015: http://en.wikipedia.org/wiki/Egosyntonic_and_egodystonic)

Emerging adulthood: Arnett (2000) has suggested that in Westernized, developed nations there is a distinct, transitional period of development between adolescence and young adulthood, called emerging adulthood (EA; 18-29 years of age). Much of the research on emerging adulthood has found that most individuals within this developmental period neither self-identify as adolescents, nor adults.

Eriksonian-based measures of identity formation: Measures of identity development that are operationalized in ways that capture Erikson's theoretical concepts about ego development as part of his theory of lifespan development.

Identity capital model (Côté, 1997; Côté & Schwartz, 2002, p.575): The identity capital model, is a "developmental–social psychological approach to identity formation that integrates psychological and sociological understandings of identity" (2002, p. 575). Within the model, the processes of identity formation have been described as individuals utilizing their identity capital assets (both "intangible and tangible") to navigate their

various life paths and commit to those roles, values, and attitudes which represent a more adult sense of identity.

Identity capital resources: Concrete or tangible identity capital resources represent ways of behaving and/or possessions, such as a scholarship to attend university In contrast, psychological resources such as ego strengths, self-esteem, and self-worth are considered to be examples of intangible identity capital. In practice, individuals use their identity capital assets to guide and support their decisions about how to proceed in any given situation (Côté & Schwartz, 2002).

Identity: Erikson (1963) conceptualized identity as a psychological structure that gives individuals a sense of personal continuity across situations and experiences. This structure develops along a **continuum**, from identity (or role) **confusion** to the more resolved state of identity **synthesis**. A cohesive sense of identity allows individuals to be open to new ideas but also to have a personal perspective and set of beliefs by which to live our lives.

Identity confusion: a lack of a consistent conception of ego or self (Erikson, 1963).

Identity synthesis: A stable and consistent sense of ego or self, for example individuals who are self-aware, self-directed, and self-confident about their abilities and decisions (Erikson, 1963; Côté & Roberts, 2005).

Institutionalized Moratorium: Côté described Erikson's notions (1968; 1980) about moratoria as follows: "each stage has some sort of psychosocial moratorium that gives each novitiate some extra time to master that stage. Some stages also provide structured or institutionalized contexts to provide guidance to those in a psychosocial moratorium… arguing that most cultures provide their new members with some sort of social structural guidance to take them from childhood to adulthood (the institutionalized part of the concept), as well as a time-out from certain social responsibilities that constitutes a delay in the transition (the moratorium part)" (2006, p. 87).

Psychosocial maturity: In Eriksonian-developmental literature, psychosocial maturity refers to the resolution processes of the eight ego strength crises (Erikson, 1963; Markstrom et al., 1997). More generally, psychosocial maturity has been defined as the development of a sense of responsibility, perspective, and self-regulation whereby the goals of socialization are integrated with those of individual development (Greenberger & Sørensen, 1975, p. 128).

Theory of psychosocial development (Erikson, 1963): Eight stage theory of lifespan development, with each stage having an ego strength crises needing resolution. Erikson was particularly interested how sociocultural factors influenced the crises (i.e., the tensions between the syntonic and dystonic aspects of the ego strength).