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Running head: TRANSITION TO UNIVERSITY PROGRAM AND IDENTITY

The Effects of a Transition to University Intervention Program on
Adjustment and Identity Development

by

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Bachelor of Arts, Wilfrid Laurier University, 2002

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DOCTORAL DISSERTATION

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in partial fulfillment of the requirements for

Doctor of Philosophy

Wilfrid Laurier University

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Abstract

The transition to university can be a stressful time for many students, whether it is smooth and successful, or full of difficulty. While the transition to university can be taxing enough, it also coincides with the period in which adolescents are said to be developing their sense of identity (Erikson, 1968). Given the stress many students experience, the Transition to University (T2U) Program, a social support focused intervention, was developed to assist students with the adjustment (e.g., Lamothe et al., 1995; Pratt et al., 2000). The purpose of this research was to examine the effects of the T2U Program on university adjustment, identity, and factors that facilitate identity development. This was examined in two studies. Study 1a examined the relationship between participation in the T2U Program, university adjustment, and more traditional conceptualizations of identity: identity processing style (Berzonsky, 1988), and identity status (Marcia, 1966). Three mechanisms proposed to facilitate the process of identity development (confidence in parental support, a sense of industry, and having a self-reflective approach to the future; Marcia, 1983a) were also examined. Results showed that women who took part in the intervention adjusted better to university compared to women in the control group. Participation in the T2U Program was also found to be significantly related to higher scores on identity status. With respect to the mechanisms that facilitate identity development, participants' sense of industry mediated the relationship between participation in the intervention and development in identity processing style over the course of the first year of university, such that taking part in the T2U Program was related to increases in participants' sense of industry, which was found to be related to gains in informational identity processing style. Identity status was found

to be a marginally significant mediator of the relationship between participation in the intervention and university adjustment, such that participation in the T2U Program was related to the development of a sense of identity, which in turn is related to better university adjustment. Study 1b examined university adjustment, and the impact of the T2U Program on a different conceptualization of identity: narrative identity, or the development of a life story. Participants' stories of a turning point event (an event that brought about a change in who they were, or how they thought of themselves) and stories of their future plans were examined. Results showed that participation in the intervention was either unrelated, or negatively related to story ratings. However, while ratings of participants' turning point stories were not related to university adjustment, results showed a consistent significant relationship between the amount of exploration in participants' future script stories and university adjustment. These results are discussed with regard to the development of the life story over the life course, and relationships between narrative identity and more traditional conceptualizations of identity. Results are discussed from a developmental perspective. Issues related to power, story length, and methodological issues are also examined.

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The Effects of a Transition to University Intervention Program on
Adjustment and Identity Development

“The value of identity of course is that so often with it comes purpose.”

-Richard R. Grant

Entering university means many different things for different students. For some, this landmark event represents the movement from adolescence to adulthood. For others, university is simply a small step on the way to a promising career. Independent of what it represents for each student, the transition from high school to university can be a stressful time, whether it translates to a positive experience or a negative one. Students are often faced with leaving behind their friends and family and are generally faced with having to adjust to the academic rigors of university.

The fact that the transition to university is often accompanied by so much stress is particularly problematic given that students' adjustment experiences will affect their future success in university. There are a number of factors that can influence a student's transition to university. One such factor is a student's sense of identity, a sense of who one is, based on present day evaluations of past circumstances, and in light of who one wants to be in the future. Researchers have used two different approaches in the study of identity: status approaches and narrative approaches. The most notable status approach to identity is Marcia's (1966) model, in which individuals are believed to occupy one of four identity statuses based on how much exploration they have done regarding their identity, and how committed they are to their sense of identity. In narrative approaches, a

person's sense of identity is created and understood through the creation of a personal life story (McAdams, 1993).

Research seems to suggest that times of transition may be particularly significant with regard to an individual's identity. Research indicates that for example, individuals with a well-developed sense of identity often adjust more successfully to life transitions than individuals with a less developed sense of identity (e.g., Berzonsky, 1990). It may also be the case that successful adjustment to a life transition may promote developmental growth in one's sense of identity. This suggests that factors that help the individual navigate life transitions may also have an impact on their sense of identity. Similarly, factors that promote identity development may help the individual adjust to life transitions.

The recognition that the transition to university is often a stressful period in the life of the emerging adult has led to the development of a range of programs designed to assist students in coping during their first months at university. The present research will examine the effect of a transition to university intervention program on students' sense of identity, in terms of more traditional conceptualizations of identity, and the life story, and how it develops and changes over the course of their first year of university. This research will also examine the mechanisms behind changes in identity status, and the relationship between identity and university adjustment and how they develop in response to a transition to university intervention program.

Identity

As if adjusting to university was not difficult enough, it is made more complicated by the fact that adolescents are said to be in the process of developing their adult

identities during this time (Erikson, 1968). A person's sense of identity has been described as a theory every person has about the self, which in turn, affects feelings about the self (Marcia, 1987). It is constructed from skills, ideas, and beliefs which have developed from childhood, and are then synthesized in order to create a sense of self which is connected to the past, but also provides direction toward the future (Marcia, 1993).

Possessing a well-formed sense of identity provides an individual with a sense of purpose and wholeness; moreover, a sense of identity assists one in dealing with stressful personal situations that arise (Berzonsky, 1990). The extant research reveals that the five most common functions for identity include: 1) providing a framework for understanding ourselves, 2) guiding the development of commitment, values, and goals that provide individuals' lives with meaning and direction, 3) giving individuals a feeling of free will and personal control, 4) fulfilling a desire for consistency, coherence, and agreement between values, beliefs, and commitments that individuals possess, and 5) providing a sense of potential and direction for the future (Adams & Marshall, 1996).

With identity serving so many functions, having a well-formed sense of identity could prove to be quite an asset when experiencing life transitions. A stable sense of identity could provide one with the skills and resources needed to cope with the changes that occur. In contrast, the absence of a strong sense of identity could translate to problems in coping with issues encountered in everyday life (Erikson, 1968).

When discussing identity it would be difficult to ignore the pioneering work of Erik Erikson. Erikson (1968) viewed psychosocial development as occurring in stages. In this theoretical model, each stage of development is marked by a struggle or crisis. He

argued that these crises arose out of a sense of awareness within each individual of the growth and development of a new function of the self that needs to be explored and reconciled. There is a sense of vulnerability in this new function of the self as the individual struggles with its development. The crisis that marks each stage of development is the process of exploration of the new function. At any given stage, an individual is both weak and strong; though an individual may be vulnerable as he/she works to understand and become comfortable with the new function of the self, an individual is also strong in his/her persistence to master the new function.

During adolescence individuals must struggle with the development of a sense of identity. Erikson (1968) viewed the stage of identity formation as the time in life where one develops occupational and ideological commitments as they teeter on the entrance into adulthood and its accompanying responsibilities. He originally conceptualized the outcome of this life-stage as a bipolar end result: identity versus identity confusion. Having a sense of identity can be described as having a clear understanding of oneself, and the understanding that one's past clearly led to one's present circumstances and can lead to possible future outcomes; there is a sense of coherence across time between who one was, who one currently is, and who one will become in the future (Marcia, 1993). These individuals see themselves as active participants who have been instrumental in the process of developing this core inner self. Being involved in this process has also allowed them to develop skills which assist them in evaluating who they are as they progress through the life course. In contrast, individuals who are identity diffused lack interest in the future and instead, live for the present (Marcia, 1993). They may also feel that they have little control over their futures. Identity diffused individuals may also lack the sense

of coherence that allows them to connect their past to their present. This absence of a core sense of self also means that individuals who are identity diffused are often easily influenced by their circumstances. Despite the seemingly dichotomous outcome of the life stage Erikson cautioned that it should not be interpreted as an either-or outcome; rather, a resolution is simply seen when one outcome is more predominant than the other (Marcia, 1993).

Erikson (1968) noted that along with the physiological milestone of sexual maturation, the onset of adolescence also means the development of new cognitive functions, such as formal operational thinking and perspective-taking abilities. Both formal operational thinking and perspective-taking abilities are skills that youth need in order to begin the process of self-exploration. The realization that they will soon be adopting adult roles may lead many youth to critically examine themselves in preparation for these adult roles. This may result in adolescents' desire to determine who one really is (particularly in light of the changes experienced within the self), which may be quite different from the identity they believe others may hold of them. In other words, many adolescents desire a sense of continuity in who they think they are and who others perceive them to be.

Erikson (1968) remarked that the upheaval of adolescence often results in individuals readdressing crises they navigated in past stages of development. Related to this visitation of past crises is the adolescent's need for trust, not only in oneself, but in other people and beliefs as well. Adolescents search for things that they can trust in, but are also worthy of their trust. Erikson (1968) noted that during this stage of life, adolescents crave the stability that firm commitments offer in terms of their sense of self,

yet they also fear making these commitments in haste, without thorough examination.

This sense of mistrust can sometimes come from a desire to find continuity between how they view themselves and how they are viewed by others, and also continuity between their old roles, beliefs, and skills and the roles, skills and ideals they currently hold. This may lead some adolescents to require a period of moratorium where they can integrate aspects of their identity which may have been developed from childhood. Often with this period of questioning comes the reexamination of previous stages of development, including development of a sense of trust.

As much as adolescents crave the stability that comes with having solid beliefs and trustworthy relationships, they want the freedom to search out trustworthy individuals and explore their beliefs on their own, rather than under the direction or command of others (Erikson, 1968). This need to make decisions freely, with no influence from others, is so strong that adolescents would rather risk humiliation from poor decisions made on their own, than be forced into adopting ideals or duties that may bring success, but they have not chosen on their own.

With adolescence comes an excitement at the limitless options from which individuals may choose (Erikson, 1968). This often leads adolescents to explore by putting their trust in many new individuals, such as their peers or other influential adults who may nurture the new vision they have of themselves. As such, adolescents may react negatively to any attempt they see as depriving them of the opportunity for exploration within the environment, as if others are trying to limit their exploration and thus their sense of identity.

Not only are the tasks of development that accompany adolescence confusing, exciting, and tumultuous, they are also very important tasks to be undertaken. The development of a sense of identity is perhaps one of the most significant tasks an individual engages in, and as such has important implications for an individual's future development and well-being (Erikson, 1968), since as Erikson noted, we only truly exist when we have a sense of identity.

Identity Status Model

Erikson (1968) originally proposed that individuals struggled through the identity versus identity confusion stage of psychosocial development during their adolescent years with an outcome being reached when there was the predominance of one over another (e.g., more identity achieved than identity confused). Many researchers have come to expand on Erikson's conceptualization of identity (e.g., Berzonsky, 1990; Marcia, 1966) and to clarify and define what identity is. For instance, Erikson's work did not include operational definitions for his identity constructs, which made testing predictions based on this theory somewhat difficult (Berzonsky, 1990). To address these issues Marcia (1966) elaborated on Erikson's (1968) work with the development of the ego-identity status model.

Originally, Erikson proposed that individuals sense of identity was established with the predominance of one sense of identity over another (e.g., more identity achieved than identity confused). Individuals either achieved a clear sense of identity (known as identity achievement), which would dominate, or a state of identity confusion or identity diffusion would prevail. Marcia's (1966) work on his new measures of identity led him to propose two additional statuses to the two originally put forth by Erikson. Marcia felt that

these statuses were intermediary to Erikson's stages of identity achieved and identity diffused. These were the moratorium and foreclosure statuses. These four statuses were based on two components: the amount of crisis and the amount of commitment the person experienced. Crisis refers to a period of struggle or exploration that individuals experience when questioning their life choices or direction. It is foreseeable that individuals will experience a crisis, or undergo a period of exploration, for any major life change or regarding any aspect of their life direction. Commitment refers to a person's firm decision or choice regarding a life direction (e.g., vocation, religion).

Marcia (1966) characterized a person who had attained the identity achieved status as someone who has experienced a period of personal crisis and had made firm commitments. The experience of a crisis led to serious exploration of all life choices and the subsequent decision on a specific choice based on this period of exploration. The commitments or decisions that an individual makes are made on his/her own terms and grant the individual a certain sense of stability in life, allowing him/her the ability to weather shifts in environment and circumstance. Identity achieved individuals tend to persist longer on tasks and are realistic in the goals they set (Marcia, 1966).

An individual who is identity diffused lacks any commitments regarding aspects of his/her life (Marcia, 1966). Furthermore, this lack of commitment is not an issue of concern, and as such the individual has chosen not to make identity exploration or commitment a priority. A person who is identity diffused may have certain preferences and opinions regarding matters such as occupational choice or ideology; however, these beliefs can be easily swayed with the appearance of additional options and are often not

thought through. These individuals have not undergone any exploration regarding their options for life and do not feel the need to explore.

In contrast to the diffused identity status, an individual who is in the moratorium status is one who is actively engaged in exploration (Marcia, 1966). The individual who is in moratorium is currently engaged in the crisis period. This person is engaged in exploration; however, he/she has yet to make firm commitments. The distinguishing factor that sets apart the moratorium individual from the person who is identity diffused is the fact that he/she is in the midst of exploration in order to make commitments and has made this process a priority.

Where the individual who is in moratorium has yet to make firm commitments about his/her identity, the individual who is identity foreclosed has developed firm commitments (Marcia, 1966). However, the individual who is identity foreclosed has not experienced the crisis period or engaged in exploration, and instead, often takes on the commitments that have been instilled in him/her by parents (Marcia, 1966). The goal is to fulfill the expectations that others have intended for him/her. The identity foreclosed individual is generally rigid in his/her personality and would experience great distress if his/her values were threatened (Marcia, 1966). Identity foreclosed individuals also tend to set unrealistically high goals, and are vulnerable to negative information regarding the self. The foreclosed identity status is considered to be less advanced than the moratorium status (Marcia, 1966). Generally, adolescents who are identity foreclosed are younger in age and have not yet begun considering their own identity.

Marcia (1966) initially thought of the identity statuses as being discrete, with individuals each falling into one of the four statuses. However, subsequent research

revealed that this was not necessarily the case; rarely did individuals fall neatly into one of the statuses. Instead, individuals could be a combination of the four statuses, generally with one as their predominant status (Adams, Shea, and Fitch, 1979; Grotevant & Adams, 1984; Marcia, 1993). This conception of identity status bears similarity to the way that Erikson (1968) thought of his original stages. Rather than seeing the outcome of a crisis at each stage of psychosocial development as discrete (e.g., identity or identity diffusion), it is more of the case that one resolution is more predominant than the other (Marcia, 1993). In effect, when it comes to identity status, individuals may show tendencies toward all four statuses; however, one status will be predominant.

Identity Processing Model

Marcia's (1966) ego-identity status model has generated a great deal of research. However, some findings that have come out of this work have led to the question of whether Marcia's identity statuses should be used as a measure of global or overall identity. For instance, the nature of Marcia's status paradigm implies a forward developmental trajectory where an individual moves through the stages in a somewhat linear pattern from diffused to foreclosed to moratorium, finally ending with the attainment of an achieved identity status that is stable in nature. However, studies (e.g., Adams & Fitch, 1982) have indicated that this is not always the case. Longitudinal research conducted over the course of a year by Adams and Fitch found the stability of identity status to be variable. Participants completed the Marcia (1966) Ego-Identity Incomplete Sentence Blank and Interview twice, a year apart. The results from their sample of 148 college students, showed that while 53% showed no change in their identity status, 16% of the participants advanced in their ego identity statuses, and 31%

regressed to a lower stage of identity status (e.g., from identity achieved to moratorium, from identity achieved to diffusion). The results of this research suggested that reaching the level of identity achievement does not necessarily imply stability in identity status over time. Rather, it is possible for individuals to regress as well.

Additionally, research has found that individuals can also vary in levels of commitment and exploration across a variety of domains or identities (e.g., Adams & Fitch, 1982; Kroger, 1988). For example, individuals could have a clear sense of their vocational identity, but may not yet have arrived at clear, thought-out decisions regarding their religious identity or their ethnic identity.

To address identity variability across different domains, Berzonsky (1988; 1990) proposed that perhaps individuals' sense of identity is based on how they approach and process identity-relevant information. Berzonsky (1988) proposed that individuals with different ego-identity statuses may also differ in the social-cognitive processes they engage in during problem-solving, decision-making, and information processing (Berzonsky & Kuk, 2000). Rather than focusing on the status that individuals occupy, Berzonsky's model focuses on the way in which individuals approach identity-relevant information. In a departure from Marcia's ego-identity status model, Berzonsky identified three identity processing styles based on the ego-identity statuses: informational, normative, and diffused/avoidant.

Individuals with an information-oriented processing style welcome self-relevant information. They actively seek out this information, evaluate it, process it and apply it when appropriate. When faced with information that is discrepant with their identity, they

will test and revise their identity accordingly (Berzonsky, 1990). Individuals with this processing style tend to be categorized as being identity achieved or in moratorium.

Those who are categorized as having a foreclosed ego-identity status tend to adopt a normative identity processing style (Berzonsky, 1990). This means that when processing information regarding the self they will default to the expectations and prescriptions of significant others. These individuals are generally perceived as being conscientious and agreeable; however, they prefer structured environments and have difficulty dealing with spontaneous, unplanned situations.

Individuals with a diffused identity status tend to display a diffused/avoidant identity processing style (Berzonsky, 1990). These individuals choose to avoid dealing with personal problems as well as making decisions regarding the self. This style is characterized by the belief that if they procrastinate in making a decision long enough the decision will be made for them. When these individuals do act, their behaviours are often determined by the circumstances of the situation. These individuals also tend to favour avoidant styles of coping.

Narrative Identity

While research has mostly examined identity in terms of Marcia's (1966) status approach, various researchers have sought to examine identity using a narrative approach. This narrative approach stems from Erikson's (1963) belief that a natural part of every individual's development is the creation of a life story. The narrative perspective views the self as a story, a story that describes the individual (McAdams, 1993). It is through the development of this life story that individuals come to understand and make sense of

various life experiences; the story that one creates is based on an interpretation of past life events based on present life circumstances (Fiese & Sameroff, 1999).

Though life stories are built out of each individual's unique life circumstances, McAdams (1993) argued that all life stories can be judged based on their quality. He postulated six characteristics that make up a good life story: Coherence, openness, credibility, differentiation, reconciliation, and generative integration.

Coherence refers to the extent to which the life story makes sense. This refers to the storyteller's ability to construct and organize the events that have occurred in his/her life into a story (Fiese & Sameroff, 1999) that seems to have a logical flow (McAdams, 1993). Coherence is necessary in order for a life story to be judged as being good. A poor life story will often leave the audience confused, wondering why events unfolded the way they did.

Openness refers to the presence of both flexibility and resilience in the story (McAdams, 1993). A story that displays openness would reflect the storyteller's ability to be open to change and also the ability to handle an ambiguous future (McAdams, 2006a). While it is important that good storytellers should be firm in their commitments to themselves, they should also be comfortable with and open to possible alternatives for the future. However, a story that demonstrates too much openness signals a lack of commitment or direction on the part of the storyteller.

A good story is also one that should be credible, not based on fantasy or dishonesty (McAdams, 2006a). Life stories should be based on facts of the individual's life. While some creativity is often needed in the synthesis and development of the life story, it is still one that needs to be based on fact, not fiction.

Just like any work of fiction a life story must also contain elements of plot, theme, and characterization (McAdams, 2006a). A story that is well differentiated is one that is rich in texture, with well-developed plots and characters. As one ages, the life story should become more complex, deeper and further differentiated as more life experiences have accumulated.

The task of reconciliation of the life story is a difficult one to undertake (McAdams, 2006a). As such, it does not usually begin until middle age. It is at this time that individuals sort through the expanse of their life experiences and work to reconcile conflicting themes and elements in the life story. The desire is to achieve a resolution to the contradictory elements of the life story, wherein the diverse experiences that allowed for differentiation are reconciled with one another.

The element of generative integration is what separates the life story from fiction (McAdams, 2006a). Much of the life story is shaped through the interaction between individual and context, wherein the individual acts as a functioning and contributing member of society. Therefore, a good life story is one where concern is shown for the enhancement of greater society; where the individual expresses the desire to make, or has made, a positive contribution to the world (McAdams, 1993).

Story Coherence

While all six of these elements may be necessary for a good life story, the key feature to a good life story is coherence. If the storyteller cannot be understood, then there is no point in telling the story (McAdams, 2006b). The development of a coherent life story is not an easy task. In fact, the task of integrating events into a coherent life story is so complex that the skills required to do so do not begin to develop until

adolescence, and continue to develop through a gradual progression (Habermas & Bluck, 2000). This is not surprising, considering the importance of coherence in the life story. Fiese and Sameroff (1999) believe that coherence is the most critical feature in assessing an individual's understanding of the self, since it acts as the glue that binds all the pieces of the life story together into one unit. The importance of coherence in the life story is one reason why it was investigated further in the present research.

Just as a life story is made up of many different pieces, various researchers have argued that there are also many different types of coherence (e.g., Fiese & Sameroff, 1999; Habermas & Bluck, 2000). Fiese and Sameroff (1999) identified four aspects of coherence: consistency of the narrative, organization, flexibility and congruence of affect and content. Consistency of the narrative refers to whether all parts of the story hang together to form a whole. The listener or reader should be given enough detail to understand the actions that the characters engage in and arrive at conclusions that are logical. A coherent story should also be organized, both chronologically and also in terms of the context that is set for the audience. Flexibility is also important to coherence. This refers to whether the storyteller is able to recognize and explore different ideas and alternatives to actions and outcomes. This includes the ability to take the perspective of others, to recognize that there are multiple sides to a story while at the same time expressing reasoning and conviction behind one's own conclusions and viewpoints. Congruence of affect and content refers to the fit between the actions and thoughts, and the emotions behind them. The storyteller's disclosure of affect should help to clarify and indicate the significance of the story, and should also be consistent with the content of the story.

Similarly, Habermas and Bluck (2000) also identified four types of coherence: temporal, cultural concept of biography, causal, and thematic. Temporal coherence refers to whether the events in the story are ordered in sequential or temporal order. Typically, the ability to organize events into logical sequences develops between two to five years of age (Habermas & Bluck, 2000). This is supported by findings of ceiling effects when temporal coherence is coded for in the narratives of emerging adults (Tieu et al., in prep.).

The cultural concept of biography (biographical coherence) refers to the cultural understanding of the sequence of life events (Habermas & Bluck, 2000). A story that is strong in biographical coherence will generally follow the cultural template, or typical sequence of life events (e.g., people go to school, graduate, get a job and get married, have children), or will contain explanations when events of the life course deviate from the cultural norm. This awareness of norms assists individuals with the organization of their life stories and has been found in children as young as 10 years of age (Habermas & Bluck, 2000). This concept of biographical coherence is similar to Fiese and Sameroff's (1999) concept of organization in the life story. Both features require that the life story is organized in a logical fashion.

Causal coherence is the process of linking life events together (Habermas & Bluck, 2000). Storytellers should explain changes in their personal values or personality in relation to the key changing life events or circumstances. A lack of causal linkages gives the impression that the events of the individual's life were determined by chance. In fact, these causal linkages are what connect who the self is to the events that occur throughout life. Either the characteristics of the self should be used to explain actions

taken, or an explanation should be provided for changes in the personal attitudes, beliefs, and values due to the event. These changes to the self generally occur through lessons learned or insights that are gained. This idea of causal coherence is similar to Fiese and Sameroff's (1999) notion of narrative consistency such that linkages need to be established in order for the audience to be able to understand and justify the actions of the storyteller. Causal coherence also picks up on the congruence of affect and context (Fiese & Sameroff, 1999) where there should be a fit between the actions, thoughts, and emotions of the storyteller.

This ability to form connections between past experiences and the self is integral to the development of coherence in a life story (Pals, in press). Pals viewed the interpretation of past events as having a causal impact over time, on individuals' contemporary sense of self. She argued that the development of causal connections is an on-going process that individuals are continually engaged in as they construct their life stories, rather than seeing it as a static characteristic that stories either possess or do not possess. This belief echoes the idea that the development of the life story is a process that is dynamic and under constant flux. In her examination of causal connections, Pals (in press) found that the causal connections that individuals make are related to their personal growth and development across the lifespan.

Lastly, Habermas and Bluck (2000) note the importance of thematic coherence in overall story coherence. Thematic coherence refers to the thematic similarities that can be seen across various events or episodes throughout an individual's life. For example, this could be the motivations individuals use to justify their actions. Additionally, thematic coherence refers to how individuals interpret life events in order to give them meaning.

This could include comparisons across several life events. Thematic coherence is also echoed in the idea of narrative consistency (Fiese & Sameroff, 1999), where the storyteller needs to process, integrate, and convey the theme of the story. This idea of thematic coherence is also similar to the work done by McLean and colleagues on meaning-making (e.g., McLean, 2005; McLean & Pratt, 2006; Thorne, McLean, & Lawrence, 2004). Meaning-making refers to an individual's ability to glean meaning, whether it is lessons or insights, from life events (McLean & Pratt, 2006). Lessons refer to specific learning that generally applies to one event or type of situation, whereas insights refer to learning that has been extended and applied to other parts of the self or situations.

While there is a great deal of research on both narrative approaches to identity and traditional status approaches (i.e., Marcia, 1966) to identity, very few studies have examined the relationship between narrative approaches and status approaches to identity development. In one of the few studies that have examined this relationship, McLean and Pratt (2006) examined identity status and the meaning that participants conveyed in their turning point stories, a story of a time or event that resulted in a change in the self. McLean and Pratt found that the amount of meaning exhibited in individuals' turning point stories told at age 23 was negatively related to identity foreclosure at age 17, identity diffusion and moratorium at age 19, and identity foreclosure and diffusion at age 23. Similar results were found by Tieu, Pratt, & Dumas (in prep). They found that the coherence of turning point stories told by individuals at age 26 was negatively related to identity foreclosure at ages 17 and 19, and positively related to identity achievement at age 23.

While these studies have made important first steps in examining the relationship between status approaches and narrative approaches to identity development, the correlations from these studies illustrating the relationship between status approaches and narrative approaches are modest in strength. Furthermore, both of these studies employ the use of individuals' turning point narratives. Turning point stories are uniquely well-suited to the study of identity since they examine the process of change and development in an individual's sense of self based on events experienced in one's life.

For these reasons listed above, turning point stories were examined in the present research. The decision was made to examine the turning point stories for the amount of depth/detail present in the story, causal coherence, and meaning-making. The amount of depth or detail present in a story is related to McAdams' (2006a) idea of differentiation; good stories are ones that include a great deal of texture and contain details which elaborate on the plot and characters within the story. The turning point stories were also coded for causal coherence and meaning-making, which tap into the more complex aspects of coherence (Habermas & Bluck, 2000). Coding for these three elements provides insight into participants' sense of narrative identity, and their ability to narrate aspects of their life story, in this case, a turning point event.

The event of coming to university may also be a time when individuals may engage in consideration regarding their plans for the future, such as career aspirations. Traditionally, a large part of identity was given to consideration of vocational choices (Erikson, 1968). As such, in the present research, participants were asked to provide a future script story where they would discuss what they envision happening next in their lives, and their dreams and plans for the future. In the present research, the future script

story was coded for exploration, commitment, and pro-sociality. Exploration and commitment correspond to the two dimensions which make up Marcia's (1966) four identity statuses. Commitment also taps into McAdams' (1996) idea of openness, which relates to the commitments the storyteller has made and how flexible or firm these commitments are. Openness and commitment could be especially important during a life transition as new experiences may lead one to re-examine commitments already made. As such, it is clear why commitments should be firm in order to show stability, but also flexible to indicate an openness to alternatives (McAdams, 2006a). This idea of flexibility of commitment is one that is also important in the coherence of a story (Fiese & Sameroff, 1999).

The decision was made to code for pro-sociality in the future script stories because it taps into aspects of generativity, which Erikson (1959) defined as having care or concern for future generations. While Erikson proposed that the issue of generativity does not become an important focus until midlife, it has been studied in adolescence and young adulthood, and evidence points to its presence and validity in these earlier stages of life (Lawford, Pratt, Hunsberger, & Pancer, 2005), it also has been found to be related to narrative measures of identity (McLean & Pratt, 2006). McAdams (2006a) noted that one of the six characteristics of a good life story is the element of generative integration, the ability of the storyteller to show concern for the enhancement of society as a whole, and a desire to make a positive contribution to the world. Additionally, research has found a relationship between pro-social behaviour and identity status, such that individuals who are more identity achieved are more likely to become involved in community service, pro-social activities (e.g., holding the door open for a stranger), and

pro-social tendencies (i.e., the tendency for an individual to behave pro-socially across different contexts and motivations) even after controlling for social desirability (Hardy & Kisling, 2006). Overall, it seems that there is a relationship between an individual's sense of identity and the tendency toward pro-sociality.

While the elements for which the future script stories are coded are different from the elements coded for in the turning point stories, they were chosen because they may be better suited for the content of future script stories where the variables coded for in the turning point stories may not be as applicable. For example, it may be difficult (or not applicable) to discern the causal connections in an individual's story of his/her future plans. Though the variables may differ, coding for exploration, commitment and pro-sociality may capture aspects of participants' sense of narrative identity.

Identity and the Transition to University

Life transitions can often be pivotal in bringing about changes in identity. In fact, the changes to identity brought on by a life transition can be quite significant and enduring (Cassidy & Trew, 2001). For many individuals in late adolescence or emerging adulthood, the transition to university is the most significant transition they will have made up to this point in their lives. As such, many students are able to incorporate their university transition into their life stories. When asked to tell turning point stories about their university experience or a turning point they had experienced since beginning university, first year students were readily able to recall such an event (Dumas, 2005). Students told stories that focused on many different aspects of their university transition, not just the academic factors. The themes of their stories ranged from social issues (i.e., stories about various relationships); achievement (i.e., personal advances in areas such as

academics and extra-curricular activities); attachment to university (i.e., stories about their decision to attend specific universities); and personal autonomy (i.e., stories that dealt with issues of personal development and growth). This suggests that while the decision to enter university is largely an academic one, the transition to university is an event that touches on all aspects of students' lives. These turning point stories (stories of an event that resulted in a change in the self) were found to be related to their transition experiences. More specifically, the amount of optimism present in turning point stories students told at the beginning of the academic year, and at the end of the academic year was positively related to their university adjustment scores at the end of their first academic year. The results of this research suggest that contents within students' narratives may be related to their subsequent adjustment to university.

It is clear that the transition to university often brings with it, not only adjustment to a new school, but also a transition to a new living situation as many students move away from home for the first time, and a social transition as students make new friendships and create new social networks. As such, this life transition could have important implications for identity and provide researchers with a unique opportunity to examine how identity changes and develops over the course of a major life transition. In fact, the time spent in university tends to move students toward identity achievement (Pascarella & Terenzini, 1991). However, the relationship between identity and university adjustment is likely bi-directional: not only does the university experience influence students' sense of identity, but their sense of identity also affects how they will experience the transition to university (e.g., Berzonsky & Kuk, 2000, described in more detail below.)

The transition to university is a significant event in a student's life which could be influential in bringing about changes in identity. Research that examines Erikson's idea of ego identity has found that students' university careers tend to facilitate the development of an achieved identity status (Pascarella & Terenzini, 1991). Classic research such as the work conducted by Constantinople (1969) showed that students progressed toward identity achievement and away from identity diffusion as they progressed through university.

Constantinople (1969) employed both a cross-sectional design and a longitudinal design to examine identity in 952 (males $N = 513$) undergraduate students. Participants were recruited from all four years of undergraduate education. These same participants (who were still enrolled as fulltime undergraduate students) were assessed again in two follow-ups, once a year for two years. Identity was measured using the Q-sort (Wessman & Ricks, 1966), which contained 60 single word or short phrase items, five of which examined successful resolutions of each of Erikson's first six stages of psychosocial development, and five items that examined the unsuccessful resolution of these first six stages. In terms of identity, successful resolution would be classified as having a sense of identity, and the unsuccessful resolution would indicate identity diffusion (these were the only two possible outcomes related to identity). Respondents indicated along a seven point scale (from characteristic to uncharacteristic) the extent to which each item reflected them. The scores from the Q-sort allowed Constantinople (1969) to examine the extent to which the students were successful in navigating and resolving the first six stages of Erikson's theory of psychosocial development. The results of the cross-sectional data from the initial testing phase showed that with respect to identity, there was a

positive relationship between identity scores on the Q-sort and year in college. Freshmen obtained the lowest scores on identity while seniors obtained the highest scores.

Conversely, there was a negative relationship between identity diffusion and year in college, which was further qualified by a class (year in college) x gender interaction.

Constantinople found that males progressed in the expected fashion across the class such that scores on identity diffusion decreased as year in college increased. The scores for women did not follow this pattern; females in first year were higher on identity and significantly lower on identity diffusion. However, the scores from the seniors did not show significant differences between the genders in the area of identity. Examination of the means did not reveal any ceiling effects for the women across the four years of college with means ranging from 23.0-25.5 for identity (higher scores reflect successful resolution), and 16.3-17.5 for identity diffusion (lower scores indicate successful resolution), where the range of possible scores for both subscales was 5-35.

Constantinople (1969) followed up on these students two and three years later. The findings from this piece of longitudinal research generally followed the same pattern as found in the cross-sectional research; scores on identity increased as students progressed on in college, and scores on identity diffusion decreased. Additionally, there was a significant main effect of year for both the two and three year follow-ups for identity, and in the three year follow-up for identity diffusion. This pattern of means indicate that there was a significant change in the participants' scores in identity and identity diffusion from one year to the next. With respect to gender differences, for males, feelings of identity diffusion were highest during their freshman year, but for females, identity diffusion was at its peak during the sophomore year. Furthermore, the

increases experienced from year to year in identity were mirrored in decreases from year to year in identity diffusion for males. However, this pattern was not found for females. Overall, the results of Constantinople's work show a stable increase in the development of identity as students moved from first year to graduation across participants, and from year to year within participants. However, when it came to identity diffusion, a consistent decrease was only seen in males. It seems that while women may be more mature when they enter college compared to their male peers, men experienced greater gains in maturity over their undergraduate career. Constantinople advanced a few explanations for the gender differences. One possibility is that the items in the questionnaire may be more applicable to men more than women. Another possibility that was advanced was that the college experience may be more enriching for men compared to women. Constantinople argued that since males were more focused on occupation as a key feature of their identity, whereas women are more focused on relational goals (e.g., roles of wife and mother), that males would find college more helpful in assisting them in attaining their goals. However, this may not be helpful for women, who in fact may become more identity diffused; the college experience could assist women in clarifying career goals, which could cause conflicts with goals relating to occupation and marriage and family.

Zuschlag and Whitbourne (1994) replicated the research conducted by Constantinople (1969). They conducted this research both 12 and 23 years after Constantinople conducted her research. Zuschlag and Whitbourne collected data at the same university using the students that were currently enrolled at that school. Generally, they found the same pattern of results as was seen in the longitudinal follow-ups conducted by Constantinople (1969). Overall, Zuschlag and Whitbourne (1994) found

that students in their senior year of college scored significantly higher on the positive resolution of the identity versus identity diffusion stage of Erikson's theory of psychosocial development than students in their freshman, sophomore, and junior year of college. Furthermore, Zuschlag and Whitbourne also found that females scored higher on the positive resolution of the identity versus identity diffusion stage compared to their male peers.

Overall, this body of research suggests that a relationship exists between the university experience and students' identity development. It appears that the time spent in university is related to a progression toward a more developed sense of identity for students. This is not surprising since researchers (e.g., Freedman, 1967; Stanford, 1967) suggest that university is an optimal environment for identity development. Being in university challenges students to evaluate themselves, and allows students the opportunity to experiment with the facets of themselves that they are exploring.

However, some research has also found identity to be stable over the course of a student's university transition period. Longitudinal research by Cassidy and Trew (2001) suggests that there is a certain amount of stability in students' sense of identity. The researchers adopted Stryker's (1968, 1987) identity theory perspective when examining identity in this research. Stryker takes a symbolic interactionist perspective on identity in this theory. In this perspective, individuals possess multiple identities, one for each role that one fills and each relationship of which one is a part. All of these different identities are then organized into an identity salience hierarchy based on the probability that each identity will be summoned across various situations (Serpe, 1987). The saliency of each

identity determines how much time and effort an individual will invest in the development and performance of each identity.

A total of 210 students were initially tested from December to January in their last year of secondary school in Belfast and again in December the following year, during their first year of university. At both time points, students were asked to rate how important a list of 11 identities was to them (i.e., son/daughter, sibling, friend, boy/girlfriend, student, religious identity, two political identities, three national identities). At time two, they were also asked to report the extent to which their roles had changed since leaving secondary school. Students were asked to report whether the change they experienced was negative (e.g., relationships became more distant or ended, there was more confusion regarding beliefs) or positive (e.g., relationships became closer, a greater understanding regarding various identities was reached). This measure of change since secondary school was Cassidy and Trew's measure of commitment to identities.

The results of Cassidy and Trew's (2001) study seemed to indicate a great deal of stability across all 11 identities over the transition to university. Therefore, the relative importance of these identities was stable across this transition. However, the conceptualization of identity used in Cassidy and Trew's research was different than the concept of identity as formulated by Erikson (1968). Cassidy and Trew (2001) examined different roles or identities that were important to the students. They then examined whether these roles had changed since leaving secondary school. It is possible that the roles that students nominated as important to them (e.g., son or daughter) did not change in their importance. However, it could be that the nature of these roles or the students'

understanding or conceptualization of these roles could have changed over the transition to university. The measures and questions used by Cassidy and Trew may not have tapped into this type of change. For example, a student may consider the role of daughter to be important to her. Before leaving for university she may have thought that a good daughter was someone who obeyed parents' rules and did chores. After leaving university, she may have come to the realization through exploration that a good daughter is also someone who trusts her parents, communicates with her parents and looks to parents for sound advice and support. Therefore, her role as a daughter may not have changed, but her understanding of a daughter's duties may have. This type of change may not have been picked up by the measures used by Cassidy and Trew, which may explain why they found stability in students' sense of identity, rather than the pattern of change seen in other research on students' university experience and identity development.

While the transition to university influences change in identity, a student's sense of identity also influences how students will experience their university transition. Students' sense of identity can affect many aspects of their university career. For example, identity achieved students tended to have greater feelings of competence related to schoolwork compared to students who were in moratorium, foreclosure, or diffusion (St. Louis & Liem, 2005). These identity achieved students also scored higher on a measure of perceived intellectual competence compared to their identity foreclosed and diffused peers. It seems that the benefits of being identity achieved have significant implications for success in university. Thus, the movement toward identity achievement throughout students' university career could also facilitate greater success.

Evidence also points to negative effects experienced by students during their adjustment to university for those who have yet to reach an achieved identity status. Waterman and Waterman (1970) investigated the relationship between ego identity status and college satisfaction among a sample of undergraduates attending a polytechnic university. They hypothesized that students in moratorium, who were going through the stressful process of self-exploration, would have more negative attitudes regarding their university. This hypothesis was based on evidence that shows that in general, individuals in moratorium score higher on measures of anxiety (Marcia, 1967). Waterman and Waterman believed that students in moratorium would rate their school more negatively because the anxiety they experience during their exploration and crisis while in moratorium would be associated with their experience in university. This hypothesis was supported by their first study; the researchers found that students who were in moratorium indicated that they had experienced less satisfaction with their university experience compared to students in other identity statuses. In a second study, the researchers explored the relationship between the experience of a crisis period and lower ratings of school satisfaction further in a sample of college students in their senior year. More specifically, they examined data from students who reported experiencing a crisis related to the selection of their major area of study. Half of the students reported resolving this crisis while they were in high school. The other half of the students made decisions on their major while in university. Results revealed that students who had made their decisions while in university reported lower levels of satisfaction with their school compared to students who had made their decisions regarding their major while in high school. The results of this second study provide further insight into the findings from the

first study, such that the experience of a crisis while in university results in lower ratings of university satisfaction. Even though the students who had experienced crises while in university had resolved them by the time they participated in the study (as seen by the fact that they had selected their majors) they still reported less satisfaction compared to peers who had experienced comparable crises while in high school. The researchers argued that it is the experience of a crisis while in university that results in lower ratings of university satisfaction because the negative experience of the crisis is associated with university experiences. However, it is also possible that the lowered ratings of satisfaction with university could be due to the compounding effects of dealing with two stressful events (navigating the transition to university, and dealing with the crisis of selecting a major) at the same time. Also, the authors did not examine any age effects. Yet, while these students in moratorium may experience dissatisfaction, this by no means is a negative outcome. Rather, Erikson (1968) argued that this experience of crisis or exploration is necessary for young adults to assess all available alternatives. Therefore, Waterman and Waterman (1970) suggested that institutes of higher education should strive to provide students with a safe environment that supports their exploration during their stage of moratorium.

The importance of exploration is undeniable when discussing identity development. With exploration comes exposure to events and thoughts that could be instrumental in bringing about changes in identity. Berzonsky's (1988) model of identity processing style asserts that individuals differ in how they process identity-relevant information. He examined the relationship between ego-identity status and identity processing style in students making the transition to university (Berzonsky & Kuk, 2000).

A sample of 363 freshmen was administered a measure of identity status (Objective Measure of Ego Identity Status; Adams et al., 1979), a measure of identity processing style (the revised Identity Style Inventory; Berzonsky, 1992), and a measure of adaptation to university (the Student Developmental Task and Lifestyle Inventory; Winston & Miller, 1987).

Generally, the results of Berzonsky and Kuk's (2000) study indicated that students who had engaged in more self-exploration (i.e., students with achieved and moratorium identity statuses) fared better in their transition to university. These students acted more independently and autonomously, and consequently, required less reassurance and support from others during this time. Moreover, the identity processing styles that students adopted also influenced their progress through this transition. Similarly, research has also found that identity processing styles were significantly related to the coping strategies first year students used (Seaton & Beaumont, 2008). In particular, students who scored highly on the informational processing style were more likely to use proactive coping strategies, and were more likely to seek out challenges and novel situations (i.e., exploration).

Students who were classified as having an informational processing style viewed themselves as possessing the skills needed to structure their lives in order to ensure success at university, along with the emotional strength to manage their lives independently without seeking the constant approval of others. Students with an informational processing style also possessed clearly defined future goals and academic purpose. While students with a normative processing style also possessed clear academic goals, they differed from informational students in that they were less tolerant of the

views of others and tended to score lower in the areas of emotional and academic self-regulation (i.e., persistence in academic work towards the attainment of academic goals). Furthermore, their sense of academic purpose appeared to be rigid and rooted in influence from outside sources such as parents or teachers, rather than coming from themselves. Lastly, students with a diffused/avoidant processing style scored low in areas related to academic skills, autonomy, and involvement. Their interpersonal relationships also seemed to be less mature. Students with a diffused/avoidant processing style possessed academic goals that seemed vague and unstable. These students also expected that they would experience academic, time management and adjustment difficulties. All of these factors seem to suggest that students with a diffused/avoidant processing style would be at increased risk for academic and adjustment difficulties. They may also experience difficulty in areas related to interpersonal relationships and the development and maintenance of a support system.

Berzonsky and Kuk (2000) also found significant relationships between the ego-identity statuses and the identity processing styles that participants employed. Specifically, individuals who were identity achieved and in moratorium were more likely to manifest an informational processing style, while those in foreclosed and diffused identity statuses were more likely to employ normative and diffused/avoidant processing styles, respectively.

Overall, the results of this study (Berzonsky & Kuk, 2000) illustrate the relationship between ego-identity and the transition to university. The progress that students make in navigating the identity versus identity confusion stage of psychosocial development (Erikson, 1968) mirrors their ability to navigate the transition to university.

More specifically, a student's ability to explore and make commitments regarding his or her identity appears to be related to how well he/she will perform in school. For example, the relationship between an identity diffused status and its related negative effects was mediated by the identity processing style that was used. Given the positive relationship between identity status and university grades, and overall success (Cross & Allen, 1970), it is clear that further research could provide great insight into the nature of the relationship between identity and university adjustment, thus assisting incoming students with this important life transition.

Mechanisms that Facilitate Identity Development

Research suggested, then, that identity development and identity status in young adults plays an important role in the transition to university. The negative effects of being identity diffused, or having a diffused/avoidant identity processing style, have been documented in research (e.g., Berzonsky & Kuk, 2000; Waterman & Waterman, 1970). Therefore, it seems reasonable to suggest that one way to assist students with the transition to university would be to assist them with the development of their sense of identity (Waterman and Waterman, 1970).

Literature on identity development seems to converge on the idea that the exploration dimension of Erikson's framework is integral to movement to higher statuses of identity (e.g., Berman, Schwartz, Kurtines, & Berman, 2001; Meeus, Iedema, & Maassen, 2002; Schwartz, 2002). In fact, the formation of a sense of identity is based on self-exploration (Berman et al., 2001). Grotevant's (1987) process model likens the process of identity exploration to problem-solving behaviour, wherein exploration is used to seek out information regarding the self and one's environment in order to establish a

stable sense of self. While some research suggests that exploration is a relatively stable factor showing little change over time (Meeus et al., 2002), intervention attempts to assist individuals with the development of a sense of identity have been successful (e.g., Kush & Cochran, 1993; Raskin, 1994; Schwartz, Kurtines, & Montgomery, 2005). While these intervention efforts did not exclusively target the development of exploration in the participants, their results seem to suggest that exploration and subsequent identity development may be malleable. With this being the case, attempts to assist adolescents with the process of identity development should focus on ways to encourage exploration, since research suggests that the process of exploration may be integral to the development of a sense of identity. Though commitment is also important, Erikson (1968) noted that, above all, individuals need a period of time in order to integrate and explore beliefs and experiences from childhood through to the present day. He also alluded to the idea that a trusted commitment can only be made once exploration has occurred.

The results of intervention research have shown that some success can be found in assisting individuals with developing a sense of identity (e.g., Kush & Cochran, 1993; Raskin, 1994; Schwartz, Kurtines, & Montgomery, 2005). For example, students in their last year of high school who took part in an intervention program aimed at increasing their exploration of vocational choices were more certain regarding their career goals and scored higher on measures of ego identity status at the program's completion, compared to a control group (Kush & Cochran, 1993). The results of intervention research suggest that identity is in fact malleable, and that participation in identity interventions can be instrumental in bringing out changes in identity.

Though an individual's level of exploration may generally remain stable, there are certain factors that catalyze the process of exploration. After all, the process of exploration begins somehow; the question is: What factors "kick start" this exploration? Marcia (1983a) proposed three factors that facilitate identity development. He proposed that the presence of these three factors would act as indicators for how an early adolescent beginning the process of identity exploration would cope with the resolution of the identity versus role confusion stage. Therefore, seeing that identity exploration is the critical factor behind the development of a stable sense of identity, these factors could be seen as necessary for identity exploration to occur. These factors were confidence in parental support, a sense of industry, and a self-reflective approach to one's future (Marcia, 1983a).

Marcia (1983a) linked the idea of confidence in parental support to Bowlby's (1969) paradigm of infant attachment. Just like infants, adolescents going through a period of identity crisis or exploration require firm parental support. Adolescents need to believe that while they engage in exploration and increase their sense of autonomy, their parents will still be there to provide them with support if needed; in fact, research has found a strong relationship between parental attachment and healthy identity development (e.g., Campbell, Adams, & Dobson, 1984; Kroger & Haslett, 1988). More specifically, attachment to mothers was significantly positively related to identity achievement and negatively related to moratorium and diffused identity statuses, with no significant relationship found between attachment to mothers and identity foreclosure (Benson, Harris, & Rogers, 1992). In a sample of university students, it was found that attachment to parents was a significant predictor of students' personal (i.e., the way one

thinks of oneself) and social (i.e., an individuals' roles and relationships) identity (Lapsley, Rice, & Fitzgerald, 1990).

Having a sense of industry refers to having a sense of competency and mastery in one's skills. According to Marcia (1983a) this sense of competency is critical to the development of self-esteem. Otherwise, it would be difficult for adolescents to feel confident about life choices they are about to make if they doubt their sense of efficacy, competency and skill. Research has found that self-efficacy and sense of agency are positively related to identity exploration and commitment (Kerpelman & Mosher, 2004; Schwartz, Cote, & Arnett, 2005). Students who took part in a program aimed at increasing agency by having parents assist adolescent sons and daughters in considering future career choices, showed gains in self-efficacy and also in ego identity (Kush & Cochran, 1993, more detail on this intervention is reviewed below).

A self-reflective approach to the future refers to adolescents' ability to introspect about their futures and construct possible alternative futures based on different introspections. This means developing an understanding of one's skills and competencies and how these could be expressed in different avenues in the future. In fact, consideration of future goals, hopes and expectations was found to be positively related to both identity exploration and commitment (Kerpelman & Mosher, 2004).

Marcia (1983a) proposed that these three mechanisms are related in a hierarchical manner, with the basis being confidence in parental support followed by the development of a sense of industry, and lastly, possessing a self-reflective approach to the future. Marcia argued that the confidence in parental support comes from basic parent-child relationship. This idea of support from parents and the development of trust in parents are

similar to the first stage of Erikson's (1968) theory of psychosocial development, trust versus mistrust, which is central in infancy. The lack of support or trust from parents often results in a lack of emotional grounding for an adolescent, which often leads to a diffused state. The supported needed from parents is important to the development of identity, which is psychosocial in nature, and without it, Marcia argued that it would be impossible to develop a sense of identity. He claimed that "no attachment, no meaningful exploration and experimentation; no meaningful exploration and exploration, no subsequent commitment; no commitment, no identity" (Marcia, 1983a, p. 221).

The development of a sense of industry follows after parental support, and is needed for the development of firm commitments (Marcia, 1983a). Confidence in parental support is linked to a sense of industry through the development of trust, autonomy, and initiative. Adolescents who have confidence in parental support and a sense of industry would be unlikely to be considered identity diffused; instead, they would more likely become identity foreclosed and focus exclusively on the standards set for them by their parents. Marcia (1983a) asserted that it was the development of the last variable, a self-reflective approach to the future, which enables adolescents to attain identity achievement. The link which connects confidence in parental support and a sense of industry with a self-reflective approach to the future is the development of a sense of self-confidence, which allows an adolescent to think of the accomplishments he/she hopes to achieve in the future (something which would be unnecessary if an adolescent has already adopted the goals set for him/her by parents). Marcia (1983a) laid out how the development of these three factors occur in sequence in early adolescents, and clearly argued why they need to be present in order for identity development to occur. In the

present research these three factors that facilitate identity development are examined concurrently. While this is somewhat in contrast to Marcia's (1983a) assertion that these factors develop hierarchically, he does state that these factors develop in early adolescence. This being the case, it is likely that individuals in late adolescence or emerging adulthood would already have experienced some development in these three constructs. As such, measuring these constructs concurrently in a late adolescent/emerging adult sample, as was done in this research, would not be as problematic.

Transition to University Intervention Programs

The process of identity development is further complicated by the fact that at the age when identity undergoes the greatest amount of development many adolescents are beginning the stressful transition from high school to university. While the adjustment to university may not be problematic for all students, there is no doubt that the process is often a stressful one with significant implications for the success of their university careers. Difficulty with the adjustment to university can often lead to problematic outcomes and behaviours such as low grades, withdrawal from courses, depression, loneliness and ultimately dropping out of school. With as many as four out of five students experiencing turbulent periods during their university education (Giddan & Price, 1985), efforts have been made to equip students with the skills necessary to cope with these anxious times. Research has demonstrated that first year students are particularly vulnerable to ill effects of poor adjustment, with the majority of students who leave university doing so during their first year (e.g. Gaither, 1992; Levitz & Noel, 1989).

It seems clear that the first year of university is especially important where issues of attrition are concerned (Noel, 1985).

The literature on the transition to university highlights the importance of a successful transition experience. Difficulty in adjusting to university could result in stress and subsequent failure or withdrawal from university (Bronfenbrenner, 1979). Some evidence of the importance of adjustment during the first year comes from statistics which show that between 20 to 25% of incoming first year students fail to move on to second year (Hamilton & Hamilton, 2006). With so much at stake a number of intervention programs have been developed to facilitate this important transition.

Oppenheimer (1984) developed a small group intervention program where students examined issues such as problem-solving, openness, and group cohesion. The groups of four to six students met weekly for informal, open-ended discussion sessions from mid-October to late November. Participants in the intervention condition and the control group were assessed on levels of anxiety concerning their social adjustment to university, their social life satisfaction, general anxiety, and self-esteem before the intervention began. Participants were tested again in December and April. The results of this study revealed no significant differences between the intervention and control groups at the December testing phase. However, results of the April testing phase showed gains for participants who had been initially classified as being anxious. The anxious participants who took part in the intervention scored higher on measures of university adjustment, while no gains were seen in participants who were not classified as being anxious.

The Transition to University (T2U) intervention is a social support-focused intervention program similar to the one conducted by Oppenheimer (1984). The T2U intervention program has been offered a number of times: twice at Wilfrid Laurier University (e.g., Lamothe et al., 1995; Pancer, Pratt, & Alisat, 2006; Pratt et al., 2000) and twice at Towson University (Ayers, Mattanah, Brooks, Quimby, & Brand, 2006). The program has been successful in bringing about positive outcomes in many different areas and is currently undergoing another round of data collection at three universities across Canada and the United States.

In the T2U intervention, first year students are organized into small groups of approximately 10 participants in each group. These groups meet on a regular basis in order to discuss transition-related issues (e.g., balancing work and social life, maintaining previous social ties). The premise of the intervention is that the group participants act as a social support network for one another as students all cope with the transition to university. Many past participants have commented on how reassuring it was to know that their peers were feeling and experiencing the same things they were. The group gives students the chance to discuss issues they are dealing with and receive tips and advice from fellow group members.

Results from this intervention are quite promising. Despite a sleeper effect, whereby benefits of the intervention typically are not seen until the semester after it is completed (e.g., Ayers et al., 2006; Pratt et al., 2000), participation in the intervention has been associated with many positive outcomes. Overall, the students who participated in the intervention showed better adjustment to university (Ayers et al., submitted; Pratt et al., 2000). Women who took part in the intervention scored significantly higher on social

support, and significantly lower on depression compared to women in the control group, though no group differences for men were found (Pratt et al., 2000). Additionally, intervention participants were also less likely to smoke, and skip class compared to members of the control group (Pratt et al., 2000). Participants who took part in the intervention also reported feeling more connected to their college campus compared to students in a control group (Ayers et al., 2006).

In a follow-up of Pratt et al.'s (2000) participants in their fourth year of university, Pancer, Pratt, Hunsberger, Alisat, and Berkeley (submitted ms.) examined the long term effects of the T2U intervention at Wilfrid Laurier University. Four years after their participation in the T2U intervention, intervention participants scored higher on measures of self-esteem, social support and adjustment, and lower on measures of perceived stress compared to participants in the control group. Students from the intervention condition missed significantly fewer classes, consumed fewer alcoholic drinks a week, and got drunk less than their peers from the control group. Intervention participants also gave more positive responses to open-ended items assessing their university experience compared to control participants. Most importantly, participation in the T2U intervention was significantly associated with a lower drop-out rate from the university. A total of 28% (14 out of 50) of the participants in the control group left the university without completing their degrees. In comparison, 7.8% (4 out of 51) of the intervention participants left the university without attaining their degrees. Further analyses revealed that students who subsequently withdrew from the university without completing their degrees scored lower on measures of adjustment in November of their first year compared to students who persisted to degree completion.

Results from this body of research demonstrate the effectiveness of the T2U program in facilitating the transition to university. Since a sense of identity also influences how well students navigate the transition to university (e.g., Berzonsky & Kuk, 2000), it seems possible that the T2U program is successful, at least in part, because of its ability to facilitate identity development. The purpose of the present research was to examine the effect of the T2U program on identity development, as assessed in terms of both identity status and narrative identity.

There are many aspects of the T2U intervention that make the program well-suited to the facilitation of identity development. Marcia (1983a) proposed three factors that catalyze exploration, and subsequently identity development: confidence in parental support, a sense of industry, and a self-reflective approach to the future. The T2U intervention touches on all three of these factors.

While the participants may not all interact with their parents on a regular basis, they received support from the facilitators and group members during their university transition. In fact, research has shown that attachment to peers is a significant predictor of identity in undergraduate students (Lapsley et al., 1990). In the T2U intervention, the regular meetings provide students with a secure base; no matter how stressful their lives become, students can rely on the support they receive during the weekly meetings. Students are encouraged to share their experiences and receive sympathy and advice from fellow group members and facilitators throughout the process. Related specifically to issues of parental support, the facilitators discussed the changing nature of students' relationships with their parents, and ways in which they could approach parents for support for any issues they may be faced with. For example, students discussed how best

to deal with their parents when returning home on weekends or during breaks for visits when parents may not have changed rules regarding issues such as curfew, but students feel they deserve greater responsibility since they have shown themselves capable of living on their own. Therefore, the T2U program provides students with peer support, but could also assist them with the development of stronger parental support networks by providing them with strategies for dealing with their parents.

Though it has never been empirically examined, the program may also foster a sense of industry through many of the activities students participate in during the meetings. Many of the focused activities involve students developing possible solutions to dilemmas faced by many first year students. Students work together to generate these solutions and are encouraged to test them out in their everyday lives. This ability to generate solutions and the success seen from the implementation of these solutions instills a sense of self-efficacy and industry in the program participants. This process of developing solutions allows them the opportunity to feel like effective agents for change in their own lives, thus bolstering their sense of self-confidence.

A large part of the T2U program deals with planning for the future, whether it is time management and study skills, or thinking about living arrangements for second year. Facilitators raise these topics early in the discussion group to get students to think about and plan for the future. Students were always encouraged to think about the future, whether it was weeks ahead, or years ahead. Focused activities on time management assist students in developing a strategy for balancing their current work and social situations. In terms of thinking even further ahead, a session focused on plans for the following year. In this session students discussed factors to consider when selecting

courses, they examined what factors were important when making decisions regarding their living situations, and roommate selection for the following year. On a broader scale, students also discussed goals for the future (e.g., career goals) and how attending university fit into these goals. All of these activities promoted future-oriented thinking in the program participants.

The activities planned for the T2U program provide students with social support, build a sense of industry, and encourage a self-reflective approach to the future. These factors make the T2U program ideal for the development of identity in program participants.

Programs such as the T2U intervention seek to assist students with the stressful adjustment to university. For many adolescents, the transition to university is the most significant life transition they have experienced in their young lives. How well the transition to university is navigated has important implications for future academic success. As if the transition to university were not stressful enough, it is further complicated by the fact that many students are concurrently developing a sense of identity which has been found to both influence the transition to university and be influenced by students' post-secondary experience. With the importance of identity firmly established, it would be beneficial to examine what factors affect the development of an achieved sense of identity. Research points to three factors as precursors to identity development: confidence in parental support, a sense of industry, and a self-reflective approach to the future. Many components of the T2U program develop these three factors in program participants, and this program has proven successful in many ways such as reducing student attrition.

Study 1a

While the T2U program possesses aspects that could prove effective in assisting students with identity development, the effects of the program on identity have not been examined. The goal of study 1a was to examine the effect of the T2U program on identity development, and on adjustment to university. Six hypotheses were proposed for this present research:

1. Participation in the T2U intervention would be related to better university adjustment.
2. Students who are in the higher stages of identity development (i.e., identity achieved or moratorium, and informational identity processing style) will adjust to university better than students who are in lower stages of identity development (i.e. identity foreclosed or diffused and normative or diffused/avoidant identity processing style)
3. Participation in the T2U intervention will be related to the progression to more developed stages of identity.
4. Participation in the intervention will be related to gains in the three mechanisms proposed by Marcia (1983a): social support, a sense of industry, and a self-reflective approach to the future.
5. The mechanisms of identity development (i.e., parental support, sense of industry, and a self-reflective approach to the future) will mediate the relationship between intervention participation and identity development. Therefore, students who take part in the intervention will

experience a positive change in their identity through increases in the mechanisms proposed.

6. Identity development will mediate the relationship between program participation and adjustment to university. Therefore, students who take part in the intervention program will show more positive adjustment to university through identity development.

Despite the transition to university being a uniquely well-suited context to examine identity development and formation, there is a dearth of studies examining this relationship (Lounsbury, Huffstetler, Leong, & Gibson, 2005). The overall goal of study 1a was to examine the effects of a social-support discussion intervention program on identity status development and university adjustment. The role of identity development mechanisms (i.e., social support, sense of industry, and self-reflection regarding the future) were also examined.

Method

Participants

In August of 2006, every third student on the list of entering students for three universities (Queens University in Charlotte, North Carolina; Wilfrid Laurier University in Waterloo, Ontario; and York University in Toronto, Ontario) was sent an introductory letter explaining the T2U project, a consent form to take part in the project, and a link to a questionnaire that they could complete on-line. At Queens University, 261 students were sent invitations, and 1200 students were contacted at both Wilfrid Laurier University and York University.

Of the 2661 students who were sent invitations, a total of 148 participants (Males, $N = 56$, 37.84%; Females, $N = 91$, 61.49%; Missing, $N = 1$, .68%) entering university directly from high school agreed to participate in the T2U project, which included participation in this study. This made for a response rate of 5.56%. Of the 148 participants, 42 were from Queens University in Charlotte, North Carolina, 55 were from Wilfrid Laurier University in Waterloo, Ontario, and 51 were from York University in Toronto, Ontario. The mean age of the participants was 17.89 years, $SD = .88$. Participants were randomly assigned to either the intervention group or the questionnaire-only control group. Attempts were made to keep the gender balance equal in each group, and to keep the groups roughly equal in size; however this was not always possible. Participants who were assigned to the intervention condition, but had schedules that conflicted with the group meetings, or who elected not to take part in the intervention, were reassigned to the control group. Of the 148 participants that took part in this study, 62 were assigned to the intervention condition and 86 were randomly assigned to the control group condition (see Table 1 for a breakdown of participants across universities by group assignment and gender). There were nine groups in total, three at each university. The number of participants per group ranged from 5-10 with a mean of 6.89 participants per group. There were no differences between participants in the intervention and control group in terms of university attended, gender, age, financial status of their families, and their residence plans for September (e.g., living at home with parents, living with a university assigned roommate in residence, etc.)

Participants assigned to the intervention condition took part in the intervention from September through to November for a total of nine group sessions over 10 weeks (a

one week break was taken in the week of the Thanksgiving holiday). All participants, both those in the intervention condition and those in the questionnaire-only control condition, completed questionnaires at three different points throughout the year: in August, 2006, November, 2006, and March, 2007. See Table 2 for a schedule of questionnaire administration by date.

Of the 148 participants who began the study in August, only 74 participants (50.00%) remained after the March administration. Of the 74 participants remaining, 44 were in the control condition (Males, $N = 17$, 38.64%), leaving 30 in the intervention condition (Males, $N = 12$, 40.00%).

Measures

Demographic variables. Demographic information was collected during the first questionnaire participants completed in August, 2006. Information collected included university they were going to attend in September, gender, age, number of siblings, parents' levels of completed education, financial status of their families, and expected residence plans for September (e.g., living at home with parents, living with a university assigned roommate in residence, etc.) There were no differences between participants in the intervention group and the control group on any of the above listed demographic variables.

Identity status. Identity status was assessed using the Objective Measure of Ego Identity Status (OM-EIS) developed by Adams, Shea, and Fitch (1979) (see Appendix A). This measure produces a continuous score for the respondent for each of four identity statuses: 1) identity achievement (six items, e.g., "A person's faith is unique to each individual. I've considered and reconsidered it myself and know what I can believe"), 2)

identity moratorium (six items e.g., “I’m not sure what religion means to me. I’d like to make up my mind but I’m not done looking yet”), 3) identity foreclosure (six items, e.g., “My parents decided a long time ago what I should go into and I’m following their plans”), 4) identity diffusion (six items, e.g., “I don’t give religion much thought and it doesn’t bother me one way or the other). This questionnaire was administered only during the last data collection point, in March, 2007. See Table 3 for descriptive statistics of this scale.

Identity processing style. Identity processing style (see Appendix B) was measured using the Identity Style Inventory (ISI, Berzonsky, 1992). The ISI is made up of four continuous scales. Three of these scales assess the three identity processing styles: informational style (10 items, e.g., “I’ve spent a great deal of time thinking seriously about what I should do with my life”); diffused/avoidant style (10 items, e.g., “I’m not really thinking about my future now; it’s still a long way off”); and normative style (9 items, e.g., “I prefer to deal with situations where I can rely on social norms and standards”). The fourth scale assesses the respondent’s level of commitment to decisions they’ve made regarding their identity (10 items, e.g., “I know what I want to do with my future”). Responses are given on a scale of 1 (not at all like me) to 5 (very much like me). This scale was administered at all three data collection points. See Table 3 for descriptive statistics of this scale.

Mechanisms. To examine the three mechanisms proposed by Marcia (1983a) as precursors for identity exploration and development, the Mechanisms for Identity Development (MID, see Appendix C) was created. The measure assesses social support (e.g., I am able to discuss my problems with my parent), sense of industry (e.g., I feel that

I am capable of many things), and a self-reflective approach to the future (e.g., I often think about where I am going in life). This measure contains 12 items (four items for each mechanism) with responses given on a Likert-type scale ranging from 1 (strongly disagree) to 5 (strongly agree). This measure was administered during the November, 2006 and the March, 2007 data collection points. See Table 3 for descriptive statistics of this scale.

Self-Esteem. The 10-item Rosenberg Self-Esteem Scale (Rosenberg, 1965) was used to assess self-esteem at all three time points: August 2006, November 2006, and March 2007. A sample item from this measure is: "I feel that I have a number of good qualities". Typically, responses for this scale are given on a Likert-type scale ranging from 1 (strongly disagree) to 4 (strongly agree); however, for the purposes of this research, the self-esteem scale was administered in conjunction with many other scales, and for ease of response one common response scale was used. Therefore, in this research, responses were given on a scale ranging from -4 (very strongly disagree) to +4 (very strongly agree). After data entry, the response scale was converted to range from 1 to 9 and summed. See Table 3 for descriptive statistics of this scale.

Stress. Stress was assessed using the Perceived Stress Scale (Cohen, Karmack, & Mermelstein, 1983). The full version of this scale contains 14 items and examines the degree to which the respondent perceives his/her life to be stressful. A shortened 4-item version was used in this questionnaire. A sample item from this questionnaire is: "In the last month, how often have you felt that things were going your way?" Responses were provided on a scale ranging from 0 (never) to 4 (very often), and summed to arrive at a

total score. This scale was administered at all three time points in the study. Descriptive statistics for this scale can be found in Table 3.

Depression. The 20-item Center for Epidemiological Study of Depression Scale (CES-D, Radloff, 1977) was used to assess depressive symptoms. Each item represents a depressive symptom (e.g., “I was bothered by things that don’t usually bother me”), and respondents indicate the extent to which they have experienced those feelings or behaviours over the past week. Responses were given on a scale ranging from 0 (rarely or none of the time) to 3 (most or all of the time). This scale was administered at all three time points. See Table 3 for descriptive statistics of this scale.

Loneliness. The 20-item UCLA Loneliness Scale (Russell, Peplau, & Cutrona, 1980) was used to assess feelings of loneliness. A sample item from this questionnaire is: “I can find companionship when I want to”. Respondents reported the extent to which they experienced each item on a scale ranging from 0 (never experienced this) to 3 (often experience this). This scale was administered at all three time points in the study: August, November, and March. Descriptive statistics for this scale can be found in Table 3.

University adjustment. The 67-item Student Adaptation to College Questionnaire (SACQ, Baker & Siryk, 1984; see Appendix D) was used to assess students’ adjustment to university in four different domains: 1) the academic adjustment subscale assesses the extent to which the student is adjusting to the academic demands of university (e.g. “I have been keeping up to date on my academic work”), 2) the social adjustment subscale refers to how the student is adjusting to the interpersonal-societal demands of university (e.g. “I feel that I fit in well as part of the college environment”), 3) the personal-emotional adjustment subscale examines how the student feels both psychologically and

physically (e.g. "I have been feeling tense or nervous lately"), 4) the goal commitment/institutional attachment subscale assesses the student's feelings about being in university and also examines the specific feelings that he/she holds regarding his/her specific school (e.g. "I am pleased now with my decision to go to college"). All responses are made on a 9 point scale, ranging from -4 (applies very closely to me) to +4 (doesn't apply to me at all). These scores are then converted to 1 to 9 and summed. Higher scores indicate better adjustment to university. This measure was administered during the November and March data collection points. See Table 3 for descriptive statistics of this scale.

Procedure

Pre-intervention. In early August 2006, students received an introductory letter, a consent form, and a link to an on-line questionnaire which included demographic measures, the identity processing style measure and additional measures not related to this study. The introductory letter explained the general purpose of the research, invited participants to take part in the study and to show their agreement by completing the consent form and the on-line questionnaire before the end of August 2006. Participants were randomly assigned to either a questionnaire-only control group, or the intervention group. Efforts were also made to ensure that groups had equal numbers of males and females. In total, there were nine groups, three at each university.

Group facilitation. A total of 7 male and 9 female senior undergraduate and graduate students were trained as group facilitators by faculty investigators during several training sessions. Training was comprised of reading and discussing relevant literature, faculty presentations, and role-playing exercises. A thorough review of the training

manual developed by Hunsberger, Pancer, Pratt, Alisat, and Tieu (2006) was also undertaken. The manual covers the training process, the role of the group facilitators, the schedule, materials that are used for the group meetings, how to handle issues that arise and issues related to the programming and the activities. All sessions were audio-recorded and faculty supervisors reviewed and discussed the tapes with group facilitators.

Each group was facilitated by two individuals, one male and one female. Group leaders met with faculty supervisors weekly to discuss issues that arose in the discussion groups, to prepare for upcoming sessions and to ensure continuity in the way that the program was delivered across groups. To assist with continuity, group facilitators were also provided with written outlines and materials for each session. These materials can be found in the training manual (Hunsberger et al., 2006).

Intervention. The two group facilitators for each group met individually with all of the participants in their group prior to beginning the intervention (each facilitator meeting with one half of the group members). The purpose of this meeting was to establish rapport, create a comfortable atmosphere for the participants, and to answer any questions participants had.

The social support intervention consisted of nine sessions, with each session lasting between 75 to 85 minutes. The first session took place during the first week of classes. All subsequent meetings occurred at the same time and place every week for the entire nine weeks of the intervention. The intervention began in September 2006 and ended in November 2006.

The meetings all followed a somewhat standardized format. With the exception of the first meeting, all sessions began with a 20 minute “check-in” portion, when the group

participants discussed the events of the week and any issues that arose. For the next 20 to 25 minutes, students took part in semi-structured exercises, which led to a discussion session based on the exercise and a standardized list of questions from the training manual. At the end of each session, the facilitators instructed the participants to complete evaluation forms assessing the meeting that just occurred. Once the participants left, the facilitators then completed their own evaluations of the session. Neither the facilitators' evaluations nor the participants' evaluations of the sessions are relevant to this study, and therefore will not be discussed. However, a cursory review of the evaluation forms completed at each session indicate that participants generally found the sessions to be moderately, to very useful to them. Below is a brief description of the meeting topics:

Session 1: The *introduction* first session allowed participants the chance to get acquainted with one another through icebreakers. Participants got into partners and interviewed one another and then introduced each other to the group. Next, participants were provided with more detail regarding the intervention. Facilitators then went over guidelines for behaviour (e.g., confidentiality) with all of the participants. During this session participants had the opportunity to discuss their expectations regarding university and their initial impressions. At the end of the session, participants and facilitators completed evaluation forms on the activities of the week and the discussion; the topic for the following week was also introduced. This wrap-up portion and the evaluation forms were part of every session.

Session 2: The topic for this week was *new social ties*. During this session, participants learned and discussed different strategies for meeting new people. Participants then took part in an exercise that examined where and how they have met

new people while at university. From here, participants discussed strategies for meeting new people. This discussion was led by the facilitators, who were equipped with discussion questions that appear in the training manual designed to provoke discussion.

Session 3: The topic of the third meeting was *diversity*. For many students entrance into university marked the first time that they came across people of different cultures, sexual orientations or lifestyles. The aim of this session was to discuss issues of diversity and tolerance. Participants conducted cultural interviews with a partner which allowed them the chance to learn more about the cultural backgrounds of their fellow group members. Next, they read and discussed vignettes regarding cultural discrimination and issues related to sexual orientation. During the general discussion participants had the opportunity to raise issues related to diversity, including how the cultural climate at their university compared to their high school, and how they could encourage tolerance in their university community.

Session 4: The topic of the fourth meeting was *balancing work and social life*. Participants spent 10 minutes brainstorming strategies on how to balance work and social aspects of life. The discussion for this session covered what resources were available for academic and social support and how to strike a balance between academic and non-academic involvement.

Session 5: The topic for this meeting was *existing social ties*. This meeting coincided with students' returning from Thanksgiving weekend or fall term break, which students often spent in their hometowns with their families. Discussion this week examined how students could maintain contact with family, friends and romantic partners from home. Participants were asked to generate a list of individuals in their social support

network before they went to university. They were then asked to examine and discuss how their relationships with these people have changed since they started university, whether this change had been desirable, and techniques for maintaining these social connections.

Session 6: *Peer pressure and personal values* was the topic of the sixth session. During this session, participants went through scenarios that covered issues such as drug and alcohol use, and sexual behaviour. Students also had the opportunity to discuss strategies aimed at dealing with these issues. Discussion focused on group members' experiences of peer pressure that challenged their personal values and strategies for dealing with these situations. Again, discussion was guided by questions provided to the facilitators.

Session 7: The focus of this session was *academic expectations and reality*. This meeting occurred around the same time that students received their midterm grades. Discussion centered on academic issues such as grading and marks in university compared to high school. The activity for this session required the participants to read vignettes about students having problems common to making the transition to university (e.g. trouble with roommates, studying for a midterm). Students discussed whether these problems were typical and ways to handle such issues. Students also had the chance to discuss their expectations and the reality of their experiences. This discussion was also guided by preplanned questions found in the training manual.

Session 8: The topic for this session was *making the best out of your university experience*. The goal of this session was to discuss how students could optimize their university experience. Students were encouraged to consider how connected they felt to

their universities, and whether the school they were attending was right for them. Students were also asked to reflect on their relationships with professors, teaching assistants, and other university staff. Students were also asked how they have felt about registration and course selection. For the focused activity, students were asked the week before to write down a positive or a negative experience they had had with university. Students were then encouraged to share these with the group. Based on these scenarios the group developed a list of factors that made the school environment good, and not as good. The general discussion covered topics such as advice they would give to new incoming students next year, and how much they felt the university they had chosen was a good match with their skills and personalities.

Session 9: The focus for this week's session was on *dealing with home and school life*. Discussion for this session focused on students' current living arrangements and their plan for next year's living arrangements. Students discussed how they planned to select roommates for next year, and what factors they should consider when renting housing. Effort was made to include commuter students (students living at home with parents) in this discussion. For example, groups discussed how commuter students could establish independence from parents, and how they could help their parents deal with the student's new role as a university student, rather than a high school student.

Follow-up data collection. Students in both the intervention and control group conditions were contacted in November, 2006, and March, 2007 to complete the follow-up questionnaires. Students were contacted via an invitation sent over electronic mail to the email address they gave when enrolling in the study. The invitation included a link to a webpage where participants could complete the questionnaires online. At both follow-

up data collection points, two reminder emails, encouraging students to participate, were sent out two weeks, and three weeks, respectively, after the original follow-up email was sent. While there was no incentives for signing up to participate in the study in August, participants were given \$10.00 for completing the follow-up questionnaire in November, and \$20.00 for completing the March follow-up questionnaire.

Results

Six hypotheses were proposed which examined the relationship between identity and university adjustment in first year students who took part in the Transition to University (T2U) intervention program. There were five participants (Males: $N = 3$) who were assigned to the intervention condition, but attended three or fewer group sessions. All analyses were conducted removing these five participants and the same pattern of results was found. With this in mind, the results presented below are conducted including all the participants.

Identity was conceptualized and measured in two different ways: one approach involved the assessment of students' identity processing styles, the approach they take when dealing with identity-relevant information (measured using the Identity Style Inventory, ISI, Berzonsky, 1992); the other approach assessed participants in terms of their ego-identity status (Marcia, 1966), which was measured using the Objective Measure of Ego Identity Status (OM-EIS, Adams et al., 1979). The mean scores, standard deviations, and Cronbach alphas for the identity measures can be found in Table 4, and the correlations between the two identity status measures can be found in Table 5. Adjustment to university was measured in a holistic fashion by considering adjustment, not just in terms of academic adjustment (e.g., GPA), but also by examining social

adjustment, emotional adjustment, and students' perceived connection to their university as measured by the Student Adaptation to College Questionnaire (SACQ, Baker & Siryk, 1984). The mean scores, standard deviations, and Cronbach alphas for the SACQ and its subscales used can be found in Table 6.

All results with significance levels of .05 or less were considered significant. Marginally significant results were those with significance levels between .10 and .06. Any results with significance levels of .11 or greater were considered not to be significant.

T2U Participation and University Adjustment

It was hypothesized that participation in the T2U intervention would be related to better adjustment to university. A 2 (group) x 2 (gender) x 2 (time) repeated measures analysis of variance (ANOVA) was conducted to examine the effect of intervention participation on adjustment scores as assessed by the total SACQ score over November and March (within-subjects variable). School attended, gender, age, familial financial status, and residence plans were entered in as covariates. There were no significant findings for the main effect of group, $F(1, 52) = 1.97, p = .17$; or time, $F(1, 52) = 0.12, p = .73$. However there was a marginally significant effect of gender, $F(1, 52) = 3.33, p = .07$, with the males ($M = 396.11, SD = 68.91$) scoring higher on overall university adjustment than females ($M = 383.08, SD = 66.10$). Examination of the two way interactions revealed no significant effects for the group x gender interaction, $F(1, 52) = 2.35, p = .13$; for the group x time interaction, $F(1, 52) = 0.22, p = .64$; or for the gender x time interaction, $F(1, 52) = 0.03, p = .86$. The three way interaction between group, gender, and time, was also not significant, $F(1, 52) = 1.11, p = .30$.

Similar 2 (group) x 2 (gender) x 2 (time) repeated measures ANOVA's were conducted with scores from November and March on each of the SACQ adjustment subscales. First differences in the academic adjustment subscale were examined. There were no significant main effects found for group, $F(1, 52) = 1.79, p = .19$; gender, $F(1, 52) = 2.66, p = .11$; or time, $F(1, 52) = 0.62, p = .44$. Examination of the two way interactions revealed no significant effects for the group x gender interaction, $F(1, 52) = 0.20, p = .66$; for the group x time interaction, $F(1, 52) = 0.82, p = .37$; or for the gender x time interaction, $F(1, 52) = 1.48, p = .23$. With respect to the academic subscale of the SACQ, the three way interaction between group, gender, and time, was also not significant, $F(1, 52) = 0.04, p = .84$.

A 2 (group) x 2 (gender) x 2 (time) repeated measures ANOVA was conducted with scores from November and March on the social adjustment subscale of the SACQ. With regard to main effects, no significant effects were found for group, $F(1, 52) = 1.24, p = .27$; gender, $F(1, 52) = 0.48, p = .49$; or time, $F(1, 52) = 2.55, p = .12$. Examination of the two way interactions revealed a marginally significant group x gender interaction, $F(1, 52) = 2.30, p = .10$. Simple effects analyses, collapsing across time, revealed an effect of group participation for women, such that women in the intervention group ($M = 128.40$) scored higher than women in the control group ($M = 110.32$), $F(1, 31) = 5.42, p = .03$, but no significant group effects were found for men ($M_{control} = 112.41, M_{intervention} = 117.92$), $F(1, 17) = 0.003, p = .96$. See Figure 1 for a graph of the means. There were no significant effects for the group x time interaction, $F(1, 52) = 0.57, p = .45$; or for the gender x time interaction, $F(1, 52) = 0.33, p = .57$. There was no significant effect of the three way interaction, $F(1, 52) = 2.49, p = .12$.

Similar analyses were conducted on the personal-emotional subscale of the SACQ. There were no main effects of group $F(1, 52) = 0.19, p = .67$; or time $F(1, 52) = 0.74, p = .39$. However, there was a main effect of gender, $F(1, 52) = 11.42, p = .001$, which was qualified by a significant group x gender interaction, $F(1, 52) = 4.32, p = .04$. Simple effects analyses, collapsing across time, revealed that there were no group differences for men, $F(1, 17) = 1.83, p = .19$. However, a marginally significant group effect was found for women, $F(1, 31) = 3.65, p = .07$, with women in the intervention group scoring higher than women in the control group, ($M_s = 80.70$ and 72.01 , respectively). A graph of the means can be seen in Figure 2. There were no significant effects for the group x time interaction, $F(1, 52) = 0.23, p = .64$; or for the gender x time interaction, $F(1, 52) = 0.28, p = .60$. Additionally, the three way interaction between group x gender x time was not significant, $F(1, 52) = 0.19, p = .66$.

Lastly, a 2 (group) x 2 (gender) x 2 (time) repeated measures ANOVA was conducted with scores from November and March on the institutional attachment subscale of the SACQ. No significant effects were found for group, $F(1, 52) = 1.20, p = .28$; gender, $F(1, 52) = 0.14, p = .71$; or time, $F(1, 52) = 0.01, p = .93$. Examination of the two way interactions revealed no significant effects for the group x gender interaction, $F(1, 52) = 1.99, p = .16$; the group x time interaction, $F(1, 52) = 0.76, p = .39$; or the gender x time interaction, $F(1, 52) = 0.002, p = .97$. Results revealed a marginally significant three way interaction, $F(1, 52) = 2.87, p = .10$. Examination of the simple effects revealed no significant group x time interaction for men, $F(1, 17) = 0.58, p = .46$ (see Figure 3a). However, there was a marginally significant group x time interaction for women, $F(1, 31) = 2.87, p = .10$. Further investigation showed that in November, there

were no group differences in scores between females in the control group and the intervention group, $F(1, 62) = 1.58, p = .21$, however group differences were found in March, $F(1, 39) = 6.48, p = .02$, with women in the intervention condition scoring higher than their peers in the control condition ($M_s = 109.59$ and 92.06 , respectively). A graph of the women's means can be seen in Figure 3b.

Generally, the results indicate partial support for the first hypothesis that participation in the T2U intervention would be related to better adjustment to university. More specifically, there were marginally significant group effects for women, such that women who took part in the intervention showed better adjustment to university compared to women in the control group. Participating in the intervention was related to significantly higher scores on personal-emotional adjustment for women in the intervention group compared to women in the control group. Lastly, in terms of attachment to the university institution, by March, women in the intervention group were reporting more attachment to their school (and university in general) compared to women in the control group. Overall, it seems that for women, participation in the T2U intervention is related to better university adjustment in social, personal-emotional, and institutional attachment domains.

Identity Development and University Adjustment

The second hypothesis proposed that students who had progressed further in their identity development (e.g., were more identity achieved, or tended to adopt a more informational identity processing style) would adjust better to university compared to students who were less developed in terms of their sense of identity. Correlations between these variables can be found in Table 7. Having an achieved identity status was

positively related to overall adjustment to university, $r(59) = .36, p = .005$; as well as academic, $r(59) = .33, p = .01$; and social adjustment, $r(59) = .26, p = .04$; and institutional attachment in November, $r(59) = .34, p = .007$; as measured by the SACQ. While achieved identity status was not correlated with adjustment in March, $r(71) = .16, p = .18$; diffused, $r(59) = -.30, p = .01$; and moratorium identity statuses, $r(71) = -.28, p = .02$; were negatively related to overall adjustment to university, and academic adjustment in March as measured by the SACQ (diffused: $r(59) = -.35, p = .002$; moratorium: $r(71) = -.27, p = .02$).

To test whether students' identity statuses were related to university adjustment, multiple regression was used with the four measures of identity status as measured by the OM-EIS in March predicting students' total scores on the SACQ in March. The school students attended, gender, age, financial status, and residence plans were also entered to control for their effects. Results revealed a significant overall model, $F(9, 62) = 2.07, p = .05$. Further examination revealed that identity achievement scores were positively related to adjustment scores, $t(62) = 1.97, p = .05$, indicating that students who were more identity achieved showed higher adjustment to university as well. The remaining three identity statuses (moratorium, foreclosed, and diffused) were not significantly related to university adjustment, $t(62) = -1.32, p = .19$; $t(62) = -1.02, p = .31$; $t(62) = -0.65, p = .52$, respectively. Regression results can be found in Table 8.

Unlike the OM-EIS, the ISI was administered at all three time points in the study: August, November and March (correlations between the three different processing styles at all three time points can be found in Table 9). Correlations between the identity processing styles as measured by the ISI and the SACQ can be found in Table 10. The

general pattern of findings show that participants' level of commitment to their identity processing style, $r(99) = .42, p < .001$; as well as informational, $r(98) = .37, p < .001$; and normative processing styles, $r(98) = .25, p < .01$; as measured in August, were positively related to university adjustment in November as measured by the SACQ, and diffused identity processing style was negatively related to adjustment, $r(98) = -.34, p = .001$. Participants' level of commitment to their identity processing style, $r(97) = .48, p < .001$; as well as informational processing style, $r(97) = .43, p < .001$; measured in November was related to concurrent university adjustment. Only participants' level of commitment to their identity processing style as measured in March was related to November university adjustment, $r(57) = .38, p = .003$. When March adjustment to university was examined, a negative relationship was found with diffused identity processing style as measured in August, $r(70) = -.32, p = .007$. Identities processing style commitment, $r(56) = .39, p = .003$; as well as informational, $r(56) = .45, p = .001$; and normative processing styles, $r(56) = .29, p = .03$; as measured in November were positively correlated with March university adjustment, while diffused identity processing style was negatively correlated, $r(56) = -.41, p = .001$. Only commitment to identity processing style as measured in March was related to March adjustment, $r(70) = .37, p = .001$.

In order to test the same hypothesis, that greater progression in identity development was related to better adjustment, a regression was conducted with adjustment to university as measured in November as the dependent variable. The independent variables were the three different identity processing styles: informational, normative, and diffused, as measured in August and November. School attended, gender, age, familial financial status, and residence plans were entered in order to control for their

effects. Results of the regression showed a significant overall model, $F(11, 81) = 3.69, p < .001$. Examination revealed that participants' score on informational identity processing style as measured in November was a marginally significant predictor, $t(81) = 1.93, p = .06$. See Table 11 for results of the regression.

A regression was also conducted with adjustment to university in March as the dependent variable. The independent variables were the three different identity processing styles measured at all three time points, August, November, and March. Again, school attended, gender, age, familial financial status, and residence plans were entered in order to control for their effects. A significant overall model was found, $F(14, 40) = 2.38, p = .02$. Further examination of the predictors revealed that, only scores for informational processing style in November were significant, $t(40) = 2.23, p = .03$.

Results of the regression can be found in Table 12.

Results show support for the second hypothesis, that students who had progressed further in their identity development would adjust better to university compared to students who were less developed in terms of their sense of identity. The results from the examining the OM-EIS show a positive relationship between identity achieved status, and adjustment to university. Therefore, as students became more identity achieved, they adjusted to university better. With respect to the ISI, having an informational identity processing style was also found to be positively related to university adjustment.

T2U Participation and Identity Development

To test hypothesis three, that participation in the T2U intervention would be related to the progression to more developed stages of identity, a 2 (group) x 2 (gender) x 3 (time) repeated measures ANOVA was conducted. A composite score for identity

processing style was computed by subtracting scores on normative and diffused processing style from the score for informational processing style; higher scores indicate more informational styles of identity processing. University attended, age, financial status, and residence plans were all entered in as covariates. There was no significant main effect of group, $F(1, 47) = .50, p = .48$, or time, $F(2, 94) = 1.35, p = .27$. Results did reveal a significant main effect of gender, $F(1, 47) = 10.61, p = .002$ with males scoring higher than females ($M = -14.97$, and $M = -21.34$, respectively). The group x gender interaction was not significant, $F(1, 47) = 1.06, p = .31$. Additionally, no significant effects were found for the group x time interaction, $F(2, 94) = .52, p = .59$; or the gender x time interaction, $F(2, 94) = 1.55, p = .22$. The three-way interaction (group x gender x time) was also not significant, $F(2, 94) = 0.20, p = .82$.

To test whether participation in the T2U intervention was related to gains in identity as measured by the OM-EIS, a 2 (group) x 2 (gender) ANOVA was conducted. The dependent variable used was the identity maturity index (IMI; Mackey, Arnold, & Pratt, 2001). Similar to the composite created for identity processing style, the IMI is a composite score created by subtracting scores for moratorium, foreclosed and diffused statuses from scores on achieved status; higher scores indicate more advanced identity development. Again, university attended, age, financial status, and residence plans were entered as covariates. Since the OM-EIS was only administered in March, no baseline data was available to account for any pre-existing differences. As a result, the decision was made to enter the composite score for identity processing style in August as a covariate to account for some pre-existing differences in terms of identity. There was a significant main effect of group, $F(1, 60) = 3.91, p = .05$. Participants in the intervention

group had higher scores on the IMI compared to participants in the control group; the means for both groups were -36.71 ($SD = 18.50$) and -44.66 ($SD = 21.12$), respectively. Examination of the results showed that the main effect for gender was not significant, $F(1, 60) = 0.03, p = .86$. The two-way interaction of group x gender was also not significant, $F(1, 60) = 0.27, p = .60$. The means for participants on the OM-EIS can be found in Table 13.

In order to gain a better understanding of the relationship between intervention and development of identity status, the same analyses were conducted separately on each of the four identity statuses. Results examining the impact of the intervention on identity achievement found no significant main effects of group, $F(1, 64) = .01, p = .94$; or gender, $F(1, 64) = .00, p = .99$. The two-way group x gender interaction was also not significant, $F(1, 64) = .01, p = .91$. Similar results were found when the moratorium identity status was examined. There were no main effects of group, $F(1, 64) = 1.66, p = .20$; or gender, $F(1, 64) = .37, p = .55$; and the two way interaction of group x gender was not significant either, $F(1, 64) = .73, p = .40$.

When the foreclosed identity status was examined, a different pattern of results were found. There was a marginally significant main effect of group, $F(1, 64) = 3.64, p = .06$, with participants in the control group scoring higher on foreclosure compared to participants in the intervention group ($M = 22.38$, and $M = 19.03$, respectively). There was no significant main effect of gender, $F(1, 64) = .08, p = .78$. The group x gender interaction was also not significant, $F(1, 64) = .001, p = .97$.

Lastly, the impact of the intervention on diffused identity status was examined. Results show a marginally significant main effect of group, $F(1, 64) = 3.26, p = .08$, with

participants in the control group scoring higher than participants in the intervention group ($M = 27.67$, and $M = 24.70$, respectively). The main effect for gender was not significant, $F(1, 64) = .36, p = .55$; and neither was the group x gender interaction, $F(1, 64) = .40, p = .53$.

There was partial support for the third hypothesis, that participation in the T2U intervention would be related to the progression to more developed stages of identity. While there were no effects of the intervention for identity processing style, significant effects were found for identity status. More specifically, participants who took part in the intervention scored higher on the identity maturity index (a composite score based on the four identity statuses) compared to participants in the control group. When each identity status was examined separately, marginally significant findings were seen for the foreclosed identity status, such that taking part in the intervention was related to lower on foreclosure compared to participants in the control group. Taking part in the intervention was also related to significantly lower scores on identity diffusion compared to the control group. Therefore, it seems that in terms of identity status, taking part in the intervention led to improvements in the less developed, and more negative, identity statuses: foreclosure and diffusion.

Mechanisms of Identity Development – Descriptive Statistics

Research was also conducted into the mechanisms which were proposed to facilitate the process of identity development. Specifically, Marcia (1983a) proposed that having confidence in parental support during exploration, possessing a sense of industry or effectiveness, and having a self-reflective approach to the future were all mechanisms which underlie identity development. The Mechanisms for Identity Development (MID)

scale was developed which assessed each of these three mechanisms. The first subscale dealt with parental support. Respondents were asked to think about the parent they felt they would most likely go to for support when answering the questions. Participants were then asked to respond to questions regarding their sense of their own personal capabilities and the amount of thought they had given to their future. All questions were worded in a positive direction; therefore higher scores correspond to greater amounts of the respective mechanism. Descriptive statistics for the MID and its subscales can be found in Table 14.

Correlations were conducted to examine the relationships between the three mechanisms (see Table 15). Examination of the results generally shows significant positive relationships among all the mechanisms, significant r 's range from .29-.76. The only exception is that scores for parental support in November were not significantly related to scores for sense of industry, $r(57) = .19, p = .16$; and future thoughts in March, $r(57) = .19, p = .16$.

Correlations were conducted on scores on the MID, measures of identity (scores on the ISI, and the OM-EIS, and their respective composite scores), and university adjustment (scores on the SACQ and its respective subscales). Refer to Table 16 for the correlations. The correlations were strongest between the MID scores and the most recent preceding and concurrent measures of the variables; more specifically, MID scores in November were most strongly correlated with identity and adjustment measures in August and November, and MID scores in March were most strongly correlated with identity and adjustment measures in November and March.

Overall, it seems that scores on the MID were significantly correlated with measures of identity and adjustment. The overall score on the MID as measured in

November was significantly related to November scores on the SACQ overall, $r(99) = .42, p < .01$; and all four of the subscales of the SACQ, r 's ranged from .23-.40. With respect to the subscales of the MID and university adjustment in November, the sense of industry subscale showed the strongest significant correlations to the SACQ overall, $r(99) = .46, p < .01$; and all the SACQ subscales, r 's ranged from .32-.38. With the exception of emotional adjustment of the SACQ as measured in November, the confidence in parental support subscale of the MID was related to the SACQ total score, $r(99) = .36, p < .01$; and the remaining three subscales, r 's ranged from .22-.41. Lastly, the self-reflective approach to the future subscale was only related to overall adjustment as measured by the November SACQ overall, $r(99) = .21, p < .05$. Closer examination revealed that overall, relationships between all types of university adjustment and the mechanisms were strongest for the sense of industry subscale of the MID. A similar, but weaker pattern of results was seen between November MID scores and March adjustment, and March MID scores and March adjustment (again, refer to Table 16).

Next, the correlations between the MID scores and identity processing style were examined. Generally, with the exception of the confidence in parental support subscale, the MID scores were significantly related to an informational identity processing style in August and November, significant r 's ranged from .24-.63. Overall, in terms of normative identity processing style, with the exception of the self-reflective approach to the future subscale, positive correlations were found with scores on the MID, significant r 's ranged from .22-.46. Significant negative correlations were also seen between MID scores and diffused identity processing style, significant r 's ranged from -.22 to -.26. With regard to identity status, generally, scores on the MID were only found to be

significantly related to scores for achieved identity status, significant r 's range from .33-.40.

Overall, these correlations suggest that a positive relationship exists between the mechanisms of identity development, and adjustment and identity.

T2U Participation and Mechanisms of Identity Development

It was hypothesized that participation in the intervention would be related to gains in the three mechanisms: parental support, sense of industry and having a self-reflective approach to the future. A 2 (group) x 2 (gender) x 2 (time) repeated measures ANOVA was used to test this hypothesis. Time of assessment (November and March) of the mechanisms (MID total score) was the within subjects variable. University attended, age, financial status, and living situation were entered as covariates. Results revealed that there were no significant main effects of group, $F(1, 50) = 0.25, p = .62$; gender, $F(1, 50) = 0.19, p = .66$; or time, $F(1, 50) = 0.02, p = .90$. There was a marginally significant group x gender interaction, $F(1, 50) = 3.50, p = .07$. Simple effects analyses, collapsing across time, revealed that for women, there was a marginally significant effect of group participation, $F(1, 31) = 3.55, p = .07$, such that women in the intervention condition scored higher than women in the control condition on their scores on their mechanisms ($M_s = 53.35$ and 50.05 , respectively). There were no group differences for men, $F(1, 15) = 2.34, p = .15$ ($M = 50.00$ and 50.68 , intervention and control, respectively). A graph of the means can be seen in Figure 4. The two-way interaction of group x time was not significant, $F(1, 50) = 0.11, p = .75$, nor was the two-way interaction of gender x time, $F(1, 50) = 0.04, p = .85$. Results revealed that the three way interaction was not significant, $F(1, 50) = 0.002, p = .96$.

Similar analyses were conducted for each mechanism, as measured in November and March, using the same covariates. A 2 (group) x 2 (gender) x 2 (time) repeated measures ANOVA was used to test for differences in parental support. Examination of the main effects for group, $F(1, 50) = 0.83, p = .37$, gender, $F(1, 50) = 2.52, p = .12$, or time, $F(1, 50) = 1.25, p = .27$, revealed that no significant effects were found. The two-way interaction of group x gender was not significant, $F(1, 50) = 1.78, p = .19$; nor was the group x time interaction, $F(1, 50) = 0.05, p = .83$, or the gender x time interaction, $F(1, 50) = 0.70, p = .41$. Results revealed that the three way interaction was also not significant, $F(1, 50) = 0.65, p = .42$.

With respect to the sense of industry mechanism, a 2 (group) x 2 (gender) x 2 (time) repeated measures ANOVA was used to test for differences. Examination of the main effects showed no significant effects for group, $F(1, 50) = 1.50, p = .23$, or time, $F(1, 50) = 0.02, p = .88$. However, a marginally significant main effect of gender was found, $F(1, 50) = 3.42, p = .07$, with men ($M = 17.58, SD = 2.74$) scoring higher than women ($M = 17.27, SD = 2.38$). The two-way interaction of group x gender was not significant, $F(1, 50) = 0.44, p = .51$; nor was the group x time interaction, $F(1, 50) = 0.81, p = .37$; or the gender x time interaction, $F(1, 50) = 0.004, p = .95$. Results revealed that the three way interaction was also not significant, $F(1, 50) = 0.05, p = .83$.

Lastly, a 2 (group) x 2 (gender) x 2 (time) repeated measures ANOVA was used to test for differences for the self-reflective approach to the future. There was no significant main effect of group, $F(1, 50) = 0.87, p = .36$; gender, $F(1, 50) = 1.86, p = .18$; or time, $F(1, 50) = 0.38, p = .54$. A significant group x gender interaction was found, $F(1, 50) = 5.16, p = .03$. Simple effects analyses, collapsing across time, show that for males,

there was a significant effect of group, $F(1, 15) = 12.55, p = .003$, such that men in the control condition scored higher than men in the intervention condition in terms of having a self-reflective approach to the future ($M_s = 15.45$ and 15.90 , respectively). No group effects were found for the women, $F(1, 31) = 0.95, p = .34$, ($M_s = 16.10$ and 16.74 , control and intervention groups, respectively). A graph depicting the means can be found in Figure 5. The two-way interaction of group x time was not significant, $F(1, 50) = 0.004, p = .95$, nor was the two-way interaction of gender x time, $F(1, 50) = 0.16, p = .69$. The three way interaction was not found to be significant, $F(1, 50) = 0.92, p = .34$.

Results revealed partial support for the fourth hypothesis that participation in the intervention would be related to gains in the three mechanisms: parental support, sense of industry and having a self-reflective approach to the future. In terms of the overall score across the three mechanisms, marginally significant group effects were found for women, such that taking part in the intervention was related to higher total scores for the mechanisms compared to women in the control group. When the mechanisms were examined separately, no group differences were seen for confidence in parental support, or sense of industry. However, when the self-reflective approach to the future was examined, the results seen were opposite of what was hypothesized: men in the control group scored higher on having a self-reflective approach to the future compared to men in the intervention group.

Mechanisms as a Mediator of T2U Participation and Identity

The fifth hypothesis was that the three mechanisms of identity development, parental support, industry, and having a self-reflective approach to the future, would mediate the relationship between intervention participation and identity development. To

examine this hypothesis a theoretical model was developed in which the mechanism of identity development mediated the relationship between participation in the intervention and the three different identity processing styles (see Figure 6). To examine this hypothesis, the theoretical model was tested three different times, once for each of the three different identity mechanisms as measured in March. The model specifies that participation is related to scores on the mechanism which is related to the three identity processing styles as measured in March, informational, normative, and diffused. The identity processing styles as measured in March are also said to be affected by baseline scores of identity processing styles as assessed in August.

Structural equation modeling (SEM) using Amos 16.0 (Arbuckle, 2007) was employed to test the models, and obtain parameter estimates. The results found for each model, testing each mechanism, will be discussed separately. By convention, rectangles represent measured variables, and all unexplained variances corresponding to each measured variable are labeled Z_i . It should be noted that three paths were omitted from this model; the direct effect of participation in the intervention on the three identity processing styles. These represent the hypothesis that the effect of intervention participation on development in the three identity processing styles is fully mediated by the identity development mechanism.

Confidence in Parental Support. There was adequate fit for the model testing parental support as a mediator with two of the three fit indices examined demonstrating good fit, $\chi^2(12) = 20.66, p = .06$, Comparative Fit Index (CFI) = 0.92, Root Mean Square Error of Approximation (RMSEA) = 0.07. Models are said to fit well if there is a non-significant chi-square, if the CFI is .90 or greater, and the RMSEA is .05 or less, with

RMSEA scores of .10 or higher indicating poor fit. The adequate fit of this model (model A) means that it can be reasonably taken as correct (see Figure 7). In order to test whether participation in the intervention has an effect on the parental support mechanism, a second model (model B) had to be tested where the effect of the intervention is set to zero. This is done by setting the regression weight for the path between the intervention and the parental support mediator to zero. Since model A is assumed to be correct, model B with the constrained path needed to also be tested. To test whether model B is better than model A, the change in chi-square must be tested for significance. If a significant change in chi-square is found, then model B is rejected in favour of model A, thus asserting that participation in the intervention is related to scores on the mechanism. In the case of parental support, the additional constraint added for model B resulted in no significant loss of fit, $\Delta \chi^2 (1) = 2.88, p = .09$. Thus, participation in the intervention was not significantly related to the parental support mechanism. Therefore, support for the hypothesis that parental support was a significant mediator of the relationship between intervention participation and identity processing style was not found. Examination of the parameter estimates revealed that only August informational processing style was significantly related to March informational processing style, and August normative processing style was significantly related to March normative processing style.

Sense of Industry. Similar analyses were conducted to test the model with sense of industry as a mediator. Examination of the model revealed adequate fit, $\chi^2 (12) = 18.10, p = .11, CFI = 0.95, RMSEA = .06$. Setting the regression weight for the path between the intervention and the industry mediator to zero resulted in a significant loss of fit, $\Delta \chi^2 (1) = 4.02, p = .04$, therefore indicating that participation in the T2U program was

significantly related to scores of industry. Examination of the path coefficients revealed that a participants' sense of industry only mediated the relationship between intervention participation and informational identity processing style (see Figure 8). Therefore, participants in the intervention program were more likely to experience increases in their sense of industry, which was related to increases in informational identity processing style.

Self-Reflective Approach to the Future. Again, similar analyses were conducted to test a self-reflective approach to the future as a mediator (see Figure 9). Once again, adequate fit was found, $\chi^2(12) = 19.15, p = .09, CFI = 0.94, RMSEA = .06$. When the regression weight was set to zero for the path between the intervention and the reflection on the future mediator, there was no significant loss of fit, $\Delta\chi^2(1) = 0.71, p = .40$. These results indicate that there was no significant effect of the intervention on having a self-reflective approach to the future. While there was no effect of the intervention on participants' self-reflective approach to the future, examination of the path estimates did reveal that having a self-reflective approach to the future was significantly related to gains in informational and normative identity processing styles. Also, it was found that normative processing style in August predicted normative processing style in March.

Once again, there was partial support for the fifth hypothesis, that the three mechanisms of identity development would mediate the relationship between intervention participation and identity development. Confidence in parental support and the self-reflective approach to the future were not found to be significant mediators. However, a sense of industry was a significant mediator of the relationship between participation in the intervention and university adjustment. More specifically,

participating in the intervention was related to an increase in participants' sense of industry, which was found to be significantly related to increases in the informational identity processing style.

Identity as a Mediator between Intervention Participation and Adjustment

It was hypothesized that identity development would mediate the relationship between participation in the intervention and adjustment to university. A theoretical model was developed to test this hypothesis (see Figure 10). Included in the model were August assessments of self-esteem, stress, depression, and loneliness in order to control for any pre-existing differences in adjustment. The ISI composite score from August was also included in order to account for any pre-existing differences. Two different models were tested in order to assess the two different measures of identity development: identity processing style and identity status. A bootstrap procedure (Shrout & Bolger, 2002) was used to test the mediation model. Bootstrapping methodology is a generally acceptable approach and is recommended for testing indirect effects as seen in mediation models (Shrout & Bolger, 2002). Since AMOS would not allow for the bootstrapping procedure to be conducted with missing data in the data set, first the expectation-maximization (EM) algorithm was used to replace missing data (Enders, 2001; Schafer & Graham, 2002). Once a complete dataset was created, the data were analyzed using AMOS' bootstrap procedure with 2000 iterations performed. This means that 2000 samples were created from the original sample of 148 in this data set. Essentially, the original sample of 148 participants acted as a reservoir from which participants were randomly selected until 2000 samples of 148 participants were used to re-estimate the proposed model and path coefficients. The 95% confidence interval (CI) for the mean indirect effect is reported. If

zero is not found in the CI then the indirect effect is considered to be statistically significant at the .05 level, thus showing mediation (Shrout & Bolger, 2002).

Identity Processing Style. Two of the three fit indices (χ^2 , RMSEA) show that the initial model that was tested had poor fit, $\chi^2 (5) = 14.05, p = .02, CFI = 0.97, RMSEA = .11$. In order to improve the fit of the model, an additional path was added which allowed group participation to correlate with depression, which was not significant (see Figure 11). The addition of this path resulted in the model having adequate fit, $\chi^2 (4) = 7.92, p = .10, CFI = 0.99, RMSEA = .08$. The results of the mediational analysis using the bootstrap procedure can be found in Table 17. As can be seen by examining the last row which illustrates the results for the indirect effect, the hypothesis that identity processing style would mediate the relationship between intervention participation and university adjustment was not supported. Therefore, identity processing style did not mediate the relationship between intervention participation and adjustment to university.

Identity Status. Similar analyses were conducted in order to examine identity status, as assessed using the identity maturity index, as a mediator of the relationship between group participation and March adjustment. Again, two of the three fit indices (χ^2 , RMSEA) show that the initial model that was tested had poor fit, $\chi^2 (5) = 14.05, p = .02, CFI = 0.97, RMSEA = .11$. In order to improve the fit of the model, an additional path was added which allowed group participation to correlate with depression, which was not significant (see Figure 12). Once again, the addition of this path resulted in the model having adequate fit, $\chi^2 (4) = 7.92, p = .10, CFI = 0.99, RMSEA = .08$. The results of the mediational analysis using the bootstrap procedure can be found in Table 18. As can be seen by examining the last row which illustrates the results for the indirect effect, there

was a marginally significant finding that the identity maturity index mediated the relationship between participation in the intervention and university adjustment in March, $p = .06$.

There was partial support for the sixth hypothesis, that identity development would mediate the relationship between participation in the intervention and adjustment to university. Identity processing style was not found to be a significant mediator. However, marginally significant effects of identity status were found when the identity maturity index was modeled as a mediator. This seems to indicate that participating in the intervention is related to gains made in identity status, which is then related to more positive university adjustment.

Discussion

The goal of this study was to examine the relationship between identity and university adjustment in first year students who participated in the T2U intervention program. Six hypotheses were advanced to examine these relationships.

T2U Participation and University Adjustment

First, it was hypothesized that participation in the T2U intervention would be related to better adjustment to university. When overall adjustment to university was examined no significant group differences were found. This finding is surprising considering that past research on the T2U Program has found that intervention participants score higher on adjustment compared to participants in the control group (e.g., (e.g., Ayers et al., submitted; Pratt et al., 2000). Examination of the means in this sample show a trend in this direction, with participants in the intervention group adjusting better than control group participants (M s for March SACQ total = 373.88 and 419.31,

respectively). One possible explanation for the lack of findings in this study is the sample size. While the initial sample in August was $N = 148$, only 74 participants completed the SACQ in the March administration, representing a loss of 50% of the sample. Had the retention rate been higher, it is likely that significant group effects would have been found.

While there were no group effects found when examining adjustment to university, the results showed a marginally significant main effect of gender with men scoring higher on university adjustment compared to women. Though previous research examining the transition to university specifically tends not to find similar gender differences, this finding that men appear to adjust to university better than women is consistent with extant research which tends to show that women score lower on other measures of adjustment, such as depression (e.g., Friedlander, Reid, Shupak, & Cribbie, 2007). Another explanation that could account for the finding that men appear to adjust to university better than women could be related to the way in which men are sampled in this research. During participant recruitment for this round of the T2U intervention, and in previous offerings of T2U (Pratt et al., 2000), efforts were made to over-sample men in an effort to get equal numbers of men and women in both the intervention and control groups. As a result, it is possible that in over-sampling men, a more selective sample of men end up in the study; more conscientious men may volunteer to take part in the T2U intervention than would regularly occur if men were recruited in the same fashion as women.

Additional analyses were done to examine whether there were differences in various aspects of university adjustment: academic adjustment, social adjustment,

personal-emotional adjustment, and institutional attachment. With respect to social adjustment, significant group differences were found, with women in the intervention condition scoring higher than women in the control group. In terms of personal-emotional adjustment, similar group differences were found such that women in the intervention group scored higher on personal-emotional adjustment compared to women in the control group. Lastly, examination of a marginally significant three-way interaction showed significant group differences for women on their March adjustment scores. While there were no significant group differences in November, by March, women in the intervention condition scored significantly higher on institutional attachment than women in the control condition.

Overall then, the intervention seems to assist women with the adjustment to university. Women in the intervention condition scored significantly higher than their peers in the control group in terms of social adjustment, personal-emotional adjustment, and developing an attachment to their school and dedication to higher education in general. These findings are consistent with previous research, which has shown that women tend to benefit more from the T2U Program at the end of the first year compared to men (Pratt et al., 2000). It is possible that the intervention makes more of an immediate impact on women due to the social supportive nature of the program. Given that women are more likely to seek social support when adjusting to university (Aspinwall & Taylor, 1992), the social support provided by the T2U Program would assist in fulfilling these needs, and thus work to facilitate a smoother transition for women than men. While it may seem that men who took part in the T2U Program did not adjust any better to university than men in the control group, the extant research on this intervention program

suggest that this is not the case. In a follow-up during their fourth year, of the same sample as examined by Pratt et al. (2000), Pancer et al. (submitted ms.) generally found significant group effects such that participants who took part in the intervention program adjusted to university better than participants in the control group. The finding of group differences, only for women, but not for men, was not seen when these T2U participants were followed up in their last year of university. The results of Pancer et al.'s study seem to suggest that while men in the intervention condition may not adjust any better than men in the control condition initially, the benefits of the intervention manifest themselves by the time the men reach fourth year, with significant overall group differences found in adjustment. One explanation for this time lag in program benefits could be related to the nature of support provided by the T2U intervention. As previously mentioned, women tend to seek social support to assist them in dealing with the transition to university. For men, it is possible that using social support as a tool for dealing with a life transition could be an unfamiliar phenomenon. Consequently, men may not glean as much from the intervention initially, but any usefulness of social support they experience as a result of participating in the intervention may lead them to access social support more frequently as they navigate their university career, which could translate into continual gains in their university adjustment. Support for this argument comes from previous research on the T2U program which showed group differences in social support for women only after first year (Pratt et al., 2000), but overall group differences in social support during the fourth year of university for the same participants (Pancer et al., submitted ms.). This pattern of findings seems to indicate that by fourth year, men in the intervention condition report experiencing more social support compared to men in the control

condition. Therefore, it seems that by fourth year, men in the intervention condition “catch-up” to the women in the intervention condition in ratings of social support that are higher than their peers in the control condition.

Identity Development and University Adjustment

The second hypothesis proposed that students who had progressed further in their identity development (e.g., were more identity achieved, or tended to adopt a more informational identity processing style) would adjust better to university compared to students who were less developed in terms of their sense of identity. When it came to identity statuses, as expected, there was a positive relationship between identity achievement and university adjustment. This finding is consistent with previous research which has shown that individuals who are more advanced in their identity development adjust better to university (e.g., St. Louis & Liem, 2005; Waterman & Waterman, 1970).

In terms of identity processing style, overall, it was found that having an informational identity processing style was related to better adjustment in November and in March. These findings are consistent with other research evidence on identity status, and are also consistent with previous research (e.g., Berzonsky & Kuk, 2000; Seaton & Beaumont, 2008).

It is not surprising that having a more advanced sense of identity is helpful for adjusting to university. Part of identity is the commitment to goals or ideals which have been deeply considered (identity achieved status; e.g., Marcia, 1966), or having a social-cognitive orientation that compels one to seek out, attend to, and process information which could be useful in the development or understanding of one’s sense of identity (informational identity processing style; e.g., Berzonsky, 1988). Both of these factors

would be quite advantageous in dealing with the ups and downs associated with a large life transition, such as the transition to university. Having goals would assist students with being focused on why they are attending university, while paying attention to identity relevant information would assist individuals with being proactive in developing their sense of self through the exploration of the surrounding situations or environments. With this being said, it is clear why assisting students with developing a sense of identity could be quite helpful in not only facilitating a smooth transition to university, but also with equipping students with the skills to deal with life transitions that will come in the future.

T2U Participation and Identity Development

The third hypothesis was that participation in the T2U intervention would be related to the progression to more developed stages of identity. Again, identity was examined in terms of the status approach, and the identity processing style approach. In terms of identity processing style, results revealed no effect of intervention participation. However, there was a significant main effect of gender with men having a more advanced identity processing style compared to women.

In terms of identity status, there was a significant effect due to intervention participation. Participants who took part in the intervention were more advanced in their identity status compared to their peers in the control group, even after controlling for existing differences in identity as measured in August.

Overall, it appears that there was mixed support for the hypothesis that participating in the T2U intervention would be associated with gains made in identity development. There was support in terms of identity status, but not in terms of identity

processing style. One reason for this finding could be related to the different ways identity is conceptualized in these two approaches. Identity status is concerned with how developed participants are in their sense of identity, whereas identity processing style is related to the social-cognitive approach individuals take toward identity-relevant information. Berzonsky (1990) argued that by late adolescence, normally developing individuals will be able to utilize all three social-cognitive identity processing strategies. It is possible that participants' faculty with these three processing styles is well developed by late adolescence, therefore leaving less room for improvement. If by late adolescence, individuals have the skills to evaluate identity relevant information from an informational, normative, and diffused style, the T2U intervention may not be able to produce much further development in these skills. Even though individuals' identity status could be comprised of a combination of the four statuses, there tends to be one status that dominates (Adams et al., 1979; Grotevant & Adams, 1984; Marcia, 1993). The T2U intervention could work to shift the status that is dominant in the participants to one that is more developed.

Therefore, it is possible that identity status is more malleable than identity processing style. It may be more difficult to change an individual's social-cognitive style than it is to motivate individuals to further consider their future goals, ideals, and beliefs. For instance, participating in the T2U program may have assisted participants who were in moratorium to move toward identity achievement. However, this shift would not be seen as a change in terms of identity processing style, since individuals in moratorium and who are identity achieved tend to have informational processing styles, thus showing no change. Also, if participants already have the skills necessary to evaluate identity

relevant information in terms of all three processing styles, participating in the T2U intervention may not produced any further improvements.

Mechanisms of Identity Development

Examination of correlations revealed that overall, scores on the MID were related with measures of identity and adjustment. One possible issue with the questions that appear on the MID, and in fact, on the identity achieved subscale of the OM-EIS, is the fact that all the questions are rather positively worded, with no reverse scored items. For instance, a sample item for the MID says "I know that if I work hard I can do well at almost anything", and a sample item from the identity achieved subscale of the OM-EIS says "It took me awhile to figure it out, but now I really know what I want for a career". With regard to the OM-EIS, the items for identity achieved are ones that individuals would tend to want to score highly on, especially in comparison to the items that tap into the less developed identity statuses (e.g., diffusion - "I'm really not interested in finding the right job, any job will do. I just seem to flow with what is available"). The nature of the positive questions in the MID and the identity achieved subscale of the OM-EIS raise the question as to whether the positive correlations found between these variables, and with adjustment, could be due to social desirability or acquiescence.

In terms of the MID, the possible range for the scores is 12-60 for the overall score, and 4-20 for each subscale. The mean on the MID total score, and the subscales, in both November and March, are quite high ($M_s = 51.41$ and 50.78 , M_s range from 16.41 - 17.59 , respectively) indicating the possibility of a ceiling effect. However, the correlations still follow the expected pattern of the results (i.e., positive relationships between the MID and identity achievement and informational identity processing style,

and negative relationships with diffused identity processing style). In consideration of the possible ceiling effects for the MID, some caution should be exercised in the interpretation of these results. Also, work should be done on the MID to revise the items so that ceiling effects can be avoided. This can be done either through adding negatively worded questions, or by rephrasing the questions to temper their positive tone.

Ceiling effects were not found when the identity achieved subscale of the OM-EIS was examined. The possible score on the identity achieved subscale ranges from 6-54 with a midpoint being a score of 30. The mean for the identity achieved subscale were 33.67 for the control group, and 34.54 for the intervention group, which falls approximately around the midpoint in the range of possible scores. Therefore, it is likely that social desirability in response patterns on the identity achieved subscale of the OM-EIS may not be a factor in the results found.

T2U Participation and Mechanisms of Identity Development

The fourth hypothesis was that participation in the intervention would be related to gains in the three mechanisms which would facilitate identity development: parental support, sense of industry and having a self-reflective approach to the future. When the mechanisms were examined together, it was found that participation in the intervention was related to more gains in the mechanisms for women; however, no effects were found for men. It was also found that women in the intervention condition scored higher on the total score for the mechanisms compared to women in the control group.

Interestingly, when the mechanisms were examined separately, a different pattern of findings was seen. There were no significant effects for parental support. In terms of a

sense of industry, there was a marginally significant effect of gender, with men scoring higher than women.

With regard to having a self-reflective approach to the future, there was a significant effect of intervention participation for men, such that men in the control condition actually had a more self-reflective approach to the future compared to men in the intervention condition. It is possible that men in the intervention were focused on developing ways to deal with their present situation of adjusting to university, and as such, may have been giving less thought to the future. In contrast, the men in the control condition could be more focused on the occupational goals they hope to attain after they complete university, and see the university experience as more of a means of achieving their occupational goals, rather than seeing university as an experience unto itself. For instance, a male in the control condition who is having difficulty adjusting to university may say to himself that he has to “keep the eye on the prize” and push through school in order to get the desired career upon graduation, or he may start to question whether the career goal he has chosen is right for him since the schooling for this career is proving to be so difficult for him. In contrast, a male in the intervention condition who is having difficulty adjusting to university may use the information he learned in the intervention to deal with these issues; he may try to join more campus clubs to become involved in the community and meet more people, or he may try accessing his professors for assistance with difficult coursework. The focus the male intervention participant has on the his present situation may take away from consideration given to the future; this male may feel that he needs to figure out what is happening in his life now, before he can consider the future. As can be seen in these two examples, men who took part in the intervention

may spend more time considering and planning for the present situation, especially as a way of dealing with the transition to university. In contrast, the men in the control group may choose to focus more on the future as the reason why he is in university, and as a way of facing the transition experience. Though the intervention assists participants with the development of a number of different skills and qualities, this finding suggests that more work has to be done to promote future planning and thought. One way to assist all intervention participants, and perhaps men in particular, with developing a self-reflective approach to the future would be to develop a new session for the intervention which could focus on encouraging participants to envision possible aspirations for their future after they complete university. For instance, focused activities could focus on finding out what career possibilities there are for different majors, or what education or experience is needed for different careers.

Overall, it seems that taking part in the intervention is helpful for women in developing their sense of parental support, sense of industry, and having self-reflective approach to the future. It is possible that the social support, discussion group environment may be more helpful to women (Pratt et al., 2000), and as such more conducive to the development of various aspects of their lives such as these identity mechanisms.

Mechanisms as a Mediator of T2U Participation and Identity

The fifth hypothesis was that the three mechanisms of identity development, parental support, industry, and having a self-reflective approach to the future, would mediate the relationship between intervention participation and identity development. A theoretical model was developed, and tested three different times in order to examine each mechanism separately.

The only model that was significant was the model tested for the sense of industry. The results of the model show that participants who took part in the intervention program were more likely to experience increases in their sense of industry, which was related to increases in informational identity processing style.

In terms of a sense of industry, the hypothesis was supported; a sense of industry mediated the relationship between intervention participation and informational identity processing style. However, these findings seem to contradict the findings of hypothesis four where no significant group effects for sense of industry were found. One possible explanation is that there were a number of covariates that were controlled for in hypothesis four, that were not controlled for in the model. Review of the covariates used in hypothesis four show that age was a significant covariate, $F(1, 48) = 5.35, p = .03$. Another possible explanation was that adding university adjustment into the path model, and thus accounting for its effects, may have further teased apart, and revealed, the group effect on industry.

Identity as a Mediator between Intervention Participation and Adjustment

The last hypothesis advanced for study 1a was that identity development would mediate the relationship between participation in the intervention and adjustment to university. Once again, results were mixed. There were no significant findings when identity processing style was examined as the mediator; however, there were marginally significant effects when identity status was tested as the mediator. Therefore, while there was no effect of identity processing style, participation in the T2U intervention is marginally related to better adjustment in university (as measured in March) through the development of individuals' identity statuses. In other words, taking part in the

intervention was associated with more developed identity status, which was, in turn, related to better adjustment to university.

The findings of this hypothesis are similar to the findings of hypothesis three, which was that participation in the T2U intervention would be related to the progression to more developed stages of identity. Similarly, in hypothesis three, significant effects of the intervention were seen when identity status was examined, but not with identity processing style. Once again, it is possible this difference in findings is related to the two ways in which identity is examined and conceptualized in this study. It is possible that facility in all three identity processing styles may be well formed by late adolescence, and as such, the T2U intervention program would have little impact in changing identity processing style. In contrast, participating in the T2U intervention may assist participants with shifting which identity status is the predominant status, toward one that is more developed. In this sense, perhaps changing an individual's identity processing style is more difficult than influencing his/her identity status. In fact, when the model is examined in closer detail, it is clear that the intervention had almost no effect on identity processing style, while some effects were seen with regard to identity status. While some intervention programs have been successful in promoting identity development, few of these interventions examine changes in individual's identity processing style. Future research could examine whether interventions aimed at training individuals to adopt a more informational identity processing style could be effective. Or, research could examine the developmental trajectory of identity processing style.

Study 1b.

While Part 1 of the study examined the effects of the intervention on participants' identity status and identity processing style, the purpose of Part 2 was to examine the effects of the intervention on narrative identity. The concept of narrative identity followed from Erikson's (1963) belief that every individual works to develop their own life story over the life course. Here, the self, or a person's sense of identity, is viewed as the story that describes the individual (McAdams, 1993). A person's sense of identity comes from the development of this life story, which takes place through the experience and interpretation of past life events based on the circumstances of present life experience (Fiese & Sameroff, 1999). One study examining narrative identity, found a relationship between the turning point stories that participants tell and their adjustment to university; students who told turning point stories with more optimistic endings tended to show better adjustment (Dumas, 2005). Though research indicates that a relationship exists between the turning points stories that students tell and their adjustment to university (Dumas, 2005), extant research has not examined whether participation in the T2U intervention is related to changes in narrative identity. Based on previous research, it was hypothesized that individuals who participated in the T2U intervention would demonstrate more advanced narrative identity than individuals who did not participate in the intervention. It was also hypothesized that there would be a positive relationship between narrative identity and university adjustment such that higher scores on narrative identity would be related to more positive scores on university adjustment.

Method

Participants

Of the 148 participants in this study, 56 participants (34 females, 60.71%) provided at least one narrative during the March follow-up. These 56 participants had a mean age of 17.75 ($SD = .79$) during the original August data collection point. Of these 56 participants, 30 were in the control group and 26 were in the intervention group. Refer back to the Participants section of study 1a for further information.

Narratives

Narrative identity was assessed through examination of participants' turning point stories and future script stories. These two stories are aspects of McAdams (1993) life story interview. Turning point stories, which recount a time when individuals experienced a change in themselves, have been used in a great deal of narrative research (e.g. Dumas, 2005; McLean & Pratt, 2006), and have been found to be related to aspects of ego identity (e.g., McLean & Pratt, 2006; Tieu et al., in prep.), personality variables, and individual well-being (e.g., Dumas, 2005). They are particularly well-suited to the study of identity as they involve storytellers recalling a specific event which brought about a change in themselves, or their identities. A future script was also solicited in order to assess participants' thoughts regarding their future goals and identity. A large part of identity development is made up of self discovery and change, and planning and goals for a future self. As a result, the decision was made to solicit these two stories from each participant: a turning point story from the past and a future script story.

Turning point story. Here participants were asked to describe a specific moment or event in their lives that resulted in them experiencing a significant change in

themselves, who they were, or how they thought about themselves (see Appendix E). Participants were also asked to include information regarding what happened, where the event took place, individuals who were there, what they did, what they were thinking and feeling during this event, and the impact of the event, more specifically, what the events said about who they are as a person. The episodes that individuals select reveal what events they consider to be a significant part of their life story, and as such, it is often possible to glean great insight from these events. The turning point story is uniquely suited to the study of identity as it focuses on changes in the individuals and their sense of self. Furthermore, the turning point story has been used extensively in previous research when examining narrative identity (e.g., McLean & Pratt, 2006; Tieu, Dumas, & Pratt, 2007).

Future script. In this part of the interview participants were asked to reveal what their scripts or plans were for their futures. Participants were asked to think about what their plans were for the next step in their lives and to describe this plan in detail. They were then asked to discuss whether this plan allowed them to be creative in the future and to make a contribution to others (see Appendix E). This part of the interview gave participants a chance to discuss the future chapters in their lives, an important part of identity. It also provided a great deal of information regarding what was important to each participant as their plans for the future tend to reflect their basic wants and needs. The decision was made to solicit a future script because this section of the interview provided insight into what individuals see as their life purposes and what facets of their identity they viewed as salient or significant for their future happiness and success.

Procedure

In March, 2007 participants were sent an e-mail inviting them to complete the last questionnaire of the year for the T2U project. The e-mail included a link to a website where participants completed the battery of measures electronically. In addition to the measures that were included in the November, 2006 questionnaire, participants were asked to provide a turning point story and a future script. Students completed the questionnaires and provided their turning point story and future script online. While traditionally the McAdams life story interview (1993) is conducted with an interviewer asking questions, the decision was made to solicit these narratives online for consistency with previous administrations, in order to reach the maximum number of participants, and for ease of data collection. Though it is possible that there is a great deal of skill variability related to keyboard and computer usage, past successful online administrations of this questionnaire and similar questionnaires (e.g., Dumas, 2005) seem to indicate that contemporary university students experience little difficulty in completing online measures. Additionally, students were also given the name and contact information for a member of the research team whom they could contact if they had questions about the questionnaire.

The decision was made to ask participants to provide stories only at the March, 2007 time point due to the findings of a sleeper effect for the benefits of the intervention (e.g., Ayers et al., submitted; Pratt et al., 2000). Since this sleeper effect has been well documented, it was decided that it would be most efficient to measure narrative identity at the March time point only.

Coding for Turning Point Stories

In order to assess narrative identity, the turning point stories were coded for four different features: theme of the story, depth and detail included in the story, causal coherence, and meaning-making (see Appendix F for the coding manual). First, the turning point stories were coded for the theme of the turning point event. This referred to how the individual had changed, or the aspect of the individual that had changed, as a result of the turning point event. Initially, all the turning point stories were read through, and open-coding on the themes was conducted. More specifically, notes were taken on the ways in which the storyteller noted that he/she had changed as a result of the turning point event. The notes were assessed and it was determined that the turning point stories could be categorized into one of five themes. The stories were then reread and coded for the predominant theme. In cases where more than one theme was present in the turning point story, all themes were noted, and the predominant or central theme was highlighted. There were five possible themes for which the turning point stories could have been coded. One theme was independence; here the turning point taught the storyteller about some aspect of his/her independence (e.g., the ability to care for themselves, etc.). Turning point stories could also contain themes of school and/or work where the person gains a sense of direction regarding what they want to pursue in school, or the career path they would like to follow. Another theme was about relationships. In these stories, the turning point event taught the storyteller something about relationships (e.g., parent-child, romantic, friendship) either in general, or specific to one relationship. Turning point stories that were coded with themes of values were ones where the turning point resulted in a change to one or more of the values that the individual held (e.g., the importance of

empathy, etc.) Lastly, turning point stories could also be about self-realization or personal growth. Here, the turning point allowed the individual to come to some sort of realization about him or herself. This could include discussion of how far the individual has come or grown on a certain dimension, or a realization about responsibilities. The story could also be pivotal in bringing about a change in some sense of identity (e.g., ethnic identity, sexual orientation, etc.)

Turning point stories were also coded for the amount of depth and detail present. Depth and detail had to do with the amount of detail or description the storyteller provides regarding the turning point event, which is similar to the idea of differentiation (McAdams, 1993), the texture, characterization and plot development present in a story. The depth or detail assists a reader in establishing a clearer picture of the characters and events within the turning point. A story would receive a score of 2 if it contained a great deal of detail, and the storyteller was very specific regarding most elements of the turning point story. A score of 1 was given to turning point stories that had some detail, but were also somewhat vague. In these stories there were points where more detail or explanation should have been provided. Lastly, stories would receive a score of 0 if very few or no details were provided. In these stories, a clear explanation of the event was missing, and the reader was left feeling uncertain as to what occurred in the turning point, or what the event was. The decision was made to code for this variable along a scale of 0-2 in order to enhance reliability; it could be difficult to distinguish between nuances in the stories if additional levels were added. Furthermore, research using similar coding schemes also tends to code along a scale with three intervals (e.g., Tieu et al., in prep.) This same logic was used to develop the coding schemes for causal coherence in the turning point stories,

and for exploration, commitment, and pro-sociality coding in the future script stories (a more detailed description of these coding schemes is discussed below.)

Next, the turning point stories were coded for causal coherence. In general, coherence refers to the storyteller's ability to construct and organize the events that have occurred in his/her life into a story (Fiese & Sameroff, 1999). Coherence is being used to assess narrative identity in this study because it is often thought of as being the most important feature of a good story (McAdams, 2006). Habermas and Bluck (2000) originally proposed that there were four types of coherence; however, only causal coherence was coded for in this study. Causal coherence refers to the storyteller's ability to describe how events within the story led to the outcome, or how the events of the story led to changes in the storyteller. Stories that lack causal coherence give the impression that events or changes to the individual occurred by chance, rather than through effort or consideration. Turning point stories that receive the full 2 marks for causal coherence contain clear connections that describe how the events in the story lead to the outcome, particularly to any changes that are experienced related to the self. A story will receive a score of 0 if there is no link explaining how events of the story are related to one another or the outcomes.

Lastly, the turning point stories were coded for meaning-making (McLean, 2005; McLean & Pratt, 2006; Thorne, McLean, & Lawrence, 2004). Meaning-making refers to an individual's ability to glean meaning, whether it is lessons or insights, from life events. Lessons refer to specific learning that generally applies to one event or type of situation, whereas insights refer to broader learning that has been extended and applied to understanding the self or others. McLean and colleagues' idea of meaning-making is

quite similar to one of the four aspects of coherence described by Habermas and Bluck (2000), thematic coherence, which refers to common themes that are seen across an individual's life story, and how individuals interpret their life events in order to give them meaning. The turning point stories were coded based on the meaning-making coding scheme developed by McLean and colleagues (e.g., McLean, 2005; McLean & Pratt, 2006; Thorne et al., 2004). According to this coding system, a response is rated along a 0 to 3 scale. A story received a perfect score of 3 if it demonstrated clear insight where the learning extended past the event itself and could be applied to or resulted in changes to the storytellers' understanding of themselves, the world, or relationships. A score of 2 was given when the story displayed broad meaning, but the meaning was not clearly articulated. Here, the learning may not have been as sophisticated as insight, or may not have been as clearly conveyed. A score of 1 point was given to stories where a lesson was learned. A lesson was defined as a behavioural type of learning, and generally did not extend past the event itself. A story was given 0 points if no learning or meaning was conveyed in the story.

An example of a story which received a score of 2 on depth and detail, 2 for causal coherence, and 3 for meaning-making can be found below. The themes present in this story were themes of independence and values.

“In December of 2006, I had brain surgery as a result of 5 years of health problems. During this time, I realized how many people truly cared about me. I depended more on my faith and religion than ever before. Now, after the surgery, I am a much more independent person. I have a different attitude towards life, because I am grateful that I can now get through a day without feeling sick. I have started living my life differently, because I know that sometimes, time is limited. I can do many more things on my own now, and my expectations of myself are higher, because I can achieve many more things since I am no longer sick.”

This individual received a 2 on depth and detail because of his/her thorough explanation of the event; this person clearly describes what the turning point event is; the storyteller had health problems for five years, which culminated in the individual having brain surgery to address the problems. The storyteller is also specific in describing the ways in which the event changed him/her. This story received a score of 2 on causal coherence because the individual clearly discussed how having brain surgery made change his/her outlook on life, that the experience of being ill brought about the realization that time is limited. The connection between the event of the surgery and the realization is clear. Lastly, this individual's story received a 3 on meaning-making because of the level of learning that occurred. Here the individual displays a sense of clear insight. This is seen in the realization that time is limited; this realization goes beyond learning just related to the central event, which was the illness. Insight is also seen in how the storyteller discussed a new sense of independence that came from becoming well; now, the individual expects more out of him/herself because the illness no longer holds him/her back from accomplishing more.

In contrast, this story received 0's for depth and detail, causal coherence, and meaning-making, and was coded as containing themes of personal growth:

“A turning point in my life was coming to University, not only was it a physical move but it was also charged with emotions and new beginnings.”

This story received a 0 for depth and detail because the storyteller failed to elaborate on the event that occurred. There were no details regarding the event of coming to university, instead there is just a generic statement that coming to university was a turning point. A score of 0 was assigned for causal coherence because the storyteller did

not explain how coming to university led to any particular change in the self. This story also received a score of 0 for meaning-making as no learning is described in the story; it is not clear if the individual learned anything from the turning point event, coming to university.

Coding for Future Script Stories

Similar to the turning point stories, the future script stories were also coded for four features: theme, exploration, commitment, and pro-sociality (see Appendix G for the coding manual). Once again, the future script stories were read and notes were taken on the different themes that emerged. Examination of the notes showed that five themes were predominant in the future script stories. The stories were then read again and recoded based on the new themes that were determined. With regard to story theme, it was possible for each story to include all five themes coded for within it. Therefore, the future script stories were coded for the presence or absence of each theme. One possible theme was school. Here, the storyteller mentioned school in their future, whether it was performance in school currently, or continuation of school beyond their current level of schooling (e.g., graduate school, law school, etc.) Future script stories could also mention work, such as the desired career one would like to have or the general direction one would like their work to follow in (e.g., working in the non-profit sector). Family was another theme that was coded for. This could include discussing the desire to get married, to have children, or relationships with other family members. Future script stories could also include discussion of money; this could be in the form of the desired income one would like, the class one hopes to occupy, or the idea of financial security. Lastly, future scripts could also include the theme of happiness. This desire for happiness in the future

could be conveyed through the desire for happiness in general, or through specific avenues (e.g., finding a job that makes one happy).

Marcia (1966) argued that the identity status that an individual occupied was based on two different factors: the amount of exploration a person had engaged in regarding their sense of identity and the degree to which the individual had committed to the choices he/she made regarding his/her identity. Since having a well-formed sense of identity gives an individual purpose, guides the development of goals, and gives an individual a sense of potential and future direction (Adams & Marshall, 1996; Berzonsky, 1990) the decision was made to code for both the amount of exploration and level of commitment found in the future script story.

In coding for exploration, stories received a score of 2 if they contained a great deal of detail. The storyteller has to be specific regarding elements of his/her future plan story. The detail and specificity indicate that the individual has given careful thought and consideration to what he/she wants. Future script stories which receive a score of 1 are stories where some detail is provided, but not on all elements of the future plans; greater detail could be included. Lastly, stories could receive a score of 0 indicating that there are no details in the story that personalize it. Here, the future plans that are laid out may seem somewhat generic (e.g., I want to graduate, get a job and have a family), and seem to lack any indication that the storyteller has given any great thought to what he/she wants in the future.

Commitment was also coded on a 0-2 scale. Future script stories which received a score of 2 were ones where the individual was definitive in terms of what he/she wanted, without discussing any other options. Stories that were scored 1 were ones where the

storyteller discussed possible paths or options that he/she could take, conveying a sense of flexibility in the plans that were discussed. Future script stories that received a score of 0 were ones where the person did not know what he/she wanted to do. Here there is only a vague description of what the person wants for the future with no mention of any specific options he/she would want to explore.

Lastly, stories were also coded for the presence of pro-social themes. This referred to the extent to which the storytellers included themes of giving back to the community, or helping others. Within these pro-social themes could be the inclusion of elements of generativity. Erikson (1959) defined generativity as having care or concern for future generations. While Erikson proposed that the issue of generativity does not become an important focus until midlife, it has been studied in adolescents and young adults and evidence points to its presence and validity in these earlier stages of life (Lawford, Pratt, Hunsberger, & Pancer, 2005). Additionally, generativity has been found to be related to narrative measures of identity (McLean & Pratt, 2006). In coding for pro-sociality, stories received a score of 2 if there was specific discussion regarding how the storyteller wanted to give back to others, or make a contribution to mankind in some way. Stories would receive a score of 1 if there was vague mention of a desire to make a contribution or give back, but detail regarding how this would occur, or through what means was missing. Lastly, stories received a score of 0 if there was no mention of making a contribution to mankind or future generations, or making a difference in any way. Instead, here stories would centre on the person's own goals for him/herself exclusively.

An example of a story which received a score of 2 on exploration, 2 for commitment, and 2 for pro-sociality can be found below. The theme present in this story was of work.

“I have the intention of graduating from Laurier and applying to teacher's college. From there I would like to teach at the grade seven or eight level. I feel like teaching is one of the most rewarding careers there is as you can feel partly responsible for someone's future. Many kids' role models are teachers and it is important for me to feel like my job is worthwhile and actually useful. Teaching allows me to be very creative in that not every one learns in the same way so I have to mix things up to accommodate everyone. The curriculum is constantly changing and it is necessary to keep up with the times”

This story received a score of 2 on exploration because the plans laid out are specific and rich in personal detail, indicating that the storyteller has given thought and consideration in to what he/she wants in the future; this detail differentiates the story from a generic script for an individual's future plans (e.g., I want to graduate, get a job, get married and have a family). The individual clearly describes, not only what he/she wants to do (teach grade seven or eight), but also why he/she wants to do this. A score of 2 was given for commitment because the person is definitive on the career path of being a teacher. The storyteller does not waiver or provide other possibilities in terms of what he/she could do in the future. A 2 was given for pro-sociality because the storyteller cites that their career choice of being a teacher is rewarding in that it impacts the future of the students being taught. The storyteller also discusses how being a teacher would allow him/her the opportunity to be a role model to students, which illustrates specifically how this individual would be giving back to greater society.

In contrast, this story received 0's for exploration, commitment, and pro-sociality depth and detail, causal coherence, and meaning-making, and was coded as containing themes of school and work:

“I plan to graduate and hopefully land a job through my co-op experience.”

This story received a score of 0 because it lacks any personal details regarding the individual's future plans; there is no discussion of what field the job would be in, what type of job the person wants, or even what program he/she plans to graduate from. A score of 0 was given for commitment because the person does not describe what he or she wants. Though the person states that he/she wants a job, he/she does not commit to the type of job wanted and does not discuss any job possibilities. A score of 0 was also given for pro-sociality since the storyteller makes no mention of any way in which he/she would contribute to greater society or give back to the community.

Results

Descriptive Statistics

All the participants were asked to tell a turning point story and a future script story during the March follow-up of the T2U project. Of the 148 participants who joined the study in August, only 73 participants (46 females, 63.01%) completed questionnaires during the March administration. Of the 73 participants who completed the questionnaire, a total of 56 participants (34 females, 60.71%) told at least one story. Of the 56 participants who told at least one story, 30 were in the control condition (Males, $N = 12$, 40.00%), and the remaining 26 participants were in the intervention condition (Males, $N = 10$, 38.46%). A total of 46 students (83.64%) told a turning point story, and all 56 students told a future script story.

Results of analyses showed that there were no differences between participants who told at least one story, and participants who did not tell any stories on commitment to identity processing style, $F(1, 136) = .09, p = .77$; informational identity processing style, $F(1, 135) = .05, p = .83$; normative identity processing style, $F(1, 135) = .01, p = .94$; and diffused identity processing style, $F(1, 135) = 1.29, p = .26$; as measured at the August baseline. In terms of adjustment measures, there were no group differences seen in August baseline measures of self-esteem, $F(1, 143) = 2.35, p = .13$; social support, $F(1, 141) = .94, p = .33$; and loneliness, $F(1, 138) = .24, p = .62$. There was a marginally significant group difference on the August measure of depression, $F(1, 137) = 2.72, p = .10$, with participants who told at least one story scoring lower on depression ($M = 10.72$), compared to participants who did not tell a story ($M = 13.46$). A significant group difference was found on the August baseline measure of stress, $F(1, 137) = 10.36, p = .002$, with participants who told at least one story reporting less stress ($M = 4.15$), compared to participants who did not tell a story during the March data collection period ($M = 5.64$).

The turning point stories contained an average of 87.91 words, and the future script stories contained an average of 64.59 words. Of the 56 participants who told stories, six were students at Queens University, 28 were students at Wilfrid Laurier University, and 21 were students at York University. Means and other descriptive statistics for the story codes can be found in Table 19. Results of a 2 (group) x 2 (gender) ANOVA, controlling for university, age, financial status, and residence plans, showed no significant main effects of group, $F(1, 38) = 1.93, p = .17$; or gender, $F(1, 38) = .06, p = .81$ on the length of turning point stories told (as assessed by word count). The group x

gender interaction was also not significant, $F(1, 38) = 1.77, p = .19$. Similar analyses were conducted to examine group and gender differences in the length of the future script stories. There were no significant main effects of group, $F(1, 48) = 1.31, p = .26$; or gender, $F(1, 48) = 1.13, p = .29$. However, there was a significant group x gender interaction, $F(1, 48) = 5.28, p = .03$. Simple effects analyses revealed no differences between the intervention group and the control group for men, $F(1, 16) = .21, p = .65$ ($M = 86.75$ and 58.00 , respectively). However, group effects were found for the women, $F(1, 28) = 15.16, p = .001$; such that women in the intervention group wrote longer future script stories compared to women in the control group ($M = 77.63$ and $M = 41.89$). A graph of the means can be found in Figure 13. To account for group differences in story length, the effect of word count was accounted for when testing the hypotheses in this study.

Correlations were conducted between the constructs coded for in both the turning point and future script stories (see Table 20). No specific hypotheses were made regarding the relationships among the story variables. Word count in the turning point stories was significantly correlated with all three constructs coded for in the turning point stories, r 's ranging from .36-.46; and with levels of exploration coded for in the future script stories, $r(45) = .45, p = .002$. The word count for the turning point stories was also very strongly correlated with the number of words in the future plan stories, $r(45) = .79, p < .001$. The constructs coded for in the turning point story (detail/depth, causal coherence, and meaning-making) were all significantly correlated with one another, with r 's ranging from .30-.67. When the word count for the future script stories was examined, significant correlations were found with ratings of depth in the turning point stories, $r(45)$

= .37, $p = .01$; and with ratings of meaning-making in the turning point stories, $r(45) = .32$, $p = .03$. Surprisingly, and unlike the results of the turning point stories, the word count for the future script stories was only correlated with one construct coded for in the same stories; future script story word counts were only significantly related to the amount of exploration seen in the future scripts, $r(55) = .62$, $p < .001$. With respect to the future script story, there was a significant positive relationship between the amount of exploration and detail included in the story and the discussion of generative and pro-social themes, $r(55) = .45$, $p = .001$. In terms of the future script story coding, it is also interesting to note that there was no significant relationship between the amount of exploration coded for in the story and levels of commitment. Also, there were no significant correlations found between the coding done for the turning point stories and the future script stories.

Total scores reflecting narrative identity were then computed separately for both turning point stories and future script stories by summing the scores received on all of the constructs together. Cronbach's alphas were conducted to determine whether the items group together in a cohesive manner. The Cronbach's alpha for the turning point stories was .67, and the Cronbach's alpha for the future script stories was .53. Results revealed a significant positive correlation between the total narrative identity scores for the turning point stories and the future script stories, $r(45) = .42$, $p = .004$. Therefore, while the individual coding indices for the two different stories were not related to each other, overall quality of the two stories was related such that higher overall scores on turning point stories are related to higher overall scores received on future script stories.

The turning point stories were also coded for the main theme of the turning point, which reflects what the turning point was about for the storyteller. Five themes were featured in the turning point stories: themes of independence, school or work, relationships, values, and self-realization or personal growth. Occasionally, a turning point story contained more than one theme, which was the case in 11 (23.91%) of the stories told. Turning point stories were coded for all the themes present; however a note was made to distinguish what was considered to be the predominant theme. Of the 46 turning point stories told, four (8.70%) were about themes of independence, 11 (23.91%) were on themes related to school or work, nine (19.57%) discussed relationship themes, five (10.87%) were turning point stories about changes in personal values, and 17 (30.43%) were turning point stories with themes of self-realization or personal growth. There were no school or gender differences found in terms of the themes of stories that were told.

The future script stories were also coded for story theme. The story themes referred to what elements regarding the storyteller's future self were captured in the story. There were five themes found in the stories: school, work, family, money, and happiness. Somewhat similar to turning point stories, some stories contained more than one theme. Of the 56 future script stories told, this was the case in 37 (66.07%) of the stories. Of the 19 stories which only contained one theme, 17 (89.47%) of the stories only discussed the theme of work, with the remaining two stories only discussing school. Overall, the theme of school was present in 28 (50.91%) of the stories told, work was discussed in 49 (89.09%) of the stories, family was mentioned in 21 (38.18%) of the stories, themes of money or finances appeared in seven (12.73%) of the stories, and happiness was

discussed in seven (12.73%) of the stories told. There were no gender or school differences found in terms of the themes present in the stories told.

Intervention Participation and Narrative Identity

It was hypothesized that participation in the T2U intervention would be related to higher scores of narrative identity in turning points and future scripts. To test these hypotheses, eight 2 (group) x 2 (gender) ANOVAs were conducted with each of the six constructs the narratives were coded for, and the two total narrative scores as the dependent variables. Identity scores (both identity processing style, and identity status), word count for the respective story, school attended, age, financial status, and residence plans were entered as covariates. See Table 21 for the descriptive statistics for the turning point story constructs, and the overall score, broken down by group.

Turning point – depth and detail. Examination of the covariates revealed significant effects of age, $F(1, 22) = 4.59, p = .04$; and word count, $F(1, 22) = 9.66, p = .005$. The effect of the intervention on depth and detail showed no significant main effect of gender, $F(1, 22) = .30, p = .59$. However, there was a main effect of group, $F(1, 22) = 7.97, p = .01$, which was qualified by a marginally significant group x gender interaction, $F(1, 22) = 3.52, p = .07$. Examination of the simple effects revealed a marginally significant group difference for men, $F(1, 1) = 63.88, p = .08$; such that men in the control group told stories which scored higher on depth and detail compared to men in the intervention group ($M = 1.57$ and $M = .40$, respectively). No significant differences were found between women in the control group compared to the intervention group ($M = 1.27$ and $M = 1.42$, respectively). A graph of the means can be found in Figure 14.

Turning point – causal coherence. Identity status was a marginally significant covariate, $F(1, 22) = 3.68, p = .07$; and word count was a significant covariate, $F(1, 22) = 6.00, p = .02$. Results of the 2 x 2 ANOVA with causal coherence in the turning point stories as the dependent variable showed a main effect for group, $F(1, 22) = 6.10, p = .02$, with participants in the control group receiving higher causal coherence scores compared to participants in the intervention group ($M = 1.22$ and $M = .94$). However, no main effect of gender was found, $F(1, 22) = 2.49, p = .13$. The group x gender interaction was also not significant, $F(1, 22) = 0.25, p = .63$.

Turning point – meaning making. Examination of the covariates entered into this 2 x 2 ANOVA showed no significant effects. The main effect of group was not significant, $F(1, 22) = 1.38, p = .25$; nor was the main effect of gender, $F(1, 22) = .24, p = .62$. The group x gender interaction was not significant either, $F(1, 22) = .82, p = .38$.

Turning point – overall story quality score. Examination of the results show that word count was a significant covariate, $F(1, 22) = 6.52, p = .02$. There was no significant main effect of group, $F(1, 22) = 2.22, p = .15$; or gender, $F(1, 22) = .44, p = .51$. There was also no significant group x gender interaction, $F(1, 22) = .23, p = .64$.

A Fisher Exact test was conducted to examine whether there were group differences related to the five themes that were coded for in the turning point stories. The Fisher Exact test was used instead of the traditional Pearson chi-square test due to the fact that some of the cells had counts less than five. Results revealed no significant group differences in the themes of turning point stories told, $p = .14$. The observed and expected counts can be found in Table 22.

Similar analyses were conducted for the future scripts stories told. Descriptive statistics broken down by group, for the constructs coded for in the future script stories, and the overall story score can be found in Table 23.

Future script – exploration. Word count of the future script stories was found to be a significant covariate, $F(1, 31) = 6.43, p = .02$. Results of the 2 x 2 ANOVA showed no significant main effect of group, $F(1, 31) = 1.12, p = .30$; or gender, $F(1, 31) = .01, p = .92$. There was also no significant group x gender interaction, $F(1, 31) = 1.05, p = .31$.

Future script – commitment. Identity status (assessed using the identity maturity index), $F(1, 31) = 4.63, p = .04$; and identity processing style measured in August (assessed using the identity processing style composite score), $F(1, 31) = 6.14, p = .02$, were found to be significant covariates. However, no significant main effects of group, $F(1, 31) = .50, p = .49$; or gender, $F(1, 31) = .07, p = .79$, were found. The group x gender interaction was also not significant, $F(1, 31) = 1.33, p = .26$.

Future script – pro-sociality. Results of the 2 x 2 ANOVA showed no significant covariates effects. There was no significant main effect of group, $F(1, 31) = 2.29, p = .14$; or gender, $F(1, 31) = .45, p = .51$, found. There were no significant findings of the group x gender interaction either, $F(1, 31) = .12, p = .73$.

Future script – overall story quality score. Identity status (assessed using the identity maturity index) was found to be a significant covariate, $F(1, 31) = 4.94, p = .03$. Examination of the results show no significant main effect of group, $F(1, 31) = 2.62, p = .12$. The main effect of gender was also not significant, $F(1, 31) = .29, p = .59$. There were also no significant findings for the group x gender interaction, $F(1, 31) = 1.31, p = .26$.

Chi-square analyses were also conducted to determine whether there were differences in the themes found in the future scripts stories of participants in the control group compared to the intervention group. Five separate chi-square analyses were conducted for each of the five possible themes since each future script story could contain more than one theme. Since these chi-square analyses were of 2x2 contingency tables with expected values less than five in some cells, the Fisher's Exact Test (two-tailed) was used. No significant differences were found between the control group and the intervention group for any of the five themes: school, $p = .59$; work, $p = 1.00$; family, $p = .27$; money, $p = .69$; or happiness, $p = .69$. The observed and expected counts can be found in Table 24.

Overall, the hypothesis that participation in the T2U intervention would be related to higher scores of narrative identity in turning points and future scripts was not supported. When it came to the turning point stories, the opposite effects were found such that men in the control group included more depth and detail in their turning point stories compared to men in the intervention group. Additionally, participants in the control group also told stories that were rated as being more causally coherent than the stories told by intervention group participants. With respect to the future script stories, no significant group differences were found.

Narrative Identity and Adjustment to University

It was also hypothesized that the quality of students' stories would be related to their adjustment to university. To test this hypothesis, correlations were conducted between the story ratings and word counts for both the turning point and future script stories and measures of university adjustment. Correlations between coding done on the

turning point stories and university adjustment can be found in Table 25. Two significant correlations were found. Word count in the turning point stories was found to be positively related to March academic adjustment, $r(45) = .29, p = .05$. Total narrative identity score for the turning point stories was found to be positively related to emotional adjustment in November, $r(36) = .34, p = .04$.

Partial correlations were then conducted, controlling for the effect of word count. These correlations can be found in Table 26. Examination of the partial correlations show no significant correlations between the variables coded for in the turning point stories (i.e., depth and detail, causal coherence, and meaning-making) and university adjustment.

Correlations were also conducted between future script stories and adjustment (see Table 27). The length of the future script stories, as assessed by the word count, was found to be related to overall university adjustment in November, $r(45) = .38, p = .01$; academic adjustment, $r(45) = .41, p = .005$; and personal adjustment, $r(45) = .44, p = .002$. Word count was also positively correlated with overall adjustment in March, $r(55) = .49, p < .001$; and all four subscales of the SACQ, r 's range from .35-.52. When it came to the constructs coded for in the future script stories, the strongest effects were found between exploration and adjustment. The amount of exploration and detail given in the future script stories was positively related to overall adjustment in November, $r(45) = .33, p = .02$. The amount of exploration and detail was found to be correlated with overall university adjustment in March, $r(55) = .49, p < .001$; and all four of the SACQ subscales, r 's range from .33-.42. Examinations of the correlations show that commitment and pro-sociality were not found to be related to university adjustment. The total score of narrative identity for the future script stories was found to be significantly

related to March scores of overall adjustment, $r(55) = .31, p = .02$; and academic adjustment, $r(55) = .35, p = .008$.

Partial correlations factoring out the effect of word count, were also conducted between the elements coded for in the future script stories: exploration, commitment, and pro-sociality, and university adjustment (see Table 28). Examination of the results showed that only exploration was related to March university adjustment. More specifically, exploration was positively correlated with overall university adjustment in March, $r(43) = .36, p = .02$; academic adjustment, $r(43) = .36, p = .02$; social adjustment, $r(43) = .31, p = .04$; and institutional attachment, $r(43) = .30, p = .04$.

Overall, there was partial support for the hypothesis that the quality of students' stories would be related to their adjustment to university. In terms of the turning point stories, once the effect of word count was partialled out, there were no significant relationships between the content of the turning point stories and university adjustment. However, significant relationships were found between university adjustment and future script stories. More specifically, the amount of exploration found in participants' future script stories was positively related to how well students adjusted to university.

Narrative Identity, Identity Status and Processing Style

While no specific hypotheses were made, correlations were conducted to examine the relationship between the story ratings and the identity questionnaire measures (see Table 29). Based on research conducted by Tieu et al. (in prep.), it was expected that story coherence and meaning-making in the turning point stories would be related to scores in the identity measures. However, the results revealed that there were no significant relationships between the coding done for the turning point stories and the

identity measures. While no specific hypotheses were made regarding the identity measures and the future script stories, significant effects were found. Specifically, the amount of exploration found in the future script stories was positively related to higher scores of informational identity processing in November and March, and higher scores on normative identity processing in March. Additionally, exploration was found to be negatively related to having a diffused identity processing style in November and March, and negatively related to scores of diffused identity status in March. Additionally, ratings of commitment in the future script stories were found to be significantly positively related to scores of normative processing style in August and November. Ratings of generativity and pro-sociality were found to be negatively related to the August measurement of diffused identity processing style. The overall score of narrative identity for the future script stories was found to be positively related to informational processing style and normative processing style in March.

Discussion

The goal of this study was to explore the relationship between identity development and the transition to university. While Study 1a examined identity in the more traditional way by using questionnaire measures, the goal of study 1b was to examine similar research questions from a narrative perspective in order to gain a more holistic understanding of the relationship between identity, university adjustment, and participation in the T2U intervention.

Narrative Identity

The turning point stories and future script stories were each coded for four different indices of story quality or narrative identity. Results of correlational analyses

revealed that the indices that were coded for in the turning point stories (detail/depth, causal coherence, and meaning-making) were all significantly related to one another. However, when the indices coded for in the future script stories (exploration, commitment, and pro-sociality) were examined, only one significant relationship was found; a positive relationship between exploration and pro-sociality. Another finding of note was that exploration and commitment were not related. This finding is consistent with Marcia's (1966) work on the four ego-identity statuses. The identity status an individual is said to occupy is based on the level of commitment the individual is said to have invested in different aspects of his/her identity, and the experience of crises (or exploration) the individual has engaged in. In essence, an individual's level of commitment is independent of his/her level of commitment, since one's position on one variable is not necessarily predictive of his/her position on the other dimension. Therefore, the finding in this study that levels of exploration and commitment as seen in the future script stories are not related to one another is consistent with the extant literature on ego-identity.

When the coding done for both stories was compared there were no significant relationships between the indices for the two different stories. This is not surprising, given that the indices that were coded for in the two different stories were substantively different from one another. However, when all the indices were summed for each type of story, the total scores for the turning points and the future script stories were significantly related to one another. This seems to indicate that while the different aspects of the stories that were coded for were not related, there seems to be a general agreement on what a good story is. This finding of a relationship between the two total narrative

identity scores for the two different stories is consistent with previous research.

McAdams (1993, 2006) has argued that there is a shared cultural understanding in terms of what makes a good story. This idea of a shared cultural understanding has been supported through research showing that the scores assigned to stories by untrained raters were highly correlated with ratings made for the same stories by trained expert raters (Pratt & Robins, 1991; Pratt, Norris, Arnold, & Filyer, 1999; Tieu et al., in prep). Taken together, the results of this study, combined with previous research, seem to suggest that while different factors may be important in different types of stories, or for different readers, the overall assertion that a story is good is one that is generally consistent across situations.

Intervention Participation and Narrative Identity

It was hypothesized that participation in the T2U intervention would be related to higher scores of narrative identity in both turning point and future script stories. This hypothesis was not supported. First, in terms of the constructs coded for in turning point stories, effects which were opposite of what was hypothesized were found. More specifically, men in the control condition told turning point stories which contained more depth and detail than men in the intervention condition. Additionally, findings showed that participants in the control condition told stories that exhibited more causal coherence compared to the stories told by intervention participants. One reason for these puzzling effects could be due to small sample size. Only 46 people told turning point stories. Of those 46 participants, 25 (males, $N = 10$, 40.00%) were in the control condition, and the remaining 21 (males, $N = 8$, 38.10%) were in the intervention condition. The relatively low sample size could explain the reason why reverse effects were found. An additional

explanation could stem from methodological issues related to collecting these stories on-line as opposed to in one-on-one interviews as is typically done (e.g., Tieu et al., in prep). It is possible that using on-line data collection in the solicitation of narrative data could result in lower quality responses. Both issues related to sample size and power, and issues related to methodology will be discussed in more detail in the limitations section below.

When the themes of the turning point stories were examined, no significant effects were found; once again, this may have been a function of low sample size. When the raw counts were observed, it appeared that participants who took part in the intervention told more personal growth stories than participants in the control condition (11 compared to 6, respectively). In fact, while stories told by participants in the control condition were roughly equally distributed across the different themes (counts range from 4-6 across the five themes), the intervention participants told more personal growth stories than all the other types of stories combined (11 personal growth stories compared to 9 stories across the remaining four themes). Personal growth stories were ones that discussed how a turning point event brought about some type of self-realization, or a sense of how much one has grown or come over time. This ability to see personal growth and self-realization, and then to express this in a story, may be a more complex task than telling a story centering on the four other themes of independence (i.e., the ability to care for themselves, or stand on their own two feet, etc.); school/work (i.e., gaining a sense of direction on future goals related to school or work, etc.); relationships (i.e., coming to a realization about relationships in general, or one specific relationship, etc.); and values (i.e., a change in one or more values held). The ability to see change in the self, or to think critically about, evaluate, and rationalize one's sense of identity may require a great

deal of introspection; it involves examining one's past self in light of the present self, and determining what has changed, why it has changed, and how. More often, it may be easier to see the self as growing along one continuous, smooth trajectory, rather than seeing the self as a dynamic being who is ever-changing and evolving. In fact, when asked for a turning point story, one participant was unable to provide one; commenting that:

“I don't have any turning points. I'm not lying. My life has been linear. My parents raised me just fine, and I haven't had any turning points at all.”

It is possible that participating in the intervention challenged students to be more introspective, and thoughtful about themselves and their lives, rather than just passively accepting events as they came. The T2U intervention asked its participants to become active agents in determining the success of their university transition; it gave them skills on how to overcome obstacles they may have otherwise just accepted. As can be seen in study 1a, this may have increased their sense of industry, or efficacy, which could result in these intervention participants taking a more critical look at themselves, their goals, and how they would work to achieve them. This stream of thought may have caused them to look both backward and ahead to the future in assessing their life circumstances. In doing this, these students may have come to see how far they have come, and how they have changed. This sense of personal growth could be conveyed through the turning point stories they chose to tell.

The fact that intervention participants chose to tell more turning point stories on personal growth could also be another reason why their stories scored lower on depth and detail, and causal coherence. Stories on personal growth may be more complex to

identify, introspect on, and narrate. The development of a life story is just beginning to form in adolescence and emerging adulthood (Habermas & Bluck, 2000; McAdams, 2001), and while research suggests that the skills involved in narrating one single life event (such as was asked when turning point stories were solicited) may developed earlier (Bohn & Berntsen, 2008), it may still be reasonable to assume that narrating turning point events may have been challenging for the late adolescents in this sample. For the participants in the intervention condition, the level of challenge could have been further increased since they were narrating personal growth stories, which may be more complex in nature.

When the impact of the T2U intervention on the future script stories was examined, no significant effects were found. There were no group differences in quality of future script stories told. While these findings contrast with significant results seen for the turning point stories, this is not surprising. With the future script stories, participants were asked to consider the dream they had for themselves in the future. This may be a more typical component of the life story that many adolescents have considered in some way. For instance, the question of “what do you want to be when you grow-up?” is one that is pervasive in North American culture, and calls for children to begin speculating from a young age what their career aspirations are for the future. This is clearly seen when the themes found in the future script stories are examined with work appearing in 49 of the 56 (89.09%) stories told. With this being said, it is possible that since these late adolescents and emerging adults are just developing facility with narrating life stories (Habermas & Bluck, 2000; McAdams, 2001), these two groups may be equal in the

thought they've given to their futures, and also in their abilities to narrate a future script story.

Overall, the non-significant, and puzzling results which came out of investigating this hypothesis could be explained by the fact that life storytelling ability is only just beginning to develop in late adolescents and emerging adults (Habermas & Bluck, 2000; McAdams, 2001), and that storytelling ability may develop over a longer period of time than the four months which elapsed from the completion of the intervention program to the solicitation of the stories. Generally, the ability to tell a good life story is one that is developed over the life course (McAdams, 1993), and may be slow to develop over time despite practice and training (Habermas & de Silveira, 2008). In one study, Habermas and de Silveira trained participants on storytelling skills. Results showed no improvement in the coherence of their stories. However, only two weeks separated the original baseline testing session from the final testing session, and only two training tasks were administered. The brief amount of time between the testing sessions, and the brevity of the training, may not have been enough for the skills to develop and for improvements to be seen. In terms of this research, perhaps if stories were solicited from both T2U and control group participants later on in life, group differences may be seen over and above age and maturation effects that accompany the passage of time. This would also be consistent with results that show that intervention participants often show a time lag, or a sleeper effect, in benefits gleaned from participation in the T2U program (Ayers et al., submitted; Pratt et al., 2000). It is also possible that group differences in favour of the intervention group may be seen at a later date due to the fact that the T2U intervention

consisted of nine sessions over 10 weeks, a great deal more than the two training sessions delivered in Habermas and de Silveira's (2008) study.

Narrative Identity and Adjustment to University

It was also hypothesized that the quality of students' turning point and future script stories would be related to their adjustment to university. Overall, there was partial support for this hypothesis; significant relationships were only found between future script stories and university adjustment.

First, in examining participants' turning point stories, it was found that overall narrative identity was positively correlated with emotional adjustment on the SACQ in November. However, when partial correlations factoring out effects due to story length (as assessed using word count) were conducted, no significant relationships were found.

The scarcity of significant relationships between the turning point stories and university adjustment is in direct contrast to previous research (Dumas, 2005) which showed a relationship between students' turning point stories and their university adjustment experiences. However, Dumas did not directly code for the same variables in her turning point stories as was coded in this research; instead, those turning point stories were only coded for levels of optimism. While Dumas did code for the amount of meaning-making in the students' turning point stories, their relationship to university adjustment was not explored. Research does show a connection between narratives and adjustment. Beaudreau (2007) found that as the length of trauma narratives and use of trauma words increased, so did participants' scores on measures of adjustment. A life story is constantly being reconstructed based on both past events and present day experiences (Fiese & Sameroff, 1999; McAdams, 1993). In this sense, the life story is

constantly adjusting based on present circumstances; therefore it is possible that the ability to continually reconstruct the life story could translate into an individual's ability to adjust during life transitions.

The reason why significant effects were not found in this study could, again, be due to the fact that the turning point narratives did not contain enough detail, and were shorter in length, which could be a function of the fact that they were solicited via an online questionnaire item. In contrast to the stories told by the participants in this study, the participants in Beaudreau's (2007) study were interviewed, telling their stories orally, and told stories that were an average of 494.47 words long ($SD = 510.30$). Future research could attempt to replicate this work using one-on-one interviews, rather than soliciting stories online through the use of a questionnaire item.

Correlations were also conducted to examine the relationship between scores on students' future script stories and university adjustment. Even after controlling for the effect of word count, the results of partial correlations conducted revealed that exploration in the future script stories was related to university adjustment. This finding is consistent with previous research which has shown that identity exploration in depth is related to the ability to adjust academically to university (Luyckx et al., 2006). These researchers argued that exploration in depth may allow individuals to strengthen the commitments they have already made, or for their exploration to lead to a reconsideration of these commitments. Luyckx and colleagues also found that exploration in depth was related to supportive and nurturing parent-child relationships. In the context of this research, it is possible that these positive parent-child relationships provide a secure base from which these first year university students can explore this new phase in their lives,

similar to the secure attachment seen between infants and their caregivers (Ainsworth, Blehar, Waters, & Wall, 1978). This assertion is consistent with research that has shown a relationship between students' attachment to parental figures, and university adjustment (e.g., Ames et al., in prep; Rice, Fitzgerald, Whaley, & Gibbs, 1995)

It is interesting that only the exploration dimension of narrative identity was found to be significantly related to university adjustment, while no significant results were found in terms of commitment and pro-sociality. Though previous research has found that commitment was positively related to adjustment (Marcia, 1980, 1983b; Cramer, 2000), the findings of this study are not consistent with these past results. Some insight into this inconsistency can be gained by examining the research conducted by Luyckx and colleagues (2006). They argued that commitment could be further subdivided into two types: commitment making and identification with commitment. Commitment making refers to making a choice regarding some aspect of identity. Identification with commitment refers to the extent to which an individual feels certain about the commitment he/she has made and which has been integrated into the individual's sense of identity. Interestingly, commitment making was not found to be related to adjustment, while identification with the commitment was. It is possible that both types of commitment are being accounted for in the commitment coding done in these turning point stories. This could account for the fact that no significant relationships were found between the commitment codes and adjustment in this research. Though participants in this study received high scores for commitment, it is possible that they did not identify with the commitments they have made in regard to their future plans. Further insight could be gained into the relationship between identity commitment and adjustment to

university if turning point stories were coded for both commitment making and identification with commitment.

Narrative Identity, Identity Status and Processing Style

Correlations were conducted between the ratings done on the turning point stories and the future script stories, and the questionnaire measures of identity. Unlike previous research (McLean & Pratt, 2006; Tieu et al., in prep), there were no significant correlations between the ratings given to the turning point stories and the identity measures. One explanation for this discrepant finding could be related to differences in the stories used in this research and previous research. Though McLean and Pratt (2006) and Tieu et al. (in prep) used turning point stories in their research as well, the stories they coded were solicited through paper and pencil questionnaire administration in the McLean and Pratt (2006) study, and through one-on-one interviews in the Tieu et al. (in prep) study. In contrast, the turning point stories used in this study were obtained through a measure administered online, with participants typing responses into a computer. This difference in methodology could produce stories of varying length, and potentially, quality. This can be seen in differences in average story length for the turning point stories elicited through paper and pencil methodology compared to through online collection. In McLean and Pratt's (2006) study, the turning point stories were an average of 120.89 words long ($SD = 63.85$), with a range of 16-565 words. In comparison, the turning point stories coded in this study were an average of 87.91 words long ($SD = 56.79$) ranging from 12 words to 260 words. Therefore, it seems that where turning point stories are concerned, paper and pencil questionnaires may elicit longer stories, with potentially more detail.

With paper and pencil questionnaire administration, the researcher is generally present when the participant is completing the measures, or in this case, writing their stories. The presence of the researcher could impact performance in a number of different ways; it could promote conscientiousness on the part of the participant since the person to whom they are accountable to is salient. Also, if a participant is uncertain about anything in the questionnaire package, a researcher is available for questions, which could result in higher quality data. In contrast, when a participant completes a questionnaire on-line there is no researcher present. This means that there is no one to answer to if they chose not to complete the questionnaire, or if they complete it in a quick, hasty manner. It also means that there is no one to ask questions to if confusion arises. Though the young adults participating in the present research may be quite comfortable using a computer, and responding to a questionnaire online, it is possible that the comfort with this methodology could actually work against soliciting stories. Adolescents in contemporary society communicate a great deal through computers, whether it is through electronic mail, or instant messaging via computers or cellular telephones. Generally, communication using these methods is short and concise, with extensive use of shorthand (e.g., C U L8R = see you later; LOL = laugh out loud, etc.) It is possible that the habit of replying quickly and concisely when using the online medium may also have contributed to the short stories that were collected.

Most of the research done on paper and pencil compared to on-line survey methodology have found very little difference in these two data collection procedures (e.g., Chuah, Drasgow, & Roberts, 2006; Cronk & West, 2002; Knapp & Kirk, 2003). However, these studies have only examined these methodology differences in

participants' responses to Likert-type scales or close-ended items. Differences in methodology have not been examined when it comes to collecting narrative data. Given the importance of detail in terms of storytelling, it is possible that paper and pencil methodology may result in more detailed stories collected due to conscientiousness than may be elicited due to researcher presence. The differential responses garnered using paper and pencil methodology compared to on-line methodology could be further amplified if interview methodology, such as used by Tieu et al. (in prep) were examined as well. With one-on-one interviews, the interviewer has opportunity to probe participants about the stories they tell, asking for more clarification or elaboration when elements of the story are unclear. It is also possible that good rapport between an interviewer and an interviewee could also result in greater disclosure than responses solicited through a questionnaire item on a computer screen.

Since details were one feature that was coded for in the stories, it is possible that the shorter length of the stories collected in this present research may be a reason why significant relationships were not found between the turning point stories and the identity questionnaire measures. More research is needed on various methodologies employed and the impact it makes on the quality of narratives collected.

Another reason why significant effects were not found could be due to the placement of the item in the questionnaire. The items soliciting the two stories were placed at the end of a 15 page questionnaire. It is possible that by the end of the questionnaire (which takes approximately one hour to complete), participants were experiencing fatigue, which may have resulted in less effort put into answering these

questions. Perhaps open-ended items such as these should be placed at the beginning of a questionnaire in order to elicit richer narrative responses.

An additional factor which could account for the different pattern of results seen in this study compared to previous research (e.g., McLean & Pratt, 2006; Tieu et al., in prep) could be related to the age of the participants in these studies. The participants in McLean and Pratt's (2006) study were approximately 23 years of age, and the participants in Tieu et al.'s (in prep) study were approximately 26 years old. In comparison, the participants in this research were around 18 years of age. The difference in ages across these three samples could represent a developmental difference in storytelling ability. The experience gained by moving from adolescence to emerging adulthood could have quite an impact when it comes to the ability to narrate a life story, especially considering that this ability is just beginning to emerge in adolescence (Habermas & Bluck, 2000; McAdams, 2001).

Correlations were also conducted to examine the relationship between the future script stories and the questionnaire measures of identity. Unlike results for the turning point stories, significant relationships with measures of identity were found. More specifically, exploration and overall narrative identity scores were found to be positively related to informational identity processing, and normative identity processing. These findings of significance for an informational identity processing style are consistent with previous research, which states that individuals with an informational processing style are more likely to seek out identity-relevant information, process it and apply it when appropriate (Berzonsky, 1990). These individuals are used to considering their identity and revising it when faced with information that may be discrepant with their original

beliefs about themselves; this skill could also make them good storytellers, since they may be more thoughtful about the elements that are in the story, and in explaining how all the elements fit together in a causal or logical sequence.

The finding that a normative identity processing style is related to exploration is somewhat surprising considering that these individuals tend to default to the expectations of others (e.g., parents) rather than exploring issues for themselves (Berzonsky, 1990). One possible explanation for this finding is the fact that while the individuals may have defaulted to a choice expected of them by their significant others, they may have considered and explored this choice, but not any other alternatives. For example, a person could consider all the reasons he/she may want to be a doctor, as recommended by his/her parents, but may not have considered any other career choices. This is consistent with the theoretical argument that exploration can be further broken down into two factors: exploration in breadth and exploration in depth (Luyckx, Goossens, Soenens, & Beyers, 2006). The type of exploration described above, where the individual only explores within the commitments made, is termed exploration in depth. Here, we can see that firm commitments have been made, as is likely the case with individuals who possess a normative identity processing style. This dimension of exploration, in depth, can explain how individuals with a normative identity processing style could still score highly in their level of exploration. The finding that scores for normative identity processing styles are positively related to narrative identity is thus not altogether surprising. The idea of occupation as a feature of identity is one that Erikson discussed (1968; Marcia, 1966), and is one of the more common elements of consideration when it comes to making plans or setting goals for the future. This is echoed by the fact that work was discussed in

89.09% of the future plan stories that were told. Therefore, it is not surprising that even though a great deal of consideration did not go into choosing a career path, individuals with a normative identity processing style were still able to tell good stories that scored highly on narrative identity.

Overall, the significant relationships between exploration and both identity status and identity processing were not surprising. The process of identity development is one that begins intensively during adolescence (Erikson, 1968). Generally, commitment to aspects of identity should be made after careful and thoughtful exploration in order for individuals to become identity achieved (Erikson, 1968). Given that the participants in this study are adolescents it is likely that they are still engaging in exploration, especially considering they are entering university, which is an ideal climate for exploration. It could be that these participants are in the developmental period in their lives where exploration is most important. This could explain why exploration was found to be significantly related to identity.

With respect to ratings of commitment, scores on this dimension were found to be positively and significantly related to having a normative processing style. Again, this is consistent with previous research, which states that individuals with a normative processing style tend to default to the expectations and decisions others have made for them regarding their identity, and tend to prefer the familiarity offered to them by structured, predictable environments and situations (Berzonsky, 1990). In other words, individuals with a normative processing style are “set in their ways” as prescribed to them by their significant others, thus making it logical that they would also show more

commitment to the future plans they have made for themselves and which they convey in their future script stories.

Exploration was found to be negatively related to a diffused identity processing style, and diffused identity status. This relationship is consistent with the idea that individuals with a diffused processing style are more likely to avoid having to think about any identity-relevant information or deal with any personal problems (Berzonsky, 1990). Similarly, the finding of a negative relationship between exploration and scores for identity diffused status are also consistent with the assertion that individuals who are diffused may or may not have undergone any exploration, or experienced a crisis, but they are relatively unconcerned about these matters, and therefore do not give a great deal of thought to them (Marcia, 1966). It is also not surprising that pro-sociality was found to be negatively related to a diffused identity processing style. After all, if these individuals avoid dealing with personal problems (Berzonsky, 1990), it is not surprising that they also do not deal with larger societal issues, or issues outside of their own.

Limitations

Examination of the results of study 1b revealed three limitations: story length, methodology, and sample size. Two limitations, story length and methodology, are related to one another. These limitations should be considered in the evaluation of the results of this study.

Sample size. Of the 148 participants who began this study in August, only 56 participants (37.84%) told at least one story during the March follow-up. When the number of participants per cell were examined for the group x gender ANOVAs, some cells had 10 or fewer participants in them (i.e., number of men in the intervention and

control conditions who told turning point stories, and number of men in the intervention condition who told future script stories). This small sample size may have resulted in low power, thereby making it difficult to detect significant results (type II error). Similar research examining narratives tend to have sample sizes of around 100, and even with that many participants significant correlations found tend to be modest in size (e.g., McLean & Pratt, 2006; Tieu et al., in prep). With this in mind, examination of the correlations examining the relationship between variables tends to reveal relationships in the expected direction, though not significant. Small sample size may also have been a factor in the pattern of opposite results that was found where participants in the control group told turning stories that had more detail and were more causally coherent. Future research should consider strategies to increase sample size, and thus maintain adequate power in order to detect significant effects.

Story length. One recurring theme in the results of study 1b is the impact of story length/word count. Consistently, word count was found to be a significant covariate, and partialling out its effects reduced some significant findings to non-significance. This seems to indicate that story length plays an important role in narrative research in general, and research involving narrative identity in particular. Since narrative identity is assessed based on the information one can glean from stories told, it follows that longer stories will have more information contained within them; specifically more detail can be included in a longer story, and the storyteller has the opportunity to convey more depth in their evaluation of story events. It is possible that non-significant and opposite results were found in this study due to the short length of the stories participants provided. Generally, the stories examined in this study were shorter than ones that have been

examined in previous narrative research (e.g., compared to McLean & Pratt, 2006).

Given the influence of story length, it is important that future studies using narrative data account for this factor. Additionally, researchers should consider what methodology is used in order to maximize the length of stories solicited from participants.

Methodology. The use of online methodology to collect stories from participants in this study may have accounted for their shortened length. Traditionally, narrative research employs paper and pencil questionnaire or interview methodology to collect data. Both of these methods make the researcher quite salient. During paper and pencil testing sessions the researcher tends to be present making it easier for participants to ask for clarification on confusing questions. Also, the presence of the researcher may discourage hasty or sloppy completion of the questionnaire, and may encourage the participants to take the task of completing the questionnaire more seriously. It may be most advantageous for researchers to employ interview methodology in soliciting narrative stories. With one-on-one interviews, the interviewer has opportunity to probe participants about the stories they tell, asking for more clarification or elaboration when elements of the story are unclear. It is also possible that good rapport between an interviewer and an interviewee could also result in greater disclosure than responses solicited through a questionnaire item on a computer screen. Though there is a large time and cost differential in the use of these three different methodologies, longer narratives of potentially higher quality may make the increase in time and cost worthwhile. Currently, there is a dearth in studies which examine the effect of different methodologies on responses garnered from open-ended questions and narratives. Future research should

examine whether different methodologies in fact affect the quality and length of open-ended responses given.

General Discussion

For the approximately one million students enrolling in university every year in Canada (Statistics Canada, n.d.) the transition to higher education, whether it is smooth or difficult, can be a time of stress. Unfortunately, for some students this life change can prove to be too daunting and result in withdrawal from school, potentially leading to further negative consequences later on in life. This has led to the development of intervention programs aimed at assisting first year students with adjusting to university. The Transition to University (T2U) Program is one such program. The aim of this research was to examine the effects of the T2U program on identity and adjustment to university.

The results of this research were generally positive. Consistent with previous research, the findings here showed that the T2U Program has a positive effect on university adjustment, with the intervention proving to be particularly helpful for women during the first year of university. Additionally, having a more developed sense of identity was also found to be positively related to a smoother transition to university, in terms of identity status, identity processing style, and narrative identity.

When it came to the effect of the intervention on identity, it appeared that taking part in the T2U intervention program assisted students in developing a sense of industry or efficacy, which resulted in them making gains in their identity processing style. Though it seems that being in the intervention may have hampered development in terms of narrative identity, these results should be interpreted with caution considering the low

sample size. Taking part in the intervention also assisted students with development in terms of identity status, which was related to how they dealt with the adjustment to university.

It bears mention that there were similar findings seen between the two studies. The most important finding that was present in both studies 1a and 1b was a positive relationship between identity, and university adjustment. The consistency in these results, along with the significant correlations observed, serve to highlight the relationship between traditional conceptualizations of identity, and narrative identity, something that has not been extensively studied in previous research. The results of this research add to the literature on identity by illustrating ways in which identity status and identity processing style are related to narrative identity. For instance, levels of exploration and commitment exhibited in participants' stories mapped onto the identity statuses and processing styles in ways that were consistent with theory (e.g., individuals scoring higher on normative identity processing style also tended to tell stories which showed higher levels of commitment).

Overall, the results of this research show that the T2U Program can be helpful not only in facilitating the transition to university, but also in assisting students with their identity development, something with which late adolescents and emerging adults may often struggle. While these findings are important, there are some limitations that need to be considered. One factor is the response rate of participants. As with many longitudinal studies, there were participants that dropped out of the study over the course of the year, thus resulting in a decreasing sample size across the three waves of research. Despite the fact that monetary incentives were implemented, participant drop-out still occurred.

The results comparing participants who supplied narratives compared to those who did not, seem to indicate that the participants who did not tell a story scored higher on depression and stress in August, compared to participants who did tell at least one story. The experience of these negative emotions may have been a factor in participants' decision not to complete the measures in March. Future administrations of the T2U Program should work to develop better retention strategies in order to minimize the loss of participants over the course of the study. On a related note, future administrations of the T2U Program should work to include more participants in both the intervention and control conditions to act as a buffer in the event of participant drop-out, and also to increase power.

Given that identity is something that develops over time, it may be interesting to track these participants over the course of their entire university career. This could provide students with the time to synthesize and develop the strategies they learned during the course of the intervention, thus resulting in a difference across groups in terms of identity and life story development (narrative identity). This would be consistent with previous findings which show a "sleeper effect" for the benefits of the intervention program (e.g., Ayers et al., submitted; Pratt et al., 2000). Additionally, given the relationship shown between identity and adjustment to university, it may be advantageous to add a session to the intervention which addresses identity-related issues (e.g., uncertainty regarding occupational goals). This could provide students with a chance to focus on the future, and on important identity-related issues they may not otherwise address. For some students, entering university, selecting a major and a career path may be decisions that are made without thorough, thoughtful consideration. Students may find

it helpful to be given an open and safe space to discuss who they want to be and who they would like to become in the future. Doing so may assist them with voicing any fears or confusion they may feel, provide them with the opportunity to explore options, and equip them with skills that would be helpful in the process of exploring their identity.

For some students, entering university can be a stressful time; not only do students have to adjust to university, but some may also be in the midst of trying to figure out who they are and who they want to become. The results of this research show that the T2U Program can be beneficial, not only in assisting students with navigating the transition to university, but also in assisting them in their identity development. This research makes a unique contribution to the literature in the area of university adjustment and identity development by examining the effects of the T2U Program on identity development, and also by examining identity in terms of identity status, identity processing style, and narrative identity and how these different conceptualizations of identity relate to the T2U Program and university adjustment. The results of this research show that the T2U Program may help students achieve success both inside and outside the classroom.

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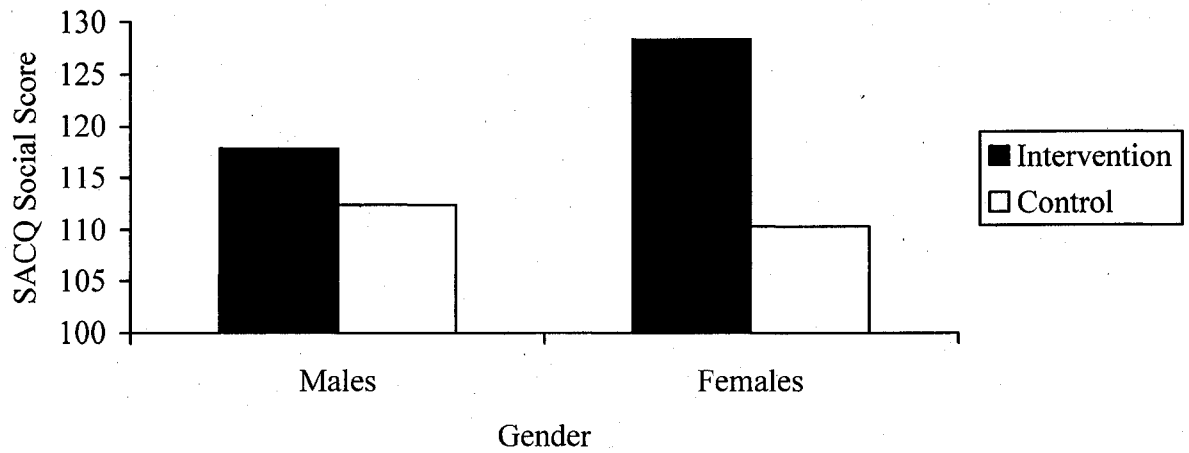


Figure 1. Mean scores on the social adjustment subscale of the SACQ for males and females in the intervention and control groups.

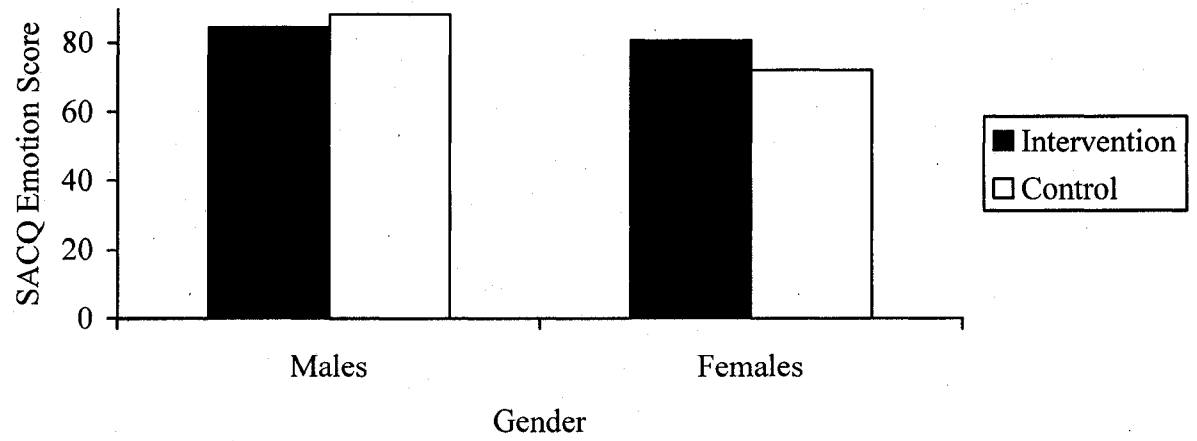
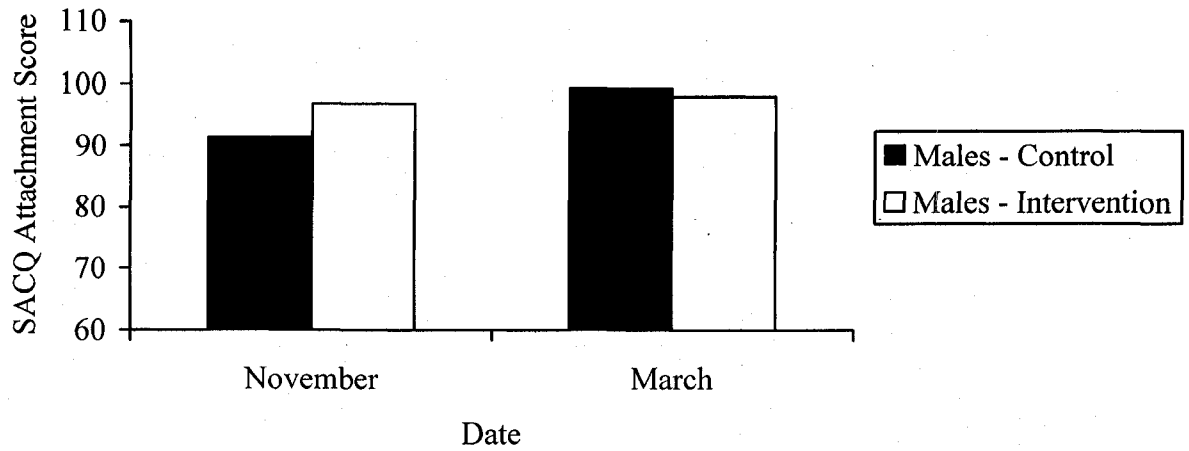
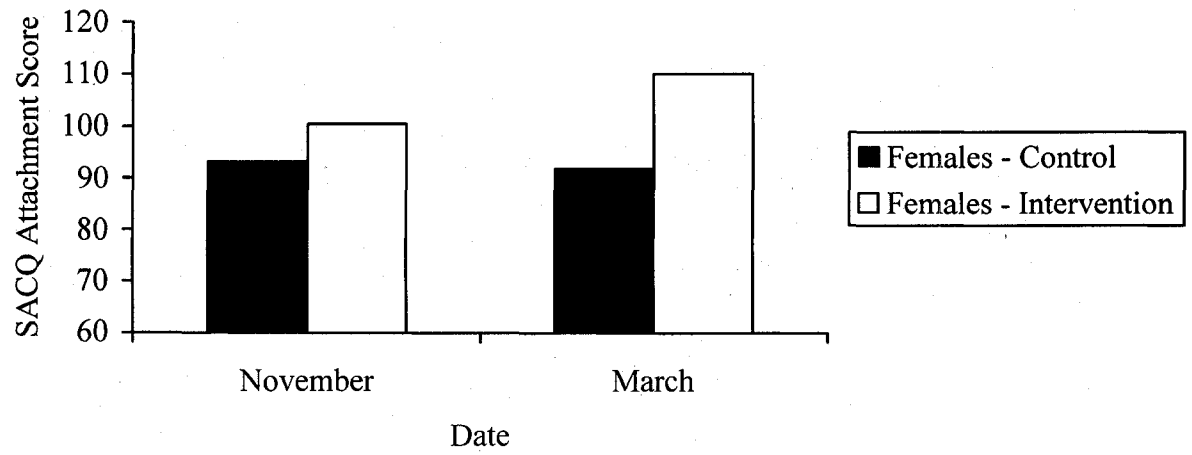


Figure 2. Mean scores on the personal-emotional adjustment subscale of the SACQ for males and females in the intervention and control groups.



Figures 3a. Mean scores on the institutional attachment subscale of the SACQ for males in the intervention and control groups.



Figures 3b. Mean scores on the institutional attachment subscale of the SACQ for females in the intervention and control groups.

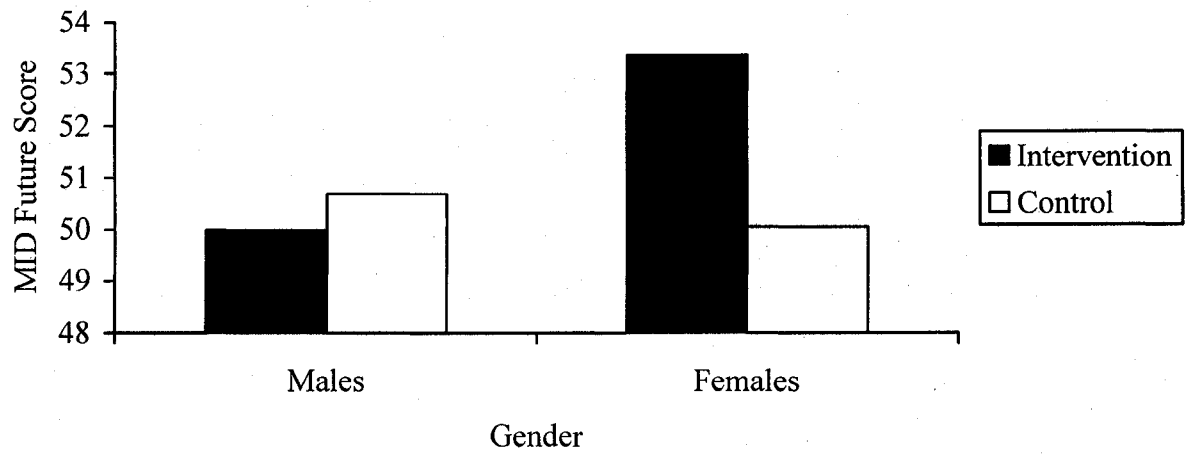


Figure 4. Mean total scores on the MID for males and females in the intervention and control groups.

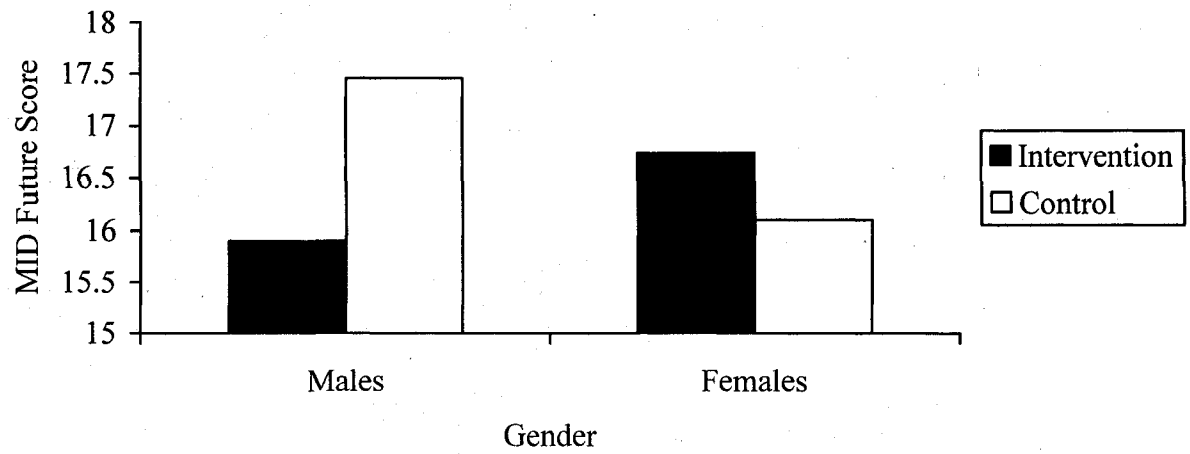


Figure 5. Mean scores on the self-reflective approach to the future subscale of the MID for males and females in the intervention and control groups.

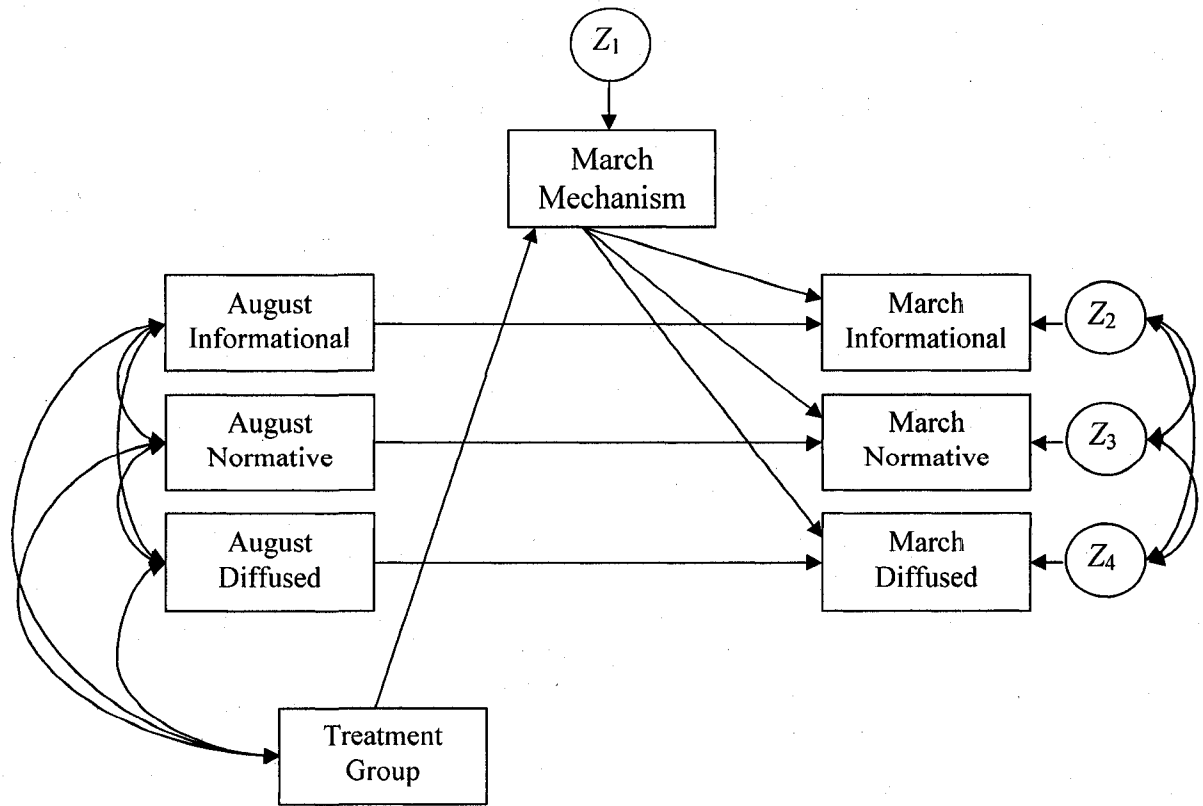


Figure 6. Path model showing the mechanism of identity development mediating the relationship between participation in the intervention and identity processing style in March.

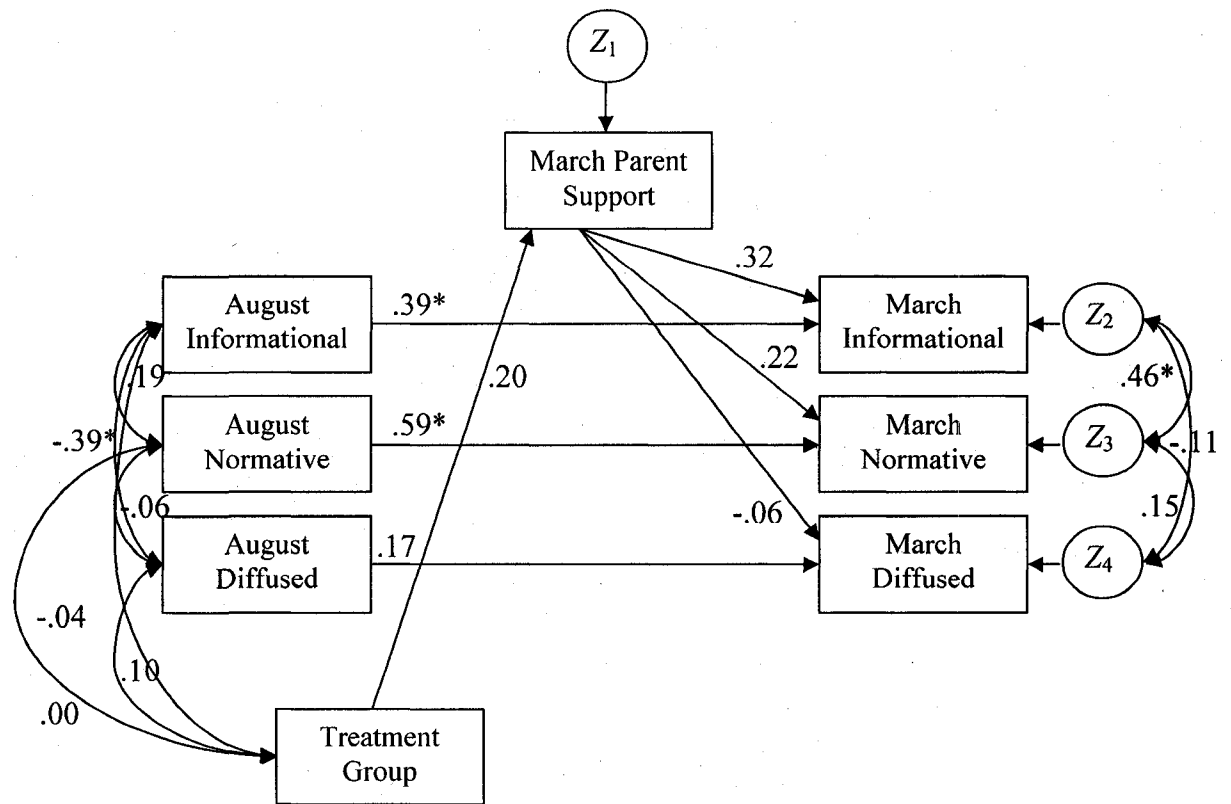


Figure 7. Standardized estimates (beta weights) illustrating confidence in parental support in March as a mediator of the relationship between T2U participation and identity processing style in March.

Note: * $p < .001$.

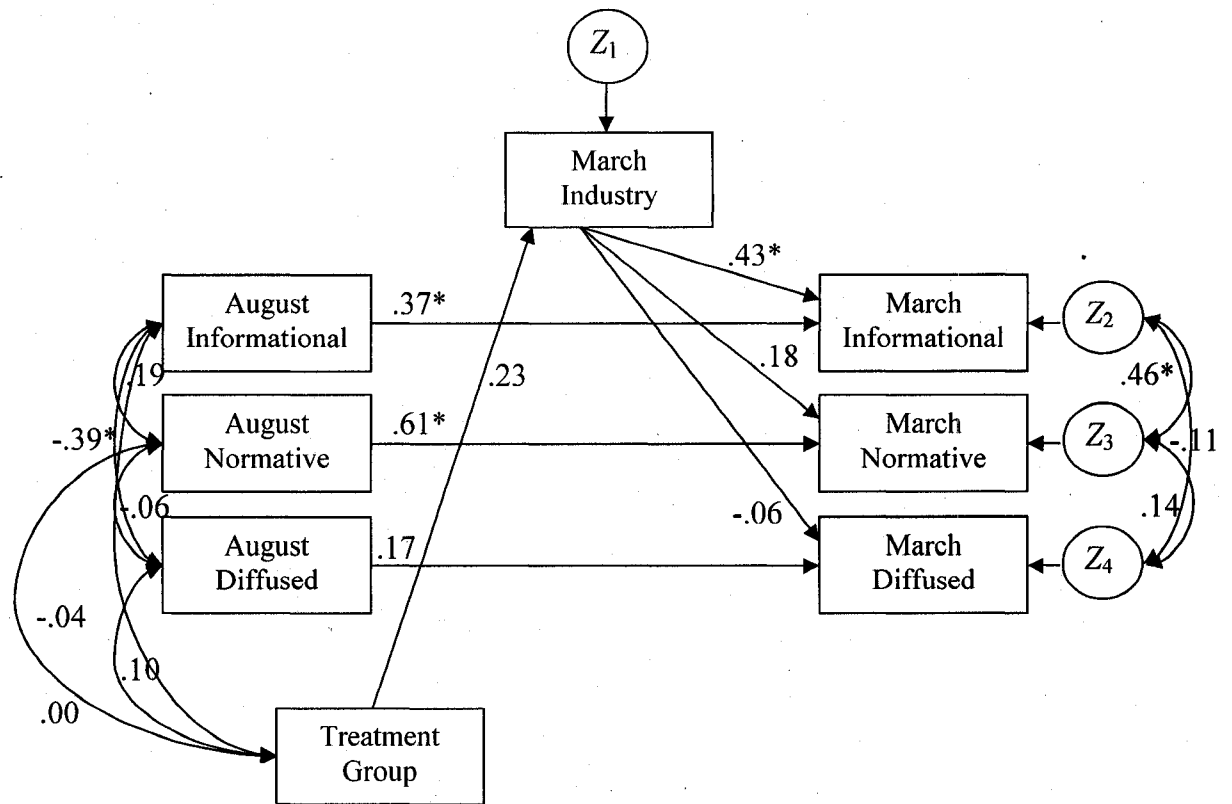


Figure 8. Standardized estimates (beta weights) illustrating sense of industry in March as a mediator of the relationship between T2U participation and identity processing style in March.

Note: * $p < .001$.

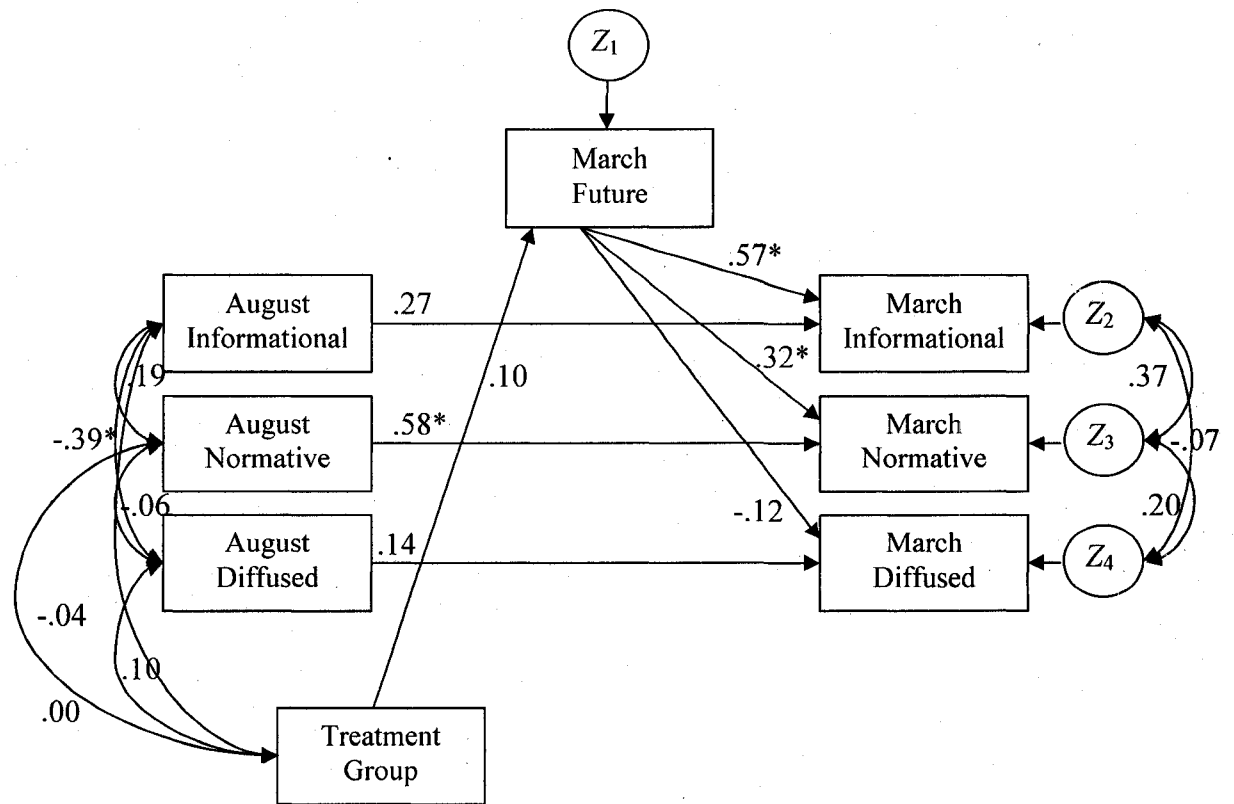


Figure 9. Standardized estimates (beta weights) illustrating a self-reflective approach to the future in March as a mediator of the relationship between T2U participation and identity processing style in March.

Note: * $p < .001$.

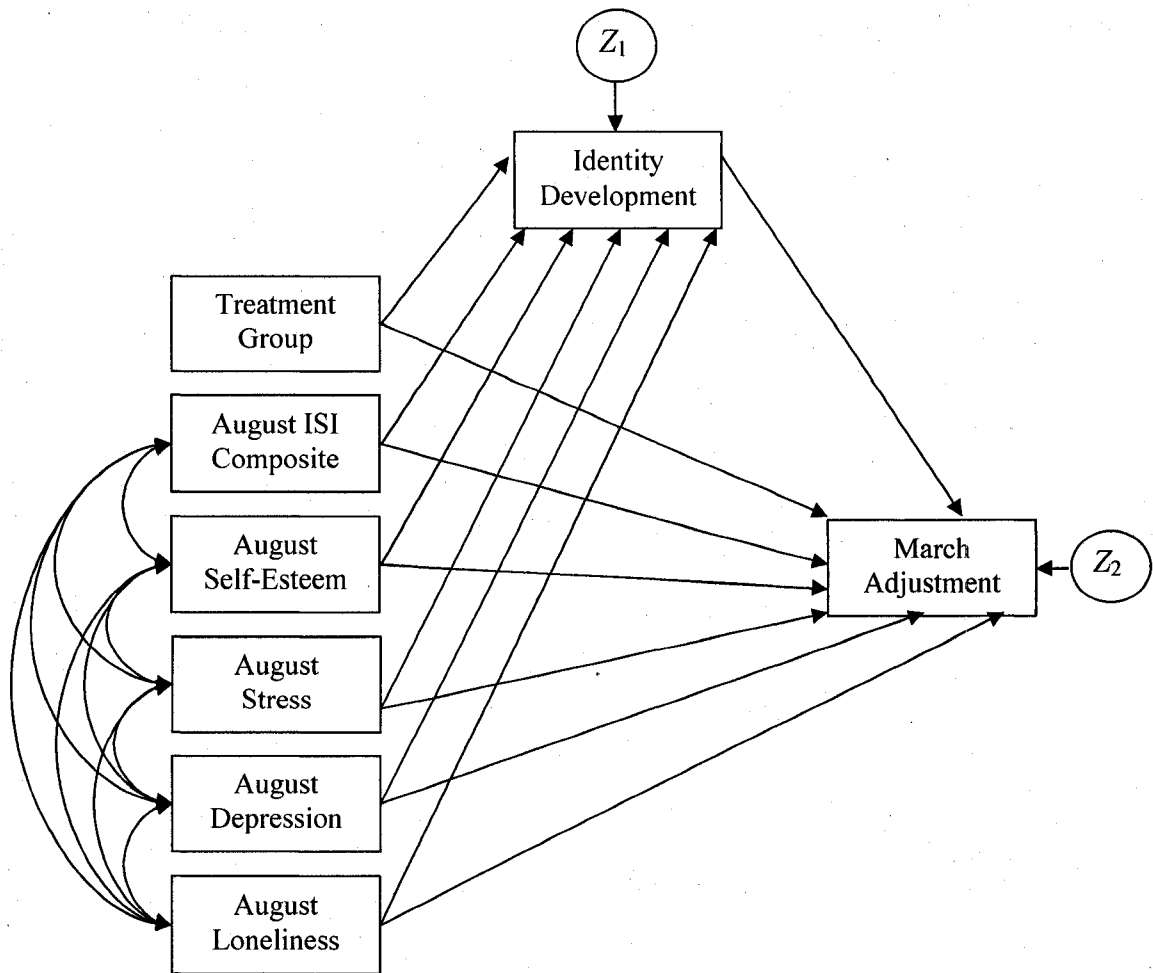


Figure 10. Path model showing identity development mediating the relationship between participation in the intervention and university adjustment in March.

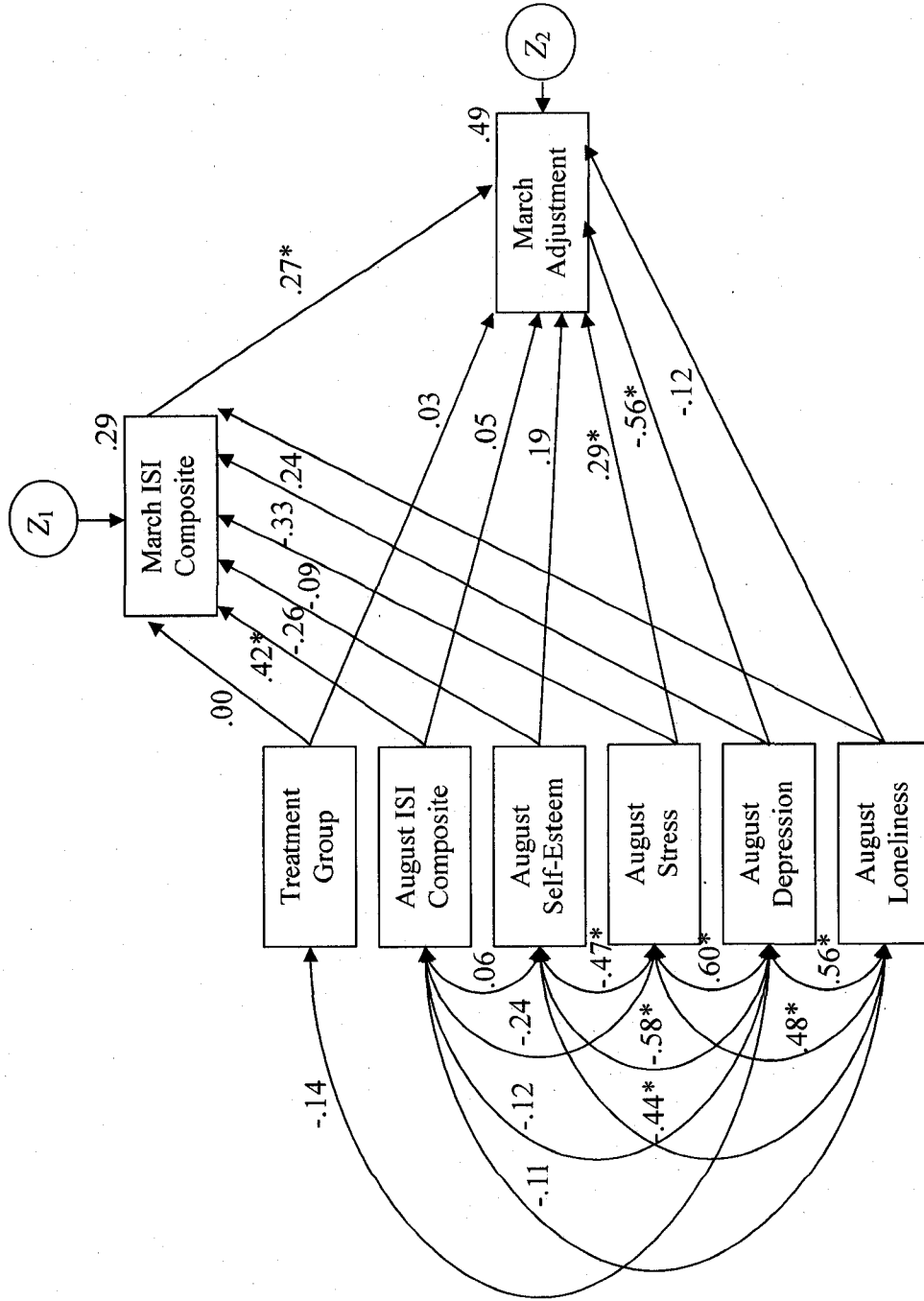


Figure 11. Standardized estimates (beta weights) illustrating identity processing style composite in March as a mediator of the relationship between T2U participation and university adjustment in March. Note: * $p < .001$.

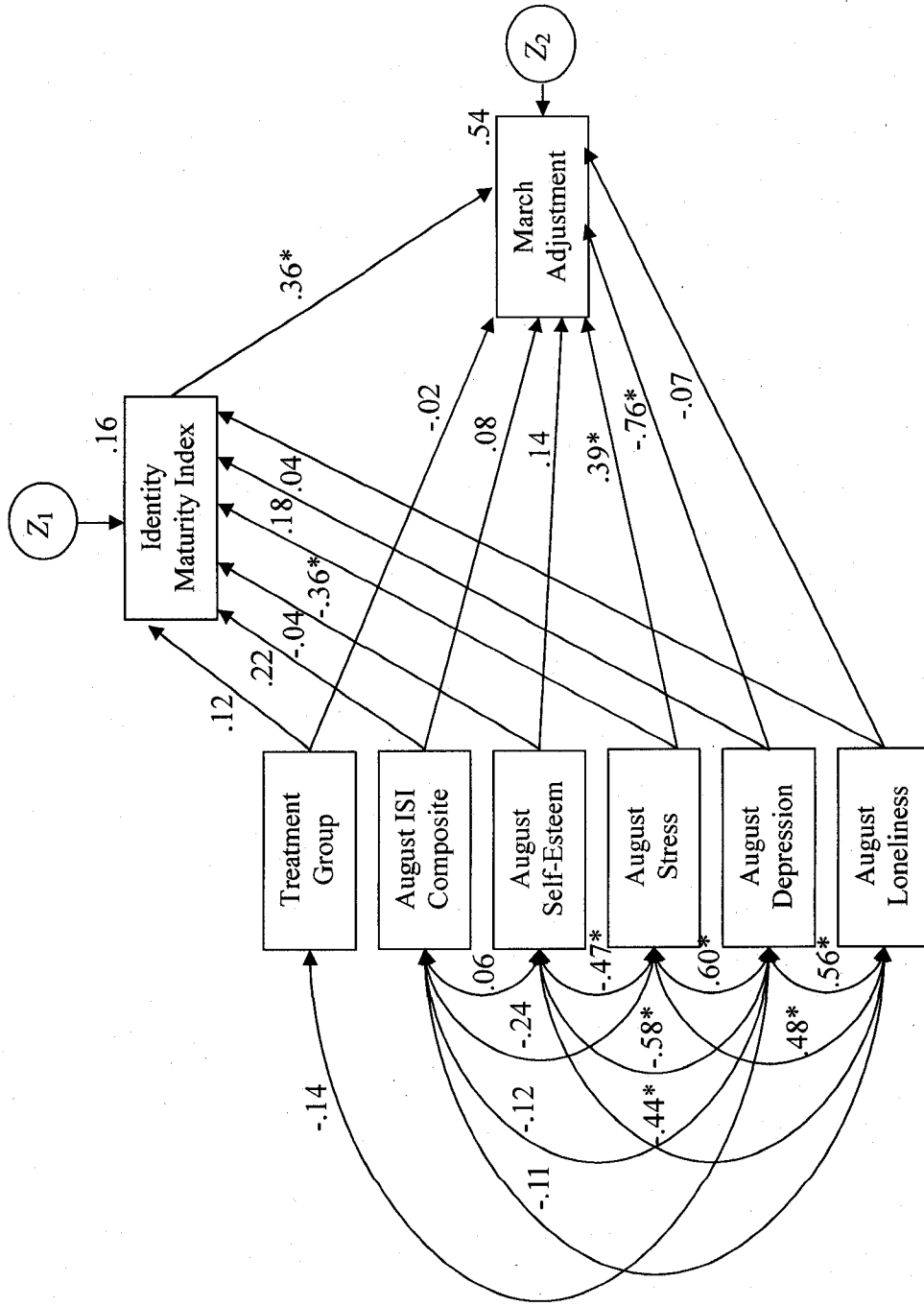


Figure 12. Standardized estimates (beta weights) illustrating the identity maturity index in March as a mediator of the relationship between T2U participation and university adjustment in March. Note: * $p < .001$.

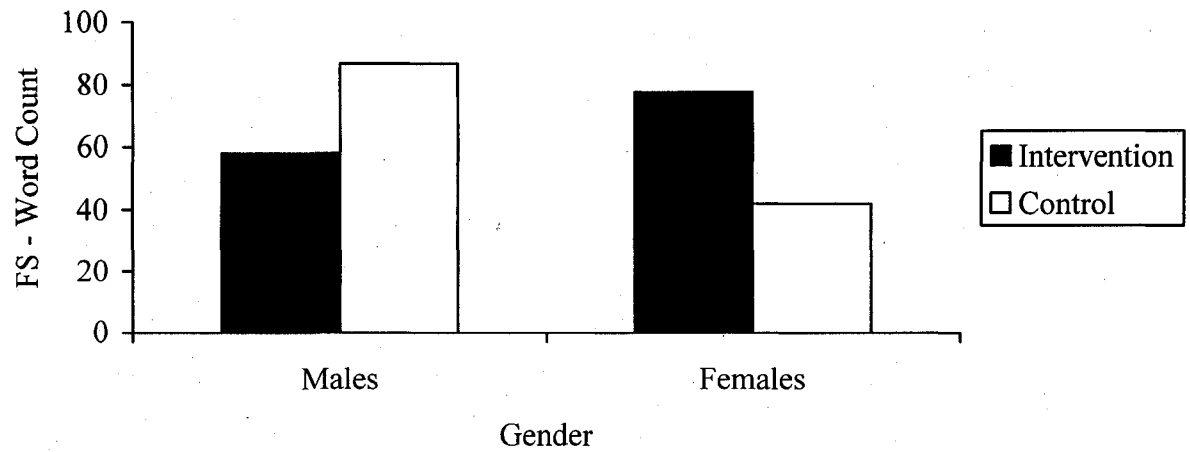


Figure 13. Length of the future script stories, as assessed by word count, told by males and females in the intervention and control groups.

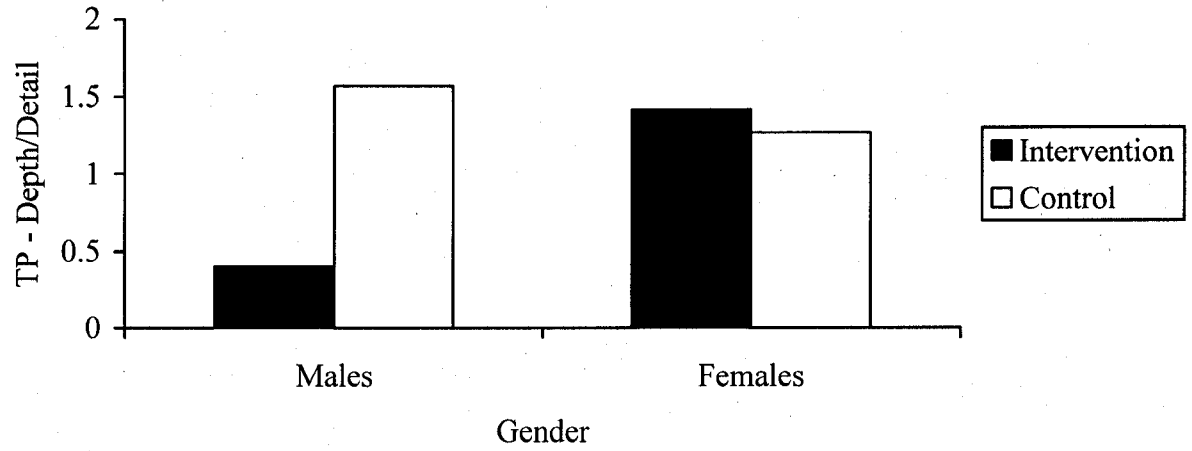


Figure 14. Mean scores on the depth and detail found in the turning point stories for males and females in the intervention and control groups.

Table 1

Breakdown of Intervention Participants by University, Group, and Gender

School/Group	Males	Females	Total
Queens			
1	1	7	8
2	1	9	10
3	0	5	5
Control	2	17	19
Wilfrid Laurier			
1	4	4	8
2	3	2	5
3	4	4	8
Control	18	15	33
York			
1	2	3	5
2	3	4	7
3	2	4	6
Control	16	17	33
Total			147

Note: One participant from the control group at Wilfrid Laurier University did not report his/her gender

Table 2

Schedule of questionnaire administration for all three intervention sites

	Date		
	August, 2006	November, 2006	March, 2007
Demographics	✓		
Identity Style Inventory	✓	✓	✓
Objective Measure of Ego Identity Style			✓
Mechanisms of Identity Development		✓	✓
Student Adaptation to College Questionnaire		✓	✓

Table 3

Descriptive statistics of the scales used in study 1a

	Full Scale Alpha	Test- Retest r	Convergent Validity (r)	No. Items	Score Range
Objective Measure of Ego Identity Style	.76 - .67	.93 - .71	-	24	24-216
Identity Style Inventory	.64 - .76	.83 - .87	-	39	40 - 200
Mechanisms of Identity Development	-	-	-	12	12 - 60
Rosenberg Self- Esteem Scale	.90 - .91	.85	-	10	10 - 90
Perceived Stress Scale (shortened version)	.78 - .84	-	-	4	0 - 16
Center for Epidemiological Study of Depression Scale	.87 - .91	-	-	20	0 - 60
The UCLA Loneliness Scale	.88 - .95	-	-	20	0 - 60
Student Adaptation to College Questionnaire	.93 - .95	-	.66	67	67 - 603

Table 4

Descriptive Statistics for the Identity Measures: the ISI, the OM-EIS, and their Respective Subscales

When	Measure	<i>N</i>	<i>M</i>	<i>SD</i>	α
August	ISI – commitment	138	36.32	4.92	0.76
August	ISI – informational	137	39.60	4.83	0.60
August	ISI – normative	137	30.56	4.87	0.69
August	ISI – diffused	137	25.79	5.52	0.74
November	ISI – commitment	98	35.75	5.43	0.78
November	ISI – informational	98	38.11	4.84	0.65
November	ISI – normative	97	30.20	4.75	0.67
November	ISI – diffused	98	27.63	5.26	0.74
March	ISI – commitment	71	36.00	5.81	0.72
March	ISI – informational	71	38.44	6.03	0.79
March	ISI – normative	71	30.23	5.30	0.71
March	ISI – diffused	71	27.95	5.92	0.79
March	OM-EIS – achieved	72	34.03	9.31	0.76
March	OM-EIS – moratorium	72	28.27	7.90	0.59
March	OM-EIS – foreclosed	72	20.98	8.60	0.75
March	OM-EIS – diffused	72	26.43	9.12	0.67

Table 5

Correlations between the ISI and the OM-EIS, and their Respective Subscales

	OM-EIS Diffused	OM-EIS Foreclosed	OM-EIS Moratorium	OM-EIS Achieved
Aug ISI Commitment	-.32**	.11	-.17	.24
Aug ISI Informational	-.37**	-.10	-.07	.22
Aug ISI Normative	-.09	.35**	.06	.29*
Aug ISI Diffused	-.01	-.04	-.04	-.14
Nov ISI Commitment	-.43**	-.09	-.37**	.40**
Nov ISI Informational	-.55**	-.18	-.34**	.28*
Nov ISI Normative	-.25	.22	-.17	.18
Nov ISI Diffused	.41**	.13	.29*	-.28*
Mar ISI Commitment	-.47**	-.02	-.36**	.44**
Mar ISI Informational	-.23	.04	.10	.51**
Mar ISI Normative	-.06	.47**	.19	.32**
Mar ISI Diffused	.60**	.45**	.55**	.06

Note: * Significant at 0.05 level (2-tailed); ** Significant at 0.01 level (2-tailed).

Table 6

Descriptive Statistics for the SACQ, and its Respective Subscales

When	Measure	<i>N</i>	<i>M</i>	<i>SD</i>	α
November	SACQ – total	103	373.02	68.67	0.95
November	SACQ – academic	103	132.16	27.11	0.90
November	SACQ – social	103	115.04	29.79	0.91
November	SACQ – emotional	103	71.26	20.84	0.87
November	SACQ – attachment	103	95.12	20.33	0.87
March	SACQ – total	74	400.33	70.20	0.94
March	SACQ – academic	74	139.01	25.99	0.88
March	SACQ – social	74	120.01	28.54	0.90
March	SACQ – emotional	74	83.99	19.99	0.85
March	SACQ – attachment	74	99.58	22.73	0.89

Table 8

Regression Analysis with Identity Statuses as measured by the OM-EIS predicting SACQ Scores in March, Controlling for University, Gender, Age, Family Financial Status, and Residence Plans

Predictor	B	β	t	p
OM-EIS – Diffused	-.79	-.10	-.65	.52
OM-EIS – Foreclosed	-1.10	-.13	-1.02	.31
OM-EIS – Moratorium	-1.95	-.22	-1.32	.19
OM-EIS – Achieved	1.80	.24	1.97	.05
University Attended	-12.16	-.12	-.98	.33
Gender	-32.33	-.23	-1.89	.06
Age	-18.28	-.21	-1.66	.10
Family Financial Status	-5.21	-.05	-.45	.66
Residence Plans	4.31	.12	1.04	.31

Table 9

Correlations between ISI Identity Processing Styles as Measured in August, November, and March

	2.	3.	4.	5.	6.	7.	8.	9.
1. ISI August – Informational	.19*	-.39**	.60**	.06	-.24*	.42**	.15	-.10
2. ISI August – Normative	-	-.06	.22*	.75**	-.20	.31*	.67**	.14
3. ISI August – Diffused	-	-	-.17	-.01	.63**	-.13	-.12	.16
4. ISI November – Informational	-	-	-	.28**	-.36**	.69**	.30*	-.47**
5. ISI November – Normative	-	-	-	-	-.22*	.10	.68**	-.17
6. ISI November – Diffused	-	-	-	-	-	-.28*	-.26	.68**
7. ISI March – Informational	-	-	-	-	-	-	.51**	-.15
8. ISI March – Normative	-	-	-	-	-	-	-	.17
9. ISI March – Diffused	-	-	-	-	-	-	-	-

Note: * Significant at 0.05 level (2-tailed); ** Significant at 0.01 level (2-tailed).

Table 10

Correlations between ISI and SACQ scores, and their Respective Subscales

	Nov SACQ Total	Nov SACQ Academic	Nov SACQ Social	Nov SACQ Emotion	Nov SACQ Attach	Mar SACQ Academic	Mar SACQ Social	Mar SACQ Emotion	Mar SACQ Attach
Aug ISI Commit	.42**	.44**	.34**	.16	.35**	.30*	.16	.06	.12
Aug ISI Inform	.37**	.36**	.19	.27**	.29**	.20	.05	.10	.04
Aug ISI Norm	.25*	.19	.33**	-.02	.34**	.24*	.15	.02	.22
Aug ISI Diffuse	-.34**	-.45**	-.21*	-.12	-.25*	-.28*	-.30*	-.17	-.26*
Nov ISI Commit	.45**	.45**	.33**	.20*	.41**	.45**	.27*	.14	.34*
Nov ISI Inform	.43**	.36**	.26**	.37**	.34**	.39**	.35**	.35**	.37**
Nov ISI Norm	.20	.15	.27**	-.03	.24*	.29*	.22	.14	.26
Nov ISI Diffuse	-.35**	-.41**	-.27**	-.15	-.28**	-.43**	-.30*	-.24	-.36**
M - ISI Com	.38**	.27*	.40**	.17	.40**	.39**	.30*	.14	.36**
M - ISI Inform	.22	.14	.13	.30*	.15	.19	.08	.17	.12
M - ISI Norm	.22	.14	.32*	.02	.24	.12	.14	-.02	.13
M - ISI Diffuse	-.23	-.21	-.18	-.20	-.18	-.40**	-.28*	-.18	-.32**

Table 11

Regression Analysis with Identity Processing Styles Measured in August and November predicting SACQ Scores in November, Controlling for University, Gender, Age, Family Financial Status, and Residence Plans

Predictor	B	β	t	p
ISI August – Informational	1.48	.10	.72	.48
ISI August – Normative	3.44	.22	1.59	.12
ISI August – Diffused	-2.27	-.19	-1.36	.18
ISI November – Informational	3.99	.28	1.93	.06
ISI November – Normative	-1.14	-.08	-.50	.62
ISI November – Diffused	-.84	-.06	-.45	.66
University Attended	3.19	.04	.36	.72
Gender	-3.37	-.02	-.20	.84
Age	-24.70	-.26	-2.54	.01
Family Financial Status	6.38	.07	.77	.44
Residence Plans	2.78	.08	.79	.43

Table 12

Regression Analysis with Identity Processing Styles Measured in August, November, and March predicting SACQ Scores in March, Controlling for University, Gender, Age, Family Financial Status, and Residence Plans

Predictor	B	β	t	p
ISI August – Informational	-3.81	-.26	-1.13	.27
ISI August – Normative	5.14	.29	1.46	.15
ISI August – Diffused	-4.15	-.34	-1.49	.14
ISI November – Informational	6.94	.51	2.23	.03
ISI November – Normative	-1.76	-.11	-.54	.60
ISI November – Diffused	1.20	.09	.38	.71
ISI March – Informational	-.05	-.004	-.02	.99
ISI March – Normative	-.22	-.01	-.07	.95
ISI March – Diffused	-1.39	-.11	-.51	.61
University Attended	9.02	.08	.62	.54
Gender	-11.04	-.08	-.48	.63
Age	-20.53	-.23	-1.67	.10
Family Financial Status	-8.81	-.09	-.68	.50
Residence Plans	13.63	.37	2.83	.01

Table 13

Descriptive Statistics for the Objective Measure of Ego Identity Status (OM-EIS)

Identity Status	Group	Gender	<i>N</i>	<i>M</i>	<i>SD</i>
Achieved	Control	Male	16 (26)	31.94	10.38
		(Female)		(34.73)	(10.71)
		Total	42	33.67	10.55
	Intervention	Male	12 (18)	34.68	7.43 (7.57)
		(Female)		(34.44)	
		Total	30	34.54	7.39
Moratorium	Control	Male	16 (26)	28.19	9.73 (8.26)
		(Female)		(29.40)	
		Total	42	28.94	8.75
	Intervention	Male	12 (18)	25.83	7.12 (6.13)
		(Female)		(28.33)	
		Total	30	27.33	6.54
Foreclosed	Control	Male	16 (26)	20.24	9.28 (9.55)
		(Female)		(23.69)	
		Total	42	22.38	9.49
	Intervention	Male	12 (18)	19.00	6.58 (7.22)
		(Female)		(19.05)	
		Total	30	19.03	6.86
Diffused	Control	Male	16 (26)	26.88	11.83
		(Female)		(28.15)	(9.75)
		Total	42	27.67	10.47
	Intervention	Male	12 (18)	23.17	6.73 (6.48)
		(Female)		(25.72)	
		Total	30	24.70	6.59

Table 14

Descriptive Statistics for the MID Scale and its Respective Subscales

When	Scale	<i>N</i>	<i>M</i>	<i>SD</i>	α
November	MID Overall	100	51.41	7.00	0.90
November	MID – Parental Support	100	17.14	3.47	0.90
November	MID – Sense of Industry	100	17.59	2.43	0.90
November	MID – Approach to Future	100	16.69	2.90	0.86
March	MID Overall	73	50.78	8.35	0.92
March	MID – Parental Support	73	17.15	3.62	0.91
March	MID – Sense of Industry	73	17.22	3.19	0.94
March	MID – Approach to Future	73	16.41	3.31	0.87

Table 15

Correlations between the Three Subscales of the MID: Confidence in Parental Support, a Sense of Industry, and Having a Self-Reflective Approach to the Future

	2.	3.	4.	5.	6.
1. November Parental Support	.45**	.34**	.76**	.19	.19
2. November Industry	--	.57**	.33*	.64**	.42**
3. November Future		--	.40**	.46**	.63**
4. March Parental Support			--	.53**	.47**
5. March Industry				--	.58**
6. March Future					--

Note: * Correlation significant at the 0.05 level (2-tailed).

** Correlation significant at the 0.01 level (2-tailed).

Table 16

Correlations between the MID and the ISI, SACQ, OM-EIS, their Respective Subscales

	Nov MID	Nov Parent	Nov Industry	Nov Future	March MID	March Parent	March Industry	March Future
Aug ISI Inform	.27**	.09	.34**	.24*	.10	-.07	.04	.30*
Aug ISI Norm	.28**	.29**	.22*	.15	.44**	.37**	.37**	.34**
Aug ISI Diffused	-.24*	-.10	-.27**	-.22*	-.05	-.04	.05	-.14
Nov SACQ Total	.42**	.36**	.46**	.21*	.29*	.31*	.21	.15
Nov SACQ Academic	.40**	.41**	.36**	.19	.26*	.32*	.11	.14
Nov SACQ Social	.32**	.22*	.38**	.19	.26*	.24	.21	.15
Nov SACQ Emotional	.23*	.16	.32**	.11	.18	.13	.20	.08
Nov SACQ Attachment	.32**	.27**	.36**	.14	.13	.18	.06	.05
Nov ISI Inform	.35**	.16	.39**	.32**	.34**	.09	.29*	.41**
Nov ISI Norm	.35**	.33**	.33**	.16	.36**	.30*	.25	.27*
Nov ISI Diffused	-.35**	-.19	-.35**	-.33**	-.35**	-.28*	-.16	-.36**
Mar SACQ Total	.36**	.24	.44**	.20	.27*	.23	.36**	.08
Mar SACQ Academic	.31*	.23	.38**	.16	.27*	.21	.33**	.13
Mar SACQ Social	.37**	.22	.39**	.29*	.20	.18	.26*	.07
Mar SACQ Emotional	.16	.12	.26*	.02	.15	.15	.25*	-.02
Mar SACQ Attachment	.31*	.20	.35**	.20	.25*	.21	.33**	.09
Mar ISI Inform	.16	-.15	.26	.34*	.54**	.29*	.44**	.63**
Mar ISI Norm	.32*	.13	.32*	.32*	.51	.40**	.39**	.46**
Mar ISI Diffused	-.26	-.10	-.27*	-.28*	-.11	-.07	-.05	-.15
Mar OMEIS Diffused	-.18	.06	-.33*	-.23	-.17	-.02	-.19	-.21
Mar OMEIS Foreclosed	.19	.18	.09	.15	.09	.06	.09	.08
Mar OMEIS Moratorium	-.11	-.03	-.16	-.10	.06	.07	.03	.05
Mar OMEIS Achieved	.35**	.18	.33*	.34**	.40**	.31**	.30**	.36**

Note: * Significant at 0.05 level (2-tailed); ** Significant at 0.01 level (2-tailed).

Table 17

Bootstrap Analysis of Direct and Indirect Effects with Identity Processing Style as the Mediator

Effect	Estimate [†]	SE	95% Confidence Interval		p
			Standard Normal	Bootstrap Percentile	
a	-.004	1.12	(-2.28, 2.71)	(-.15, .15)	> .05
b	2.00	.52	(.69, 3.18)	(.09, .43)	< .001
c'	3.16	7.08	(-12.20, 18.73)	(-.10, .16)	> .05
a x b	-.008	2.66	(-.05, .05)	(-5.21, 5.75)	.99

Note. a = the direct effect of group participation → March ISI composite, b = the direct effect of March ISI composite → March SACQ, c' = direct effect of group participation → March SACQ controlling for the effect of March ISI composite. † = unstandardized.

Table 18

Bootstrap Analysis of Direct and Indirect Effects with the Identity Maturity Index (IMI) as the Mediator

Effect	Estimate [†]	SE	95% Confidence Interval		p
			Standard Normal	Bootstrap Percentile	
a	4.00	2.52	(-.64, 9.36)	(-.02, .27)	> .05
b	1.28	.22	(.69, 1.73)	(.19, .51)	< .001
c'	-1.95	6.75	(-16.51, 11.67)	(-.14, .10)	> .05
a x b	5.10	3.51	(-.002, .121)	(-.16, 13.43)	.06

Note. a = the direct effect of group participation → March IMI, b = the direct effect of March IMI → March SACQ, c' = direct effect of group participation → March SACQ controlling for the effect of March IMI. [†] = unstandardized.

Table 19

Means, Standard Deviations and Possible Ranges for the Variables Coded for in the Turning Point and Future Script Stories

Variables	<i>N</i>	<i>M</i>	<i>SD</i>	Range
Turning Point – Word Count	46	87.91	56.79	12-260
Turning Point – Detail/Depth	46	1.24	.74	0-2
Turning Point – Causal Coherence	46	1.13	.65	0-2
Turning Point – Meaning-making	46	1.61	.83	0-3
Future Script – Word Count	56	64.59	48.18	7-242
Future Script – Depth/Exploration	56	1.18	.81	0-2
Future Script – Commitment	56	1.21	.71	0-2
Future Script – Pro-Sociality	56	.71	.85	0-2

Table 20

Correlations between Variables Coded for in Turning Point Stories (Depth/Detail, Causal Coherence, and Meaning-Making) and Future Script Stories (Exploration/Detail, Commitment, and Pro-Sociality)

	2.	3.	4.	5.	6.	7.	8.
1. TP – word count	.56**	.40**	.36*	.79**	.45**	-.05	.06
2. TP – depth/detail	-	.67**	.30*	.37*	.40**	.02	.22
3. TP – causal coherence		-	.30*	.24	.33*	.27	.28
4. TP – meaning-making			-	.32*	.41**	.01	.14
5. FS – word count				-	.62**	-.02	.22
6. FS – exploration/detail					-	.19	.45**
7. FS – commitment						-	.17
8. FS – pro-sociality							-

Note: * Correlation significant at the 0.05 level (2-tailed).

** Correlation significant at the 0.01 level (2-tailed).

Table 21

Descriptive Statistics for Turning Point Stories by Group

Variable	Group	<i>N</i>	<i>M</i>	<i>SD</i>
Depth/detail	Control	18	1.39	.70
	Intervention	17	1.12	.86
Causal coherence	Control	18	1.22	.65
	Intervention	17	.94	.66
Meaning-Making	Control	18	1.50	.71
	Intervention	17	1.71	.77
Total Score	Control	18	4.11	1.57
	Intervention	17	3.76	1.75
Coherence score	Control	18	2.72	1.02
	Intervention	17	2.65	1.11

Table 22

The Observed and Expected Counts for the Chi-Square Analysis of Predominant Story

Theme found in the Turning Point Stories

Group	Count	Independence	School/Work	Relationship	Values	Personal Growth
Control	Observed	4	6	5	4	6
	Expected	2.2	6.0	4.9	2.7	9.2
Intervention	Observed	0	5	4	1	11
	Expected	1.8	5.0	4.1	2.3	7.8

Table 23

Descriptive Statistics for Future Script Stories by Group

Variable	Group	<i>N</i>	<i>M</i>	<i>SE</i>
Exploration/detail	Control	22	1.27	.77
	Intervention	22	1.18	.85
Commitment	Control	22	1.09	.68
	Intervention	22	1.18	.73
Pro-sociality	Control	22	.77	.92
	Intervention	22	.50	.67
Total Score	Control	22	3.14	1.75
	Intervention	22	2.86	1.52
Identity score	Control	22	2.36	1.09
	Intervention	22	2.36	1.26

Table 24

The Observed and Expected Counts for the Chi-Square Analysis of Story Themes found in the Future Script Stories

Group	Count	School		Work		Money		Happiness		Family	
		No	Yes	No	Yes	No	Yes	No	Yes	No	Yes
Control	Observed	16	14	3	27	27	3	27	3	21	9
	Expected	14.7	15.3	3.3	26.7	26.2	3.8	26.2	3.8	18.5	11.5
Intervention	Observed	11	14	3	22	21	4	21	4	13	12
	Expected	12.3	12.7	2.7	22.3	21.8	3.2	21.8	3.2	15.5	9.5

Table 25

Correlations between Turning Point Stories (Depth/Detail, Causal Coherence, and Meaning-Making), and University Adjustment

	Word Count	Depth/ Detail	Causal Coherence	Meaning- Making	Total
Nov SACQ Total	.25	.10	.04	.22	.16
Nov SACQ Academic	.32	.08	-.06	.15	.09
Nov SACQ Social	.02	-.03	-.03	.10	.03
Nov SACQ Emotional	.32	.25	.27	.26	.34*
Nov SACQ Attachment	-.07	-.09	-.14	.21	.00
March SACQ Total	.29	.17	.06	.18	.18
March SACQ Academic	.29*	.23	.15	.16	.23
March SACQ Social	.18	.01	-.06	.13	.05
March SACQ Emotional	.27	.19	.15	.10	.18
March SACQ Attachment	.17	.08	-.11	.22	.10

Note: * Correlation significant at the 0.05 level (2-tailed).

** Correlation significant at the 0.01 level (2-tailed).

Table 26

Partial Correlations between Turning Point Stories (Depth/Detail, Causal Coherence, and Meaning-Making), and University Adjustment, Accounting for the Effect of Word Count

	Depth/ Detail	Causal Coherence	Meaning- Making	Total
Nov SACQ Total	-.06	-.09	.15	.02
Nov SACQ Academic	-.13	-.23	.05	-.13
Nov SACQ Social	-.05	-.04	.10	.02
Nov SACQ Emotional	.09	.15	.17	.20
Nov SACQ Attachment	-.07	-.12	.24	.05
March SACQ Total	-.01	-.04	.18	.08
March SACQ Academic	.02	.05	.12	.10
March SACQ Social	-.08	-.10	.18	.02
March SACQ Emotional	.04	.03	-.02	.02
March SACQ Attachment	-.01	-.14	.29	.10

Note: * Correlation significant at the 0.05 level (2-tailed).

** Correlation significant at the 0.01 level (2-tailed).

Table 27

Correlations between Future Script Stories (Exploration/Detail, Commitment, and Pro-Sociality Themes), and University Adjustment

	Word Count	Exploration/ Detail	Commitment	Pro- Sociality	Total
Nov SACQ Total	.38**	.33*	.06	-.06	.16
Nov SACQ Academic	.41**	.28	-.00	.03	.15
Nov SACQ Social	.13	.28	.09	-.12	.12
Nov SACQ Emotional	.44**	.26	-.00	.01	.13
Nov SACQ Attachment	.09	.22	.05	-.21	.03
March SACQ Total	.49**	.44**	.04	.18	.31*
March SACQ Academic	.41**	.42**	.10	.23	.35**
March SACQ Social	.35**	.35**	.03	.09	.23
March SACQ Emotional	.52**	.38**	-.10	.16	.22
March SACQ Attachment	.35**	.33*	.04	.08	.21

Note: * Correlation significant at the 0.05 level (2-tailed).

** Correlation significant at the 0.01 level (2-tailed).

Table 28

Partial Correlations between Future Script Stories (Exploration/Detail, Commitment, and Pro-Sociality Themes), and University Adjustment, Accounting for the Effect of Word Count

	Exploration	Commitment	Pro-Sociality	Total
Nov SACQ Total	.13	.06	-.15	.01
Nov SACQ Academic	.03	-.01	-.07	-.03
Nov SACQ Social	.26	.09	-.15	.07
Nov SACQ Emotional	-.02	-.01	-.10	-.06
Nov SACQ Attachment	.20	.05	-.24	-.02
March SACQ Total	.36*	.12	.07	.24
March SACQ Academic	.36*	.12	.13	.28
March SACQ Social	.31*	.14	.01	.20
March SACQ Emotional	.13	-.10	.06	.04
March SACQ Attachment	.30*	.15	.00	.20

Note: * Correlation significant at the 0.05 level (2-tailed).

** Correlation significant at the 0.01 level (2-tailed).

Table 29

Correlations between Turning Point Stories (Depth/Detail, Causal Coherence, and Meaning-Making), Future Script Stories (Exploration/Detail, Commitment, Pro-Sociality), and Identity Measures (Identity Processing Style: Informational, Normative, and Diffused; and Identity Status: Diffused, Foreclosed, Moratorium, and Achieved)

	TP Depth	TP Causal	TP Learn	TP Total	FP Exp	FP Com	FP Gen	FP Total
Aug Process Informational	-.11	.04	.01	-.03	.11	-.07	.08	.06
Aug Process Normative	-.10	.01	.13	.02	.04	.37**	-.03	.16
Aug Process Diffused	.01	-.03	.01	.00	-.22	.11	-.28*	-.19
Nov Process Informational	-.09	.06	.05	.00	.35*	.05	.11	.25
Nov Process Normative	.16	.27	.20	.28	.17	.30*	-.12	.15
Nov Process Diffused	-.03	.03	-.15	-.07	-.37*	-.06	-.14	-.28
Mar Process Informational	-.02	.08	.11	.07	.34*	.01	.20	.26*
Mar Process Normative	.06	.18	.13	.16	.34*	.25	.13	.33*
Mar Process Diffused	-.10	-.03	-.16	-.13	-.37**	-.01	-.12	-.24
Mar Status Diffused	-.12	-.14	-.01	-.11	-.31*	-.08	-.03	-.20
Mar Status Foreclosed	-.12	.09	.09	.02	-.10	.03	.04	-.01
Mar Status Moratorium	-.07	-.15	.07	-.06	-.15	-.01	-.02	-.08
Mar Status Achieved	-.17	-.21	-.16	-.23	-.07	.12	-.11	-.04

Note: * Significant at 0.05 level (2-tailed); ** Significant at 0.01 level (2-tailed).

Appendix A

Objective Measure of Ego Identity Status

The questions in this scale address a variety of areas including vocation, religion and politics.

You will find that some of the items have more than one part and that you may agree with one part and disagree with another part. You should consider the statement as a whole, without considering the parts separately.

1 = very strongly disagree	5 = neither agree nor disagree	6 = very strongly agree
2 = strongly disagree		7 = strongly agree
3 = moderately disagree		8 = moderately agree
4 = slightly disagree		9 = slightly agree

1. _____ I haven't really thought about politics. It just doesn't excite me much.
2. _____ I might have thought about a lot of different jobs, but there's never really been any question since my parents said what they wanted.
3. _____ When it comes to religion I just haven't found anything that appeals and I don't really feel the need to look.
4. _____ My parents decided a long time ago what I should go into for employment and I'm following through their plans.
5. _____ There are so many different political parties and ideals. I can't decide which to follow until I figure it all out.
6. _____ I don't give religion much thought and it doesn't bother me one way or the other.
7. _____ I guess I'm pretty much like my folks when it comes to politics. I follow what they do in terms of voting and such.
8. _____ I haven't chosen the occupation I really want to get into, and I'm just working at whatever is available until something better comes along.
9. _____ A person's faith is unique to each individual. I've considered and reconsidered it myself and know what I can believe.
10. _____ It took me a long time to decide but now I know for sure what direction to move in for a career.
11. _____ I really have never been involved in politics enough to have made a firm stand one way or the other.
12. _____ I'm not so sure what religion means to me. I'd like to make up my mind but I'm not done looking yet.
13. _____ I've thought my political beliefs through and realize I can agree with some and not other aspects of what my parents believe.
14. _____ It took me awhile to figure it out, but now I really know what I want for a career.
15. _____ Religion is confusing to me right now. I keep changing my views on what is right and wrong for me.
16. _____ I'm really not interested in finding the right job, any job will do. I just seem to flow with what is available.

17. _____ My folks have always had their own political and moral beliefs about issues like abortion and mercy killing and I've always gone along accepting what they have.
18. _____ I've gone through a period of serious questioning about faith and can now say I understand what I believe in as an individual.
19. _____ I'm not sure about my political beliefs, but I'm trying to figure out what I can truly believe in.
20. _____ I'm still trying to decide how capable I am as a person and what jobs will be right for me.
21. _____ I attend the same church as my family has always attended. I've never really questioned why.
22. _____ I just can't decide what to do for an occupation. There are so many that have possibilities.
23. _____ I've never really questioned my religion. If it's right for my parents it must be right for me.
24. _____ Politics are something that I can never be too sure about because things change so fast. But I do think it's important to know what I believe in.

Appendix B

Identity Style Inventory

Below you will find a number of statements about beliefs, attitudes and/or ways of dealing with issues. Read each carefully, then use it to describe yourself. Indicate the extent to which you think the statement represents you. There are no right or wrong answers. Use the 1 to 5 point scale to indicate the degree to which you think each statement is uncharacteristic (1) or characteristic (5) of yourself.

- | 1 | 2 | 3 | 4 | 5 |
|-----------------------|-------------|---|---------|----------------------|
| not at all
like me | not like me | | like me | very much
like me |
1. _____ Regarding religious beliefs, I know basically what I believe and don't believe.
 2. _____ I've spent a great deal of time thinking seriously about what I should do with my life.
 3. _____ I'm not really sure what I'm doing in school; I guess things will work themselves out.
 4. _____ I've more-or-less always operated according to the values with which I was brought up.
 5. _____ I've spent a good deal of time reading and talking to others about religious ideas.
 6. _____ When I discuss an issue with someone, I try to assume their point of view and see the problem from their perspective.
 7. _____ I know what I want to do with my future.
 8. _____ It doesn't pay to worry about values in advance; I decide things as they happen.
 9. _____ I'm not really sure what I believe about religion.
 10. _____ I've always had purpose in my life; I was brought up to know what to strive for.
 11. _____ I'm not sure which values I really hold.
 12. _____ I have some consistent political views; I have a definite stand on where the government and country should be headed.
 13. _____ Many times by not concerning myself with personal problems, they work themselves out.
 14. _____ I'm not sure what I want to do in the future.
 15. _____ I'm really into my major; it's the academic area that is right for me.
 16. _____ I've spent a lot of time reading and trying to make some sense out of political issues.
 17. _____ I'm not really thinking about my future now; it's still a long way off.
 18. _____ I've spent a lot of time and talked to a lot of people trying to develop a set of values that make sense to me.
 19. _____ Regarding religion, I've always known what I believe and don't believe; I never really had any serious doubts.
 20. _____ I'm not sure what I should major in (or change to).
 21. _____ I've known since high school that I was going to college (university) and what I was going to major in.
 22. _____ I have a definite set of values that I use in order to make personal decisions.
 23. _____ I think it's better to have a firm set of beliefs than to be open-minded.
 24. _____ When I have to make a decision, I try to wait as long as possible in order to see what will happen.
 25. _____ When I have a personal problem, I try to analyze the situation in order to understand it.
 26. _____ I find it's best to seek out advice from professionals (e.g., clergy, doctors, lawyers) when I have a problem.
 27. _____ It's best for me not to take life too seriously; I just try to enjoy it.

28. _____ I think it's better to have fixed values, than to consider alternative value systems.
29. _____ I try not to think about or deal with problems as long as I can.
30. _____ I find that personal problems often turn out to be interesting challenges.
31. _____ I try to avoid personal situations that will require me to think a lot and deal with them on my own.
32. _____ Once I know the correct way to handle a problem, I prefer to stick with it.
33. _____ When I have to make a decision, I like to spend a lot of time thinking about my options.
34. _____ I prefer to deal with situations where I can rely on social norms and standards.
35. _____ I like to have the responsibility for handling problems in my life that require me to think on my own.
36. _____ Sometimes I refuse to believe a problem will happen, and things manage to work themselves out.
37. _____ When making important decisions I like to have as much information as possible.
38. _____ When I know a situation is going to cause me stress, I try to avoid it.
39. _____ To live a complete life, I think people need to get emotionally involved and commit themselves to specific values and ideals.
40. _____ I find it's best for me to rely on the advice of close friends or relatives when I have a problem.

Appendix C

Mechanisms for Identity Development

1	2	3	4	5
Strongly disagree	Disagree	Neutral	Agree	Strongly agree

Parental Support

For the following four statements, think about the parent that you would be most likely to go to for support.

1. I am confident that my parent will be there to support me emotionally if I need it.
2. I know that even as I gain independence my parent will be there for me if I need him/her.
3. I am able to discuss my problems with my parent.
4. I know that my parent will stand behind me no matter what I decide to do with my life.

Personal Capabilities

1. I know that if I work hard I can do well at almost anything.
2. I am confident that I can achieve my major goals in life if I put my mind to it.
3. I feel that I am capable of many things.
4. I know that I have the skills I need to be successful.

Thoughts about the Future

1. I give a lot of thought about what I want to do with my life.
2. I can imagine many different paths that my future could take.
3. I spend time thinking about how I can achieve my goals for the future.
4. I often think about where I am going in life.

Appendix D

Student Adaptation to College Questionnaire
(Baker & Siryk, 1984)

The 67 items included in this survey are statements that describe university experiences. Read each one and decide how well it applies to you at the present time (within the last few days). For each item, record the appropriate number in the space next to that item.

1	2	3	4	5	6	7	8	9
Doesn't apply To me at all								Applies very closely To me
1.	_____	I feel that I fit in well as part of the university environment.						
2.	_____	I have been feeling tense or nervous lately.						
3.	_____	I have been keeping up to date on my academic work.						
4.	_____	I am meeting as many people, and making as many friends as I would like at university.						
5.	_____	I know why I'm at university and what I want out of it.						
6.	_____	I am finding academic work at university difficult.						
7.	_____	Lately I have been feeling blue and moody a lot.						
8.	_____	I am very involved with social activities in university.						
9.	_____	I am adjusting well to university.						
10.	_____	I have not been functioning well during examinations.						
11.	_____	I have felt tired much of the time lately.						
12.	_____	Being on my own, taking responsibility for myself, has not been easy.						
13.	_____	I am satisfied with the level at which I am performing academically.						
14.	_____	I have had informal, personal contacts with university professors.						
15.	_____	I am pleased now about my decision to go to university.						

16. _____ I am pleased now about my decision to attend this university in particular.
17. _____ I'm not working as hard as I should at my course work.
18. _____ I have several close social ties at university.
19. _____ My academic goals and purposes are well defined.
20. _____ I haven't been able to control my emotions very well lately.
21. _____ I'm not really smart enough for the academic work I am expected to be doing now.
22. _____ Lonesomeness for home is a source of difficulty for me right now.
23. _____ Getting a university degree is very important to me.
24. _____ My appetite has been good lately.
25. _____ I haven't been very efficient in the use of study time lately.
26. _____ I enjoying living in a university residence. (Please omit if you do not live in a residence; any university housing should be regarded as a residence.)
27. _____ I enjoy writing papers for courses.
28. _____ I have been having a lot of headaches lately.
29. _____ I really haven't had much motivation for studying lately.
30. _____ I am satisfied with the extracurricular activities available at university.
31. _____ I've given a lot of thought lately to whether I should ask for help from the Psychological/Counseling Services Centre or from a counselor outside of university.
32. _____ Lately I have been having doubts regarding the value of a university education.
33. _____ I am getting along very well with my roommate(s) at university. (Please omit if you do not have a roommate.)
34. _____ I wish I were at another university.
35. _____ I've put on (or lost) too much weight recently.

36. _____ I am satisfied with the number and variety of courses available at university.
37. _____ I feel that I have enough social skills to get along well in the university setting.
38. _____ I have been getting angry too easily lately.
39. _____ Recently I have had trouble concentrating when I try to study.
40. _____ I haven't been sleeping very well.
41. _____ I'm not doing well enough academically for the amount of work I put in.
42. _____ I am having difficulty feeling at ease with other people at university.
43. _____ I am satisfied with the quality or calibre of courses available at university.
44. _____ I am attending classes regularly.
45. _____ Sometimes my thinking gets muddled up too easily.
46. _____ I am satisfied with the extent to which I am participating in social activities at university.
47. _____ I expect to stay at this university for a bachelor's degree.
48. _____ I haven't been mixing too well with the opposite sex lately.
49. _____ I worry a lot about my university expenses.
50. _____ I am enjoying my academic work at university.
51. _____ I have been feeling lonely a lot at university lately.
52. _____ I am having a lot of trouble getting started on homework assignments.
53. _____ I feel I have good control over my life situation at university.
54. _____ I am satisfied with my program of courses for this term.
55. _____ I have been feeling in good health lately.
56. _____ I feel I am very different from other students at university in ways that I don't like.
57. _____ On balance, I would rather be home than here.

58. _____ Most of the things I am interested in are not related to any of my course work at university.
59. _____ Lately I have been giving a lot of thought to transferring to another university.
60. _____ Lately I have been giving a lot of thought to dropping out of university altogether and for good.
61. _____ I find myself giving considerable thought to taking time off from university and finishing later.
62. _____ I am very satisfied with the professors I have now in my courses.
63. _____ I have some good friends or acquaintances at university with whom I can talk about any problems I may have.
64. _____ I am experiencing a lot of difficulty coping with the stresses imposed on me in university.
65. _____ I am quite satisfied with my social life at university.
66. _____ I am quite satisfied with my academic situation at university.
67. _____ I feel confident that I will be able to deal in a satisfactory manner with future challenges here at university.

Appendix E

Turning Point Story Prompt

In looking back on your life, you may be able to identify certain key "turning points": episodes through which you experienced an important change in your life. Please choose one key turning point scene and describe it in detail. If you feel your life story contains no clear turning points, then describe a particular episode in your life that comes closer than any other to qualifying as a turning point – a scene where you changed in some way. Please describe what led up to the event, what happened in the event, where and when it happened, who was involved, what you were thinking and feeling, and so on. Also, please tell me how you think you changed as a result of this event and why you consider this event to be an important scene in your life story today. Have you told this story to anyone before?

Future Script Prompt

At this time we would like you to consider your future. As your life story extends into the future, what might be the script or plan for what is to happen next in your life? Please describe your overall plan, outline, or dream for your own future. Most of us have plans or dreams that concern what we would like to get out of life and what we would like to put into the future. These dreams or plans provide our lives with goals, interests, hopes, aspirations, and wishes. Furthermore, our dreams or plans may change over time, reflecting growth and changing experiences. Describe your present dream, plan, or outline for the future. Also, please describe how, if at all, your dream, plan or outline enables you (1) to be creative in the future and (2) to make a contribution to others.

Appendix F

Turning Point Stories – Coding ManualTurning Point Theme

Stories should be coded for the predominant theme of the turning point event. The theme of the turning point will map onto how the individual has changed as a result of the turning point. The theme of the turning point will not necessarily describe the actual turning point event itself or the circumstances of the turning point, rather the theme captures how the person changed as a result of the event. It is possible for the story to contain more than one theme, however, the predominant theme should be noted.

Independence	The turning point taught the person about independence (e.g., their ability to care for themselves, their capabilities, that they are able to stand on their own two feet, etc.)
School/work	The turning point gave the person a sense of direction regarding what they would like to be when they grow up, whether that is through influencing their selection of a major field of study, or a career path.
Relationships	The turning point taught the person something about relationships (e.g., parent-child relationships, romantic relationships, friendships). The learning could be general (e.g., something that applies to other relationships, relationships in general) or specific to that relationship (e.g., something that applies only to the relationship the storyteller has to that person.)
Values	The turning point changed one or more values that the individual held (e.g., the importance of empathy, the value of looking beyond appearances, the importance of hard work or perseverance, the importance of giving back or making an impact, what is important in life, etc.)
Self Realization/ Personal Growth	The turning point allowed the individual to come to some sort of realization about themselves. The event changed the perception the individual had about themselves in terms of how far they have come on some dimension, the growth they've experienced, or the responsibilities they have. The event could also be pivotal in bringing about a change in who the person is in terms of a sense of identity (e.g., an ethnic identity, sexual orientation, etc.) This could include realization about a personal journey or growth.

Detail/Depth

- 0 There are no details in the story. The storyteller does not provide a clear explanation of the events. The reader is left feeling uncertain as to what occurred in the turning point, or what the event was.
- 1 Storyteller provides some detail of the turning point story, but overall the detail and description of the event is somewhat vague. There are some points where more explanation is needed. Greater detail could be included.
- 2 The story contains a great deal of detail and the storyteller is very specific regarding most elements of the turning point story.

Causal Coherence

- 0 No link between how events are related to outcomes/end results
- 1 Connection between events implied, but not clearly/explicitly stated
Coder needs to make inferences on how events are causally connected
- 2 Clearly stated how events led to, or are linked to, the outcomes of the story

Meaning-Making

- 0 No learning gleaned from event
- 1 Rule
How the episode has informed the specific circumstance in their life. Simplified understanding of how learning in episode informs life or sense of self.
- 2 Vague insight
Insight implied, but not clearly articulated.
- 3 Clear insight
Insight in how the event has impacted their life and the way they view others or themselves in general.

Appendix G

Future Script Stories – Coding ManualStory Themes

Stories should be coded for the presence of these themes. Each story could potentially include all themes within it. Please be sure to note all the themes which appear in the story.

School	There is mention of school, whether it be performance in school currently, attending graduate school in the future, or professional schooling (e.g., law school)
Work	Discussing the desire for a career in the future, and/or the type of career that one wants (e.g., to be a teacher)
Family	Wanting to get married, and/or have children. Discussion of family members.
Money	Mention of money or income or financial security.
Happiness	The desire for happiness in the future. The hope for contentment in (different aspects) of life (e.g., happiness or fulfillment through work or family).

Exploration/Depth

- 0 There are no personal details in the story. The future plans laid out seem somewhat generic (i.e., follow the typical life story of school, work, marriage, family), with no indication given that the person has given any great deal of thought to what they want.
- 1 Storyteller provides some detail regarding elements of their future plans, but not on all elements. Greater detail could be included.
- 3 The story contains a great deal of detail and the storyteller is very specific regarding all elements of their future plan story.

Commitment

- 0 The storyteller does not know what he/she wants to do. There is only a vague description of what the person wants for their future with no mention of any options he/she would explore.

- 1 The storyteller discusses possible paths or options that he/she could take. There is no concrete statement that only one option exists. The storyteller conveys that he/she is somewhat flexible on the plans that he/she has discussed (e.g., “this would be a possible career for me.”)
- 2 The person is definitive on what he/she wants. No other options are discussed. (e.g., “I want to be a lawyer.”)

Pro-Sociality/Generativity

- 0 No mention of contributing to mankind, or making a difference in any way. The story centers on the person’s goals for him/herself exclusively.
- 1 There is vague mention of want to make a difference or to contribute, but detail is lacking regarding how this would occur, or in what way the person would like to contribute.
- 2 There is specific discussion about how the storyteller wants to give back to others or make a contribution to mankind in some way.