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# Ruminative Exploration in Late Adolescence and its Relationship to Depression, Self-Esteem, and Parental Autonomy Support

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## ABSTRACT

Ruminative exploration is considered a maladaptive dimension of identity development that appears to be at its highest during emerging adulthood (Luyckx, Klimstra, Duriez, Petergem, & Beyers, 2013a). Previous studies have assessed the relationship between ruminative exploration and well-being in populations in Dutch speaking populations of university students in Belgium (Luyckx, Gossens, & Soenens, 2006a; Luyckx, Gossens, Soenens, & Beyers, 2006b; Luyckx et al., 2007a; Luyckx et al., 2008; Luyckx et al., 2013a). Following the Dutch research, it was predicted that ruminative exploration will be positively correlated with symptoms of depression and low self-esteem among US college students. Beyond replicating the associations between ruminative exploration and well-being, the study seeks to examine potential familial correlates of ruminative exploration by assessing the relationship between ruminative exploration and parental support. Previous studies have shown autonomy supportive parenting encourages better overall well-being and identity development (Soenens et al., 2007). This leads to the second hypothesis that ruminative exploration will be negatively related to parental autonomy support. Participants were 268 students at Abilene Christian University who completed demographic questions and four measures to assess ruminative exploration, depression, self-esteem, and parental autonomy support. The measures were distributed via an online survey system. Results of correlational analyses showed that ruminative exploration was associated with higher depression and lower self-esteem, which is

consistent with the first hypothesis. Correlational analyses also demonstrated that only autonomy support from the mother showed a relationship with ruminative exploration. Maternal and paternal autonomy support were correlated to decreased symptoms of depression and increased self-esteem.

Ruminative Exploration in Late Adolescence and its Relationship to Depression, Self-  
Esteem, and Parental Autonomy Support

Presented to  
The Faculty of the Graduate School  
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In Partial Fulfillment  
Of the Requirements for the Degree  
Master of Science

By  
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This thesis, directed and approved by the candidate's committee, has been accepted by the Graduate Council of Abilene Christian University in partial fulfillment of the requirements for the degree

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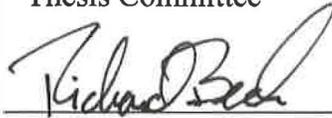
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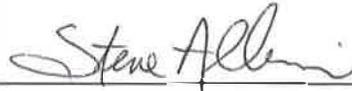
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Thesis Committee



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Dr. Richard Beck, PhD, Chair



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To my husband, family, and close friends whose support, love, and encouragement has  
made this achievement possible.

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## CHAPTER I

### **Identity Formation in Adolescence and Emerging Adulthood**

#### **Models of Identity Formation**

Identity is a process that takes place throughout life in different cycles and capacities (Carlsson, Wangqvist, & Frisen, 2016; Erikson, 1968; Kroger, Martinussen, & Marcia, 2010; Luyckx, Gossens, & Soenens, 2006a; Marcia, 1966; Meeus, 2011). Although it is a continuous process, identity formation is considered to be at its most intense during the adolescent period through emerging adulthood (Kroger et al., 2010; Luyckx et al., 2006a; Luyckx et al., 2006b; Meeus, 2011; Tanti, Stukas, Halloran, & Foddy, 2011; Zimmermann, Lannegrand-Willems, Safont-Mottay, & Cannard, 2015). Erikson (1968) described identity formation during adolescence as a psychosocial task of ego growth. This occurs as children shift from simply identifying and naming perceptions and roles in society to being persons who integrate these perceptions into a cohesive version of themselves. In addition to being a struggle to identify the self, the process of identity formation also focuses on obtaining intimacy (Erikson, 1968; Tanti et al., 2011). Identity formation is the core struggle in adolescence and at its core, represents a growing need within the individual to form ideological, social, and occupational commitments (Erikson, 1968; Marcia, 1966).

The seminal works of Erikson (1950, 1968) concerning identity development were most notably expanded upon by Marcia (1966), who defined two key processes that are active during identity development called *commitment* and *exploration*. Commitment is a broad term to mean any potential piece of ideology, personal or social values,

motivations, or aspirations that an individual implements or adheres to (Baumeister, Shapiro, & Tice, 1985; Marcia, 1966). For example, an individual who is active in the commitment process might decide upon a college major or become more vocal about how his religious beliefs guide his life choices. Exploration is the active process in which an individual investigates alternatives and questions commitments (Luyckx et al., 2013a; Marcia, 1966). This process might take the form of an individual shadowing professionals in several fields to understand his future career options before deciding upon a major. The two processes of exploration and commitment are foundational for modern models of identity development (Luyckx et al., 2006a; Luyckx et al., 2006b; Luyckx et al., 2008; Meeus, 2011; Meeus, van de Shoot, Keijsers, Schwartz, & Branje, 2010).

In addition to the two processes of exploration and commitment, Marcia (1966) defined four categories of identity development that are the basic stages of identity development. These statuses are achievement, diffusion, moratorium, and foreclosure. Achievement is the most stable status over time because once achievement has been reached adolescents are likely to remain in this state (Kroger et al., 2010). Individuals experiencing achievement have experienced crisis, considered alternatives and have committed to an ideology, occupation, and direction for life (Marcia, 1966; Meeus et al., 2010). A college student who has reached achievement is likely to appear sure of his career path, has settled on religious beliefs, and overall feels comfortable with who he is as a person. Achievement is the preferred outcome of identity development because it means that the individual has engaged in exploration of alternatives and has been able to commit to a path (Marcia, 1966).

In contrast to achievement, on the opposite end of the spectrum of identity development falls diffusion. Diffused individuals have not yet encountered crisis and lack any strong commitments (Marcia, 1966). This person appears to be unbothered by his lack of commitment to a specific direction and follows a more haphazard approach to life choices (Carlsson et al., 2016; Meeus et al., 2010). For example, a college freshman in diffusion probably has barely considered what major to pick and frequently finds new interests, political beliefs, or ideologies and is unbothered by any contradictions in these beliefs. Especially early in college, diffused individuals may appear to be simply enjoying the party and aimlessly wandering through college.

Between diffusion and achievement fall foreclosure and moratorium. The individual in moratorium is currently experiencing a crisis and probably has vague commitments but is often actively struggling with making commitments (Marcia, 1966; Schwartz et al., 2011). For example, this may look like the college student that is broadly exploring several majors but has trouble declaring one. Finally, foreclosure is a common state for early adolescents to begin in (Meeus et al., 2010), and it is likely that as they age, they will move from foreclosure to another status (Kroger et al., 2010). Adolescents in foreclosure express strong commitments without having entered a period of crisis or exploration of alternatives (Marcia, 1966). This person is generally more rigid in his beliefs, and he has most likely carried parental beliefs into emerging adulthood without exploring alternative options (Marcia, 1966; Schwartz et al., 2011). This may manifest itself as a college student who appears confident in a major and belief system, but these decisions are strong suggestions from parents rather than the result of the student coming to these convictions on his own. Overall, individuals generally progress through the

different statuses moving towards achievement rather than moving away from achievement as they enter emerging adulthood and adulthood (Kroger et al., 2010; Marcia, 1966; Meeus, 2011; Meeus et al., 2010).

Over time, however, it has become evident that the exploration process is more complex than is suggested by the early models of identity development (Luyckx et al., 2006a; Luyckx et al., 2006b; Luyckx et al., 2008; Meeus et al., 2010). To address this complexity, Meeus et al. (2010) proposed a three-dimensional model characterized by commitment, in-depth exploration, and reconsideration of commitment. The commitment and in-depth exploration processes proposed by Meeus et al. (2010) are essentially the same as the ones proposed by Marcia (Meeus et al., 1996; Meeus, Iedema, & Maassen, 2002). The unique aspect of Meeus's model is the reconsideration of commitment. This intends to address findings that suggested that individuals appear to explore and form commitments and then over time change these commitments (Meeus, 1996; Meeus, 2011; Meeus et al., 2010). Reconsideration of commitment could look like a college student who entered college committed to a major and career path but begins to look at other alternatives and seriously considers a different path.

These three processes—commitment, in-depth exploration, and reconsideration of commitment—work in a cyclical manner to address the dynamic that as individuals explore and commit to facets of identity, they also revisit them and sometimes change original commitments. In addition to adding reconsider of commitment, Meeus et al. (2010) also identified five clusters of identity statuses that are similar to Marcia's (1966) original four: achievement, early closure (similar to foreclosure), moratorium, searching moratorium, and diffusion (Meeus, 1996; Meeus, 2011; Meeus et al., 2010). The cluster

called searching moratorium differs from the previous four-cluster model in that it involves extreme amounts of reconsideration not present in moratorium (Meeus et al., 2010). Overall, the contribution of Meeus' three-dimensional model is important because it begins to address potentially regressive or maladaptive identity formation processes.

### **Identity Crises**

The process of identity formation is, in reality, a cycle of crisis followed by resolution followed by another crisis (Erikson, 1968; Luyckx, 2006a; Luyckx, 2006b; Marcia, 1966). This is true in each model of development. The difference in each model is how the individual handles and overcomes these crises. Identity crises are any internal struggles or questioning of ideologies, vocations, or social alternatives (Erikson, 1968; Marcia, 1966). More generally, crisis is any period in which adolescents attempt to choose among any number of meaningful alternatives (Baumeister et al., 1985; Marcia, 1966).

The process that an individual engages in to overcome crises may be dependent on age and cognitive ability in abstract reasoning (Marcia, 1966; Tanti et al., 2011). In theory, older adolescents have developed better coping skills and will respond to crises in adaptive ways, and they are better equipped to overcome them. However, the impact of identity crises are also linked to the individual's development of self in the social context (Tanti et al., 2011) and in terms of academic achievements and goals (Kaplan & Flum, 2010). Thus, these factors may directly affect how and when an adolescent encounters different crises. It is common for emerging adults to report that commitments that had previously been strongly held became weaker after the first year of attending university (Beyers & Gossens, 2008). It is possible that these reports are the result of increased

alternatives in college as well as simply the results of moving from adolescence into emerging adulthood with a change in social context and academic goals.

In theory, as an individual overcomes each crisis he faces, he slowly forms a cohesive version of self and moves toward achieving identity formation. The shift from one status of identity formation to another often occurs over a longer period of time. For example, the shift from moratorium to achievement is likely to be stronger and occur over a four-year span than in one year (Meeus 2011; Meeus et al., 2010). However, individuals may rise and fall in specific commitment or exploration processes in shorter spans of time (Meeus, 2011). This makes logical sense when considering that a college freshman who appears directionless (diffusion) does not suddenly make solid, long-lasting commitments (achievement). Instead, this student will likely go through months of wrestling with this crisis of finding a career path and it could take a year for the student to move from uncaring (diffusion) to actively exploring alternatives (moratorium), and potentially another year or two to settle on a career path (achievement).

Because moving from one status to another is often a slow process, individuals who begin in diffusion are unlikely to progress through enough cycles of commitment and exploration to reach achievement during adolescence (Meeus et al., 2010). Crises mostly occur during adolescence (Erikson, 1968; Kroger et al., 2010; Luyckx et al., 2006a; Marcia, 1966). However, that is not to say that identity development stops in adolescence and that these individuals will not eventually reach achievement if it is not reached during adolescence. If individuals enter their late 20s still in a state of diffusion, it appears that engaging in identity processes becomes increasingly difficult (Carlsson et

al., 2016). The resolution of identity crises, then, is the ability to have explored numerous options and be able to commit to concrete goals and ambitions (Baumeister et al., 1985). Finally, although identity formation is usually seen as progressive (Meeus, 2011), a crisis triggered by a trauma may cause an individual to regress in identity formation (Kroger et al., 2010). This could mean moving from an achieved status back to moratorium or foreclosure. For example, if an individual had formed strong commitments and was secure in his identity then experienced a major trauma, it could lead to questioning those commitments and moving backward through identity development to a previous status of diffusion or older commitments.

### **A Four-Dimensional Model of Identity Formation**

Building on the works of Erikson (1950, 1968) and Marcia (1966), a four-dimensional model of identity formation emerged. This model identifies two dimensions of commitment and two dimensions of exploration (Luyckx et al., 2006a; Luyckx et al., 2006b). In this model, commitment is broken up into commitment making and identification with commitment. Exploration is expanded to include exploration in breadth and exploration in depth (Luyckx et al., 2006a; Luycks et al., 2006b). Understanding this four-dimensional model is relevant to the present study as it provides the theoretical foundation for the recent addition of ruminative exploration as a fifth dimension (Luyckx et al., 2008).

Adolescents engage in these four processes (commitment making, identification with commitment, exploration in breadth, and exploration in depth) in varying amounts depending on the identity crises that they face and their reactions to them (Luyckx et al., 2006a). Commitment making is the initial ability to commit to a direction for any aspect

of identity development (Luyckx et al., 2006a; Luyckx et al., 2006b). For an adolescent, this may mean committing to a religious ideology or deciding on a career path. This process of commitment making is an unavoidable and crucial first step in identity formation since it ends an identity crisis of exploration (Luyckx et al., 2006b; Marcia, 1966).

Identification with commitment is the process after committing to a value or path where the adolescent determines if the initial commitment is a reflection of his true self (Luyckx et al., 2006a). Identification with commitment comes after the initial commitment is made, and if the commitments are unsatisfactory, it can ultimately lead an individual to return to a state of crisis or moratorium (Marcia, 1966; Meeus et al., 2002). For example, a college freshman that has decided to pursue a career in medicine has engaged in commitment making, but after taking a few classes, this individual may ask himself if being a physician is the right career path for him. At this point, the individual is questioning the commitment, and if he decides that being a doctor will fulfill his career aspirations, then he has engaged in identifying with his commitments. Achievement in identity formation rests upon these two processes of commitment working together for an adolescent to form a cohesive version of self that is both committed and feels adequately expressed through these commitments (Luyckx et al., 2006a; Marcia, 1966).

The two exploration processes—exploration in breadth and exploration in depth—are used to investigate alternative options to the commitments made during the commitment processes. During exploration in breadth, an adolescent weighs potential commitments and explores a range of options (Luyckx et al., 2006a; Luyckx et al., 2006b). This part of exploration usually deals with commitments not yet formed because

individuals are exploring a variety of options at a basic level before committing to an alternative to explore more in-depth (Luyckx et al., 2006a). An emerging adult that is exploring greatly in depth might be talking to professionals or spending a great deal of time on the internet researching the job opportunities for a variety of college majors before declaring a major. When exploring in depth, an adolescent attempts to gain a better understanding of an already formed commitment (Luyckx et al., 2006a; Luyckx et al., 2006b). A college student high in exploration in depth might spend hours finding professionals in his field to talk with about the different jobs available within his chosen career path.

The three-dimensional model previously discussed suggests that exploration occurs either in-depth or as a reconsideration (Croccetti, Rubini, & Meeus, 2008; Meeus 1996; Meeus, 2002; Meeus et al., 2010). By contrast, the four-dimensional model provides more room for exploration in breadth to be a healthy investigation into alternatives before a commitment is ever formed (Luyckx et al., 2006a). In the four-dimensional model, both processes of exploration are adaptive skills for coping with questions of identity and deciding between alternatives (Luyckx et al., 2006a; Luyckx et al., 2006b; Luyckx et al., 2008).

Overall, these four dimensions influence each other in a cycle of formation ideally beginning with exploration in breadth, followed by commitment making, and then immediately followed by exploration in depth (Luyckx et al., 2006a). During exploration in depth, an adolescent either engages in identification with the commitments, thus ending the cycle, or the individual does not identify and therefore restarts the cycle with exploration in breadth to find a preferable alternative to commit to (Bosma & Kunnen,

2001; Grotevant, 1987; Luyckx et al., 2006b; Meeus et al., 2002). Exploration in depth is positively correlated with commitment making and identification with commitment while exploration in breadth is generally negatively correlated with both commitment dimensions (Luyckx et al., 2006b). This would support the ideal cycle that if an adolescent is actively exploring in breadth, then adhering to commitments is low. Similarly, if an adolescent is exploring in depth, it is expected that he will have made commitments and identify with them (Luyckx et al., 2006a; Luyckx et al., 2006b; Luyckx et al., 2008). Periods of exploration in breadth may be periods of crisis in which an individual is not able to form any new commitments, which pauses the entire process of identity formation until the exploration is complete (Luyckx et al., 2006a).

These four dimensions fall into the same four status clusters identified by Marcia (1966) with the exception of diffusion (Luyckx, Goossens, Soenens, Beyers, & Vansteenkiste, 2005). Under the four-dimensional model, individuals in diffusion are characterized as either carefree diffusion or diffused diffusion (Luyckx et al., 2005). Those in carefree diffusion are similar to the unencumbered type of diffusion noted by Marcia (1966) as these individuals are unbothered by their lack of commitments. Individuals in diffused diffusion are more troubled by a lack of commitment, but are not engaging in the exploration processes necessary to move into a state of moratorium (Luyckx et al., 2005). Although it clarifies two distinct aspects of diffusion, overall, the four-dimensional model still creates clusters consistent with traditionally held identity statuses.

Over the course of time, commitment making tends to increase as well as identification with commitment (Luyckx et al., 2006a; Luyckx et al., 2013a; Meeus,

2011). This indicates that as individuals go through adolescence, they gradually make more commitments and then identify with them. Identification with commitment has consistently been shown to briefly decrease during the first couple of years of emerging adulthood (Luyckx et al., 2006a). For example, an adolescent may identify strongly with commitments through the end of high school, but as college presents new alternatives and questions, those commitments become weaker while the alternatives are investigated. This is consistent with previous research showing that the achievement status tends to increase through high school, dips during the college years, and subsequently rises steadily as individuals exit emerging adulthood (Kroger et al., 2010). Marcia (1966) emphasized that exploration of alternatives helps to facilitate the ability to form commitments (Baumeister et al., 1985). Higher levels of initial exploration in breadth are associated with increased commitment making over time (Luyckx et al., 2006a). Adolescents who explore many alternatives earlier in adolescence appear to be better able to make commitments as they age. This supports research showing that adolescents who begin in foreclosure, or limited exploration in breadth early in adolescence, may have more difficulty exploring alternatives to reach identity achievement as they age (Kroger et al., 2010; Schwartz et al., 2011).

The two exploration processes tend to be at their highest during the emerging adulthood timeframe (Luyckx et al., 2013a). This indicates that as adolescents reach college and emerging adulthood they are spending more energy exploring alternatives. Although the commitment processes and exploration processes are closely linked in late adolescence, they appear to become more detached and independent from each other as individuals progress into their late 20s (Luyckx et al., 2006a; Luyckx et al., 2006b;

Luyckx et al., 2013a). The close links in early adolescence supports the four processes interacting in a cyclical manner that leads to achievement of identity development (Luyckx et al. 2006a; Luyckx et al., 2006b). This could indicate that as individuals age, identity formation becomes less cyclical and more haphazard.

### **Identity Crises and Well-Being**

If the ultimate goal of identity formation is to arrive at achievement (Marcia, 1966), then it is not surprising that individuals who reach this status appear to have overall better psychological well-being (Clancy & Dollinger, 1993; Crocetti, Beyers, & Cok, 2016; Crocetti, Rubini, & Meeus, 2008; Luyckx et al., 2006a; Luyckx et al., 2013a; Schwartz et al., 2011). Individuals in achievement appear to be less vulnerable to negative feedback, express higher self-esteem (Schwartz et al., 2011), and report realistic levels of aspirations (Marcia, 1966). A person who is in the achieved status is adaptable and emotionally stable (Crocetti et al., 2008). This indicates that both having explored alternatives, and the ability to commit to a path or view of self, encourages overall well-being. Commitment making and identification with commitment are also related to high self-esteem and lower symptoms of depression (Luyckx et al., 2006b; Luyckx et al., 2013b). Possibly, it is not that individuals in diffusion, foreclosure, or moratorium experience more emotions that are negative but that those who have explored and are committed are more secure in their identities and are therefore more likely to experience positive emotions (Clancy & Dollinger, 1993).

Individuals who remain in diffusion and moratorium experience higher levels of depression (Clancy & Dollinger, 1993; Crocetti et al., 2016; Luyckx et al., 2006a; Luyckx et al., 2013a), anxiety (Crocetti et al., 2008; Schwartz et al., 2011), and substance

use and other delinquent behaviors (Dumas, Ellis, & Wolfe, 2012; Crocetti et al., 2008; Schwartz et al. 2011; Yablonska, 2013). Exploration in breadth has also been associated with higher reported levels of depressive symptoms (Luyckx et al., 2006b; Luyckx et al., 2013a), which is similar to findings that individuals in moratorium are more vulnerable to symptoms of depression and lower self-esteem (Clancy & Dollinger, 1993; Schwartz et al., 2011). Additionally, these depressive symptoms are more strongly associated to exploration in breadth with increasing age (Luyckx et al., 2013a). For example, an individual in emerging adulthood is likely to experience more symptoms of depression than someone in early adolescence even though both individuals express high levels of exploration in breadth. Similarly, as individuals enter emerging adulthood, lower reported levels of both commitment processes are correlated to lower self-esteem (Luyckx et al., 2013b). As adolescents move into emerging adulthood, they become more distressed by an inability to commit or feeling stuck in broadly exploring alternatives still. Although all four dimensions are adaptive, it appears that as age increases, the exploration processes become less adaptive and helpful for continued identity formation (Luyckx et al., 2013a).

### **Ruminative Exploration**

Although the processes of identity formation are generally regarded as adaptive processes (Erikson, 1968; Clancy & Dollinger, 1993; Crocetti et al., 2008; Luyckx et al., 2006a; Marcia, 1966; Schwartz et al., 2011), research also shows a trend of heightened anxiety and depression associated with the exploration processes (Clancy & Dollinger, 1993; Luyckx et al., 2006a; Luyckx, 2006b; Meeus, 2011). This is expressed in the three-dimensional model as a maladaptive exploration process of reconsideration of commitment (Meeus, 1996; Meeus et al., 2010). Reconsideration of commitment is an

active process that may cause a person to regress in his movement towards achievement (Marttinen, Dietrick & Salmela-Aro, 2016; Meeus, 2011; Meeus et al., 2010). However, Luyckx et al. (2008) observed a passive aspect of exploration focused more on a struggle to settle on a commitment than an active exploratory process for new commitments. This observation expanded the four-dimensional model of Luyckx et al (2006a) to include ruminative exploration as a distinct third dimension of the exploration process and fifth dimension of identity development as a whole (Luyckx et al., 2008).

Rumination is a maladaptive coping strategy, often associated with depression that involves an individual focusing on symptoms or causes of symptoms of a problem with no actions aimed at solving the problem (Nolen-Hoeksema, 1991). In identity formation, individuals engaging in rumination as a process of exploration are in a constant state of uncertainty without making any moves towards actual solutions to their identity questions (Luyckx et al., 2008). Individuals high on ruminative exploration find answers to identity questions difficult, and this uncertainty manifests itself in feelings of incompetence (Luyckx et al., 2008). For example, a college student that engages highly in ruminative exploration may have declared a major but spends a great deal of time contemplating if this major is the right one and whether he wants to continue on this path. He continues with his already declared major because he cannot commit to any alternatives, and he cannot answer his questions about not pursuing this career path satisfactorily enough to abandon the major altogether. The distinct feature here is his focus on ruminating about his commitment without making any changes or actively exploring more about this commitment in depth or seeking alternatives by exploring in breadth. Unlike the processes of exploration in breadth and depth, which are active

processes aimed at forming a commitment, individuals experiencing ruminative exploration ask themselves the same questions repeatedly without any ability to commit to an answer (Beyers & Luyckx, 2016; Luyckx et al., 2007a; Luyckx et al., 2008). For this reason, high scores on ruminative exploration in emerging adulthood are negatively related to other commitment dimensions (Luyckx et al., 2008; Luyckx et al., 2013a).

Luyckx et al. (2008) assessed the five-dimensional model to identify clusters of identity statuses and six clusters emerged, which were achievement, diffused diffusion, carefree diffusion, foreclosure, ruminative moratorium, and undifferentiated. Ruminative moratorium is also called searching moratorium and is characterized by individuals maintaining some commitments while having high scores on all three dimensions of exploration (Luyckx et al., 2008; Schwartz et al., 2011). A person in ruminative moratorium is actively exploring alternatives while also passively worrying and ruminating on these alternatives and commitments. The ruminative moratorium cluster is also similar to the searching moratorium cluster used by Meeus et al. (2010) that is characterized by high levels of in-depth exploration and reconsideration (Meeus, 2011). This suggests that ruminative exploration taps into a similar dimension of identity formation as the process of reconsideration. However, reconsideration is considered an active process (Crocetti et al., 2008; Meeus, 1996; Meeus et al., 2010) where ruminative exploration is passive process (Beyers & Luyckx, 2016; Luyckx et al., 2005; Luyckx et al., 2008).

Within these identity status clusters, ruminative exploration scores are extremely low for achievement and foreclosure (Marttinen et al., 2016). Ruminative exploration scores are moderately low for carefree diffusion, moderately high for undifferentiated,

and extremely high for diffused diffusion and ruminative moratorium (Luyckx et al., 2008; Marttinen et al., 2016). Individuals in the undifferentiated status are similar to the characteristics associated with the moratorium identity status. These individuals score moderately on all dimensions and thus do not quite fit into any of the other five clusters (Schwartz et al., 2011). Undifferentiated is also similar to the cluster used by Marttinen et al. (2016) called reconsidering achievement which is characterized by high levels of all dimensions except for ruminative exploration which is moderate. It is also noteworthy that individuals in carefree diffusion are typically unwilling to make commitments whereas those in diffused diffusion appear to be unable to make these commitments (Schwartz et al., 2011), which may explain the difference in the scores for ruminative exploration in the diffused statuses. This supports ruminative exploration as a maladaptive dimension of identity formation since it is most often present in identity clusters that are struggling to explore and make commitments. Overall, ruminative exploration appears to hinder identity formation. For the purposes of studying the role and the impact of ruminative exploration, it is also useful to look at the identity statuses of ruminative moratorium and diffused diffusion since ruminative exploration appears to be present more in these individuals.

### **Ruminative Exploration and Well-Being**

Rumination, in general, contributes to more severe and prolonged depressed mood and lower self-esteem (Burwell & Shirk, 2007; Joireman, Parrott, & Hammersla, 2002; Nolen-Hoeksema, 1991). Thus, it is unsurprising that ruminative exploration, more than the other four dimensions, is related to higher levels of depressive symptoms (Luyckx et al., 2013a). Ruminative exploration is also related to higher levels of anxiety symptoms

and lower self-esteem (Beyers & Luyckx, 2016; Luyckx et al., 2008) With the addition of ruminative exploration to the model of identity formation, individuals in achievement and foreclosure still express the highest levels of self-esteem and lower levels of anxiety and depression (Schwartz et al., 2011). These individuals are also the least likely to report substance abuse or illicit drug use (Schwartz et al., 2011). Individuals in ruminative moratorium experience greater symptoms of depression and anxiety (Luyckx et al., 2008). Diffused diffusion is associated with higher symptoms of depression and lower over satisfaction with life (Luyckx et al., 2008; Marttinen et al., 2016). These findings related to well-being support the theory that ruminative exploration does not encourage adaptive, healthy identity formation. Additionally, as individuals enter their late 20s; ruminative exploration becomes even more strongly related to depressive symptoms (Luyckx et al., 2013a). This suggests that over time, the negative effects of ruminative exploration outweigh any positive contribution it makes to identity formation.

### **Ruminative Exploration and Parental Autonomy Support**

When looking at identity formation and parenting, most researchers look at parenting in terms of the presence of psychological control (Gargurevich & Soenens, 2016; Luyckx, Soenens, Vansteenkiste, Goosens, & Berzonsky, 2007b; Mageau, Ranger, Joussemet, Koestner, Moreau, & Forest, 2015; Sevim, 2014; Van Assche et al., 2016). Psychological control refers to parents' intentional manipulation of children using thoughts or feelings and may manifest itself in techniques such as excessive guilt or withdrawal of love (Barber, 1966). For example, adolescents with parents who are highly controlling may report feelings of being unheard by their parents or that their parents are constantly trying to change the adolescents' opinions on matters. Parenting styles focused

on psychological control are related to increased symptoms of depression and negatively affect life satisfaction in adolescents (Gargurevich & Soenens, 2016; Mageau et al., 2015; Sevim, 2014; Van Assche et al., 2016).

Regarding identity development, psychological control from parents hinders the commitment making process and encourages more exploration in breadth (Luyckx et al., 2007b). A hostile and directive approach from parents is associated with problem behaviors and ultimately difficulty in identity formation (Yablonska, 2013). Based on this prior research, it appears clear that psychological control negatively affects the well-being of adolescents.

On the opposite end of the parenting spectrum from psychological control are parents who encourage autonomous thinking and behaviors. Autonomy support involves a parent encouraging age appropriate autonomy in their children (Soenens et al., 2007). Autonomy support and psychological control appear to be incompatible aspects of parenting (Mageau et al., 2015). Autonomy support considers a wider variety of parental behaviors than solely a focus on psychological manipulation. For example, adolescents responding to questions about psychological control are only reporting on how parents might attempt to control thoughts and feelings, but adolescents responding to questions about autonomy support are more likely to report on a broader range of topics related to how their parents encourage autonomous behaviors, thoughts, and feelings. Parental attitudes that show a positive interest in their children's lives, are authoritative, and encourage autonomy lead to adolescents that are better able to make and identify with commitments (Beyers & Goossens, 2008; Sevim, 2014; Yablonska, 2013), and it contributes positively to overall well-being (Soenens et al., 2007). The ability to explore

commitments in depth is positively related to parenting that encourages autonomy (Beyers & Goossens, 2008). Maternal autonomy support has been associated with lower symptoms of depression and high self-esteem (Brenning, Soenens, Van Pettergem, & Vansteenkiste, 2015). For example, an adolescent with parents who encourage autonomy can express personal opinions and is encouraged to act independently from the parent's thoughts and feelings.

In general, younger adolescents report more behavioral control from parents while older adolescents report greater autonomy support from parents (Delhaye, Beyers, Klimstra, Linkowski, & Goossens, 2012). Therefore, natural changes in increased autonomy support from parents as adolescents enter emerging adulthood could explain some of the association between greater autonomy and increased commitment making, identification with commitments, and exploration in depth.

Research specifically linking engagement in ruminative exploration with either psychological control or autonomy support from parents is lacking in the literature. Because parental autonomy support has been positively linked to well-being, both commitment processes, and exploration in depth, it is the parental variable of focus in this study. Since ruminative exploration is associated with higher depression and lower self-esteem (Beyers & Luyckx, 2016; Luyckx et al., 2008; Luyckx et al., 2013a), it is reasonable to assume that ruminative exploration will be negatively correlated to parental autonomy support. Additionally, parental autonomy support is positively related to increased commitment making and identification with commitment (Beyers & Goossens, 2008; Sevim, 2014; Yablonska, 2013). By contrast, ruminative exploration is negatively

related to commitment making and identification with commitment (Luyckx et al., 2008; Luyckx et al., 2013a).

These findings suggest that an adolescent raised by parents who encourage autonomy would be able to commit to a career path or explore options without distress. Conversely, adolescents raised with high levels of parental control are expected to take a passive approach to identity development and experience greater distress when compared to their peers. Based on these findings, it is reasonable to expect ruminative exploration to be negatively associated with parental autonomy support and positively associated with parental control. To date, however, these relationships have not been explored in the literature.

### **Goals of the Present Study**

Ruminative exploration appears to be at its highest during emerging adulthood (Luyckx et al., 2013a). Previous studies have assessed the relationship between ruminative exploration and well-being in populations in Dutch speaking populations of university students in Belgium (Luyckx et al. 2006a; Luyckx et al., 2006b; Luyckx et al., 2007a; Luyckx et al., 2008; Luyckx et al., 2013a). The present study seeks to replicate these associations in a cross-cultural sample examining ruminative exploration in a population of college students in the United States. Following the Dutch research, it is predicted that ruminative exploration will be positively correlated with symptoms of depression and low self-esteem among US college students.

Beyond replicating the associations between ruminative exploration and well-being, the study seeks to examine potential familial correlates of ruminative exploration by assessing the relationship between ruminative exploration and parental support.

Previous studies have shown controlling and hostile parenting to be linked to greater depression (Gargurevich & Soenens, 2016; Sevim, 2014; Van Assche et al., 2016), low self-esteem, and behavior problems (Barber, 1966), while autonomy supportive parenting encourages better overall well-being and identity development (Soenens et al., 2007). This leads to the second hypothesis that ruminative exploration will be negatively related to parental autonomy support.

## CHAPTER II

### Methods

#### Participants and Procedures

The sample consisted of 268 participants who were students recruited from a general psychology class at a small, private Christian university. Student who completed the surveys received extra credit for participating. The sample was 61.6% female and 38.4% male. Participants reported ethnicities of Caucasian (61.6%), Hispanic (18.7%), African American (11.2%), Asian (3%), Bi-racial (3.7%), and other (1.9%). Participants reported a mean age of 19.08 years old with a standard deviation of 1.32 years.

Participants completed demographic questions and four measures to assess ruminative exploration, depression, self-esteem, and parental autonomy support. The measures were distributed via an online survey system so that participants could complete it at their convenience.

#### Measures

**Ruminative exploration.** The Dimensions of Identity Development Scale (DIDS) (Beyers & Luyckx, 2016; Luyckx et al., 2008;) was used to measure ruminative exploration. The DIDS is a 25-question inventory with five questions measuring each of the five dimensions of identity development, which are commitment making, identification with commitment, exploration in breadth, exploration in depth, and ruminative exploration. Each question is answered on a 5-point Likert scale from strongly disagree to strongly agree. The ruminative exploration questions are intended to convey a

tone of passivity and unwanted repetition of exploration or procrastination (Luyckx et al., 2008). Sample items from the DIDS are 'I keep looking for the direction I want to take in life' (ruminative exploration); 'I have decided on the direction I am going to follow in my life' (commitment making); 'I think actively about different directions I might take in my life' (exploration in breadth); 'My plans for the future match my true interests and values' (identification with commitment); 'I talk with other people about my plans for the future' (exploration in depth); and 'It is hard for me to stop thinking about the direction I want to follow in my life' (ruminative exploration). Cronbach's alpha across samples on all dimensions for this study was .79, for ruminative exploration specifically it was .86, which shows the DIDS to be a reliable instrument. The entire DIDS can be found in Appendix B.

**Depression.** Symptoms of depression were measured using the Center for Epidemiologic Studies Depression Scale (CES-D) ( Radloff, 1977). The CES-D is a 20-item self-report inventory that asks participants to respond to the frequency of symptoms experienced during the past week on a 4-point Likert scale ranging from rarely or none of the time to all of the time. Items are intended to address cognitive, somatic, and psychological symptoms of depression (Luyckx et al., 2006b; Radloff, 1977). Sample items are 'I felt that I was just as good as other people,' 'My sleep was restless,' and 'I had crying spells.' Cronbach's alpha for the CES-D was .91. The entire CES-D scale can be found in Appendix C.

**Self-Esteem.** Self-esteem was assessed using the Rosenberg Self-Esteem Scale (RSES) (Rosenberg, 1965). The RSES is a 10-item scale that measures global self-worth by asking about both positive and negative views of self, and items are answered on a 4-

point Likert scale from strongly agree to strongly disagree. Sample items are 'On the whole, I am satisfied with myself,' 'All in all, I am inclined to feel that I am a failure,' and 'I am able to do things as well as most other people.' Cronbach's alpha was .90. The entire RSES can be found in Appendix D.

**Parental Autonomy Support.** To measure perceptions of parental autonomy support, an adapted version of the autonomy support subscale of the Perceptions of Parents Scale (POPS) was used (Grolnick, Ryan, & Deci, 1991). The POPS is originally a 7-item scale that is answered about both parents collectively. The adaptations in this study are to have participants answer each question for the mother and father individually for a total of 14 items, as well as rewording items 5 and 6 to avoid reverse coded questions (Soenens, B., Vansteenkiste, M., Luyckx, K., & Goossens, L., 2006). The original versions of these two questions are included in Appendix E. Sample items are 'My father listens to my opinions or perspective when I've got a problem,' 'My father is usually willing to consider things from my point of view,' and 'My mother allows me to decide things for myself.' Items are answered on a 5-point Likert scale from strongly disagree to strongly agree. Cronbach's alpha for the POPS for the father scale (7 questions) and the mother scale (7 questions) were .97 and .94 respectively. Cronbach's alpha for the POPS in its entirety (14 questions) was .92. The adapted version of the POPS can be found in Appendix E.

## CHAPTER III

### Results

#### **Analyses for the DIDS and Well-Being Variables**

The first step in hypothesis testing was to explore the relationship between the dimensions of the DIDS, depression, and self-esteem in relation to ruminative exploration. It was expected that the ruminative exploration scale would positively correlate to depression and negatively correlate to self-esteem. In addition, though not specifically addressed in the hypothesis, it was expected, following prior research, that ruminative exploration would be negatively correlated to the two commitment dimensions (identification with commitment and commitment making). Correlational analyses were conducted to investigate relationships between the five subscales of the DIDS as well as the measures of depression and self-esteem. These results can be found in Table 1.

As expected, a strong positive correlation was observed between the two commitment dimensions. Ruminative exploration was positively correlated to the other explorative dimensions and negatively correlated to the commitment dimensions. Ruminative exploration had a moderate negative correlation with self-esteem, and a moderate positive correlation with depression.

Additionally, Table 1 shows that self-esteem and depression were negatively correlated. Consequently, the initial correlational analyses were followed up with partial correlational analyses. When controlling for depression, ruminative exploration remained

negatively correlated with self-esteem ( $r = -.13, p = .05$ ). When controlling for self-esteem, ruminative exploration remained positively correlated with depression ( $r = .17, p = .009$ ). These partial correlations indicate that the relationship between ruminative exploration and well-being variables is unique to the variables and not necessarily attributable to the shared relationship of the well-being variables.

Table 1

*DIDS, Depression, and Self-Esteem Correlations*

	1	2	3	4	5	6
1. DIDS - RE	-					
2. DIDS - EB	.44**	-				
3. DIDS - ED	.26**	.30**	-			
4. DIDS - CM	-.42**	-.07	.24**	-		
5. DIDS - IC	-.41**	-.05	.22**	.64**	-	
6. Self- Esteem	-.32**	.16*	-.01	.22**	.35**	-
7. Depression	.33**	-.13*	.11	-.14*	-.26**	-.69**

\*  $p < .05$ , \*\* $p < .01$ , Note: RE = Ruminative Exploration, EB = Exploration in Breadth, ED = Exploration in Depth, CM = Commitment Making, and IC = Identification with Commitment

### Analyses for the DIDS and the POPS

The next step was to explore the relationship between the dimensions of the DIDS and the reported levels of parental autonomy support. It was expected that the ruminative exploration scale would negatively correlate with parental autonomy support, for both the mother and the father. In addition, while not addressed in the hypothesis but based on prior research, it was expected that the parental variables would correlate positively to the two commitment dimensions (identification with commitment and commitment making). It was expected that a positive relationship would exist between parental autonomy support of the mother and of the father. Correlational analyses were conducted to investigate relationships between the five subscales of the DIDS and the measures of parental autonomy support. These results can be found in Table 2.

Table 2

*DIDS and Parental Autonomy Support Correlations*  
POPS -

Measures:	Father	POPS - Mother
DIDS - RE	.01	-.13*
DIDS - EB	.01	.12
DIDS - ED	.03	-.02
DIDS - CM	-.16*	.01
DIDS - IC	-.09	.07

\*  $p < .05$ , \*\* $p < .01$ , Note: RE = Ruminative Exploration, EB = Exploration in Breadth, ED = Exploration in Depth, CM = Commitment Making, and IC = Identification with Commitment

Parental autonomy support did not have many significant correlations with the dimensions of the DIDS. However, parental autonomy support as it relates to the father showed a weak negative relationship with commitment making. This was unexpected. However, parental autonomy support from mothers was negatively correlated with ruminative exploration. This is consistent with the hypothesis that when parents encourage autonomy it reduces the tendency to engage in ruminative exploration. As expected, a positive correlation was found between the maternal and paternal scores on the POPS ( $r = .22, p = .01$ ).

### **Analyses for Ruminative Exploration, Well-Being, and Parental Autonomy**

Analyses were conducted to explore the relationships among ruminative exploration, parental autonomy support, depression, and self-esteem. These analyses were done on the entire sample and separately for both male and female participants. This comparison explored potential differences in how males and females may perceive or give importance to parental autonomy support from mothers or fathers differently. The scores for the POPS for the mother and father were also summed to create a single parental support scale for comparative purposes. It was expected that the ruminative exploration scale would negatively correlate to parental autonomy support for both the mother and the father. It was expected that the parental variables would correlate positively to self-esteem and negatively with depression. No specific predictions were made about how males or females may perceive parental support differently.

Correlational analyses were conducted to investigate these relationships among parental autonomy support, ruminative exploration, depression, and self-esteem. The results for all

participants can be found in Table 3. The results for only female participants are in Table 4, and the results for only male participants are in Table 5.

For all participants, the influence of the mother on parental autonomy support was related to higher self-esteem, lower depression, and ruminative exploration. Autonomy support from fathers was only weakly correlated with lower depression. This supports the hypothesis that parental autonomy support improves well-being and reduces ruminative exploration. However, it was not expected that the mother would have a stronger influence than the father.

Table 3

*All Participants - Parental Autonomy, Ruminative Exploration, Depression, and Self-Esteem Correlations*

Measures:	POPS - Father	POPS - Mother	POPS - Combined
Ruminative Exploration	.01	-.13*	-.06
Depression	-.16*	-.35**	-.31**
Self-Esteem	.05	.31**	.20**

\*  $p < .05$ , \*\* $p < .01$ ,  $N = 268$

Table 4

*Female Participants - Parental Autonomy, Ruminative Exploration, Depression, and Self-Esteem Correlations*

Measures:	POPS - Father	POPS - Mother	POPS - Combined
Ruminative Exploration	-.09	-.08	-.11
Depression	-.12	-.43**	-.33**
Self-Esteem	.02	.37**	.22**

\*  $p < .05$ , \*\* $p < .01$ ,  $N = 165$

For only the female participants, mothers had a moderate correlation with lower depression and higher self-esteem. For women, paternal autonomy support did not have any significant relationships, and mothers did not relate to lower ruminative exploration.

For male participants, maternal autonomy support had a weak relationship with lower depression and higher self-esteem. It was observed that, for males, paternal autonomy support was related to lower depression. For males, neither maternal nor paternal autonomy support related to lower ruminative exploration.

Table 5

*Male Participants - Parental Autonomy, Ruminative Exploration, Depression, and Self-Esteem Correlations*

Measures:	POPS -		
	Father	POPS - Mother	POPS - Combined
Ruminative Exploration	.15	-.20	.012
Depression	-.23*	-.23*	-.28**
Self-Esteem	.09	.21*	.16

\*  $p < .05$ , \*\* $p < .01$ ,  $N = 103$

## CHAPTER IV

### Discussion

#### Overview of Findings

The intention of this study was to examine the relationships between ruminative exploration with well-being variables and with parental autonomy support. Since ruminative exploration, unlike other dimensions of identity development, appears to be at its height during emerging adulthood (Luyckx et al., 2013a), this study intended to replicate the associations found between ruminative exploration and well-being in Dutch university students (Luyckx et al. 2006a; Luyckx et al., 2006b; Luyckx et al., 2007a; Luyckx et al., 2008) with American university students. Based on prior research, it was hypothesized that ruminative exploration would be positively correlated with depression and negatively correlated with self-esteem.

Aside from replicating the results of previous research on ruminative exploration, this study sought to explore the influence of parental autonomy support on emerging adult's identity development. Previous research had focused on parental psychological and behavioral control having a negative relationship with well-being (Barber, 1966; Gargurevich & Soenens, 2016; Sevim, 2014; Van Assche et al., 2016). However, there has been little investigation into how parents who encourage autonomy in their children may positively influence identity development. Based upon the previous findings that parental autonomy support encourages positive identity development (Soenens, et al., 2007), and that parental control negatively relates to well-being (Barber, 1966; Sevim,

2014; and Van Assche et al., 2016), it was hypothesized that parental autonomy support would be negatively related to ruminative exploration. No specific predictions were made about how parental autonomy support would related with the well-being variables, but a logical expectation would be that high autonomy support would be related to lower depression and higher self-esteem.

Overall, the correlations observed in this study showed that the five dimensions of the DIDS correlated in expected ways. The two commitment dimensions (identification with commitment and commitment making) were strongly, positively related to each other and had a negative correlation with ruminative exploration. This supports the theory that, as individuals continue to engage in ruminative exploration, they struggle to form and keep commitments (Luyckx et al., 2008; Luyckx et al., 2013a). Additionally, ruminative exploration had a positive correlation with both exploration in depth and exploration in breadth. This supports the notion that ruminative exploration co-occurs with other exploratory processes, but is more passive and maladaptive than the other two processes (Beyers & Luyckx, 2016; Luyckx et al., 2007a; Luyckx et al., 2008).

Ruminative exploration was associated with depression and lower self-esteem decreased. Because rumination is both closely related to depression (Nolen-Hoeksema, 1991) and is a main aspect of ruminative exploration, it is important to further explore these relationships (Luyckx et al., 2008). The partial correlations used to examine the associations between ruminative exploration, depression, and self-esteem indicate that there are unique associations between these variables. Since these variables overlap in many ways, it is helpful to see that when controlling for one, the other two still have a significant correlation to each other.

The final hypothesis was that ruminative exploration would decrease with increased parental autonomy support. Only autonomy support from the mother showed a relationship with ruminative exploration. This finding did support that increased parental autonomy is related to lower ruminative exploration. Furthermore, maternal autonomy support was related to higher self-esteem and lower depression. This is supportive of prior research findings that autonomy support is related to better overall well-being (Beyers & Gossens, 2008; Sevim, 2014; Soenens et al., 2007; Yablonska, 2013).

### **Implications for Research and Clinical Practice**

Ruminative exploration appears to be a complex aspect of identity development, and these findings support its contribution to how individuals experience the process identity development. The findings were consistent with prior research that found a negative correlation between ruminative exploration and commitment dimensions of identity development (Beyers & Luyckx, 2016; Luyckx et al., 2007a; Luyckx et al., 2008; Luyckx et al., 2013a). For professionals working closely with late adolescents in fields such as college advising or career counseling, considering the role of ruminative exploration may be beneficial. As students struggle to commit to a major, it may be indicative of a larger problem of a struggle to commit to an identity. Realizing that the issue is not only the major or career decision, could have implication for how a counselor, advisor, or career counselor may address the student's needs and how the obstacles are overcome.

One goal of this study was to replicate the findings regarding ruminative exploration and well-being that have been found in Dutch speaking population (Luyckx et al. 2006a; Luyckx et al., 2006b; Luyckx et al., 2007a; Luyckx et al., 2008; Luyckx et

al., 2013a). The results of the analyses successfully replicated the results of the prior research. This implies that ruminative exploration is not necessarily dependent on culture, and its relationship with well-being is not isolated to a single culture. This generalizes the five-dimensional model of identity development to other cultures and implies that emerging adults in Western contexts may experience these same patterns in identity development. Additionally, depression was more strongly correlated with ruminative exploration when compared to the other dimensions of identity development. This supports the observation that ruminative exploration is maladaptive, and that the other dimensions may be less strongly related to well-being.

The implications of ruminative exploration being a maladaptive dimension of identity development may be of most interest to professionals working closely with emerging adult and their families. Since ruminative exploration has been found to correlate negatively with well-being, it may be useful for clinicians, parents, school counselors, and university residence life staff to consider this when interacting with students. When emerging adults exhibit behaviors that suggest they are engaging in ruminative exploration as they consider their future and their identity, adults in their life may also want to take note of how this may be affecting the overall well-being. This information may also be useful in the reverse and give a counselor insight into why a student struggling with depression may also be having difficulty choosing a college major or career path.

Previously research findings have linked parental psychological control to decreased well-being in children and adolescents (Gargurevich & Soenens, 2016; Mageau et al., 2015; Sevim, 2014; Van Assche et al., 2016). Parental autonomy support

has previously been linked to better well-being (Soenens et al., 2007), and specifically maternal autonomy support has been linked to lower depression and higher self-esteem (Brenning, Soenens, Van Petergem, & Vansteenkiste. 2015). The findings of this study support the prior research by observing a relationship between maternal autonomy support and well-being. It is interesting, however, that for only the male participants, paternal autonomy support was related to lower depression. Additionally, when only considering male responses, the negative correlation between depression and parental autonomy support was strengthened when the questions for the mother and father were combined into one scale. In the analyses, this is the only correlation that was strengthened by combining the two POPS questionnaires into one scale. These findings imply that there may be a difference in how males and females perceive paternal versus maternal autonomy support or in the importance given by the individual to mothers versus fathers. This also suggests fathers may play a more integral role in identity development for men than for women.

The hypotheses of this study did not make any specific predictions about the differences in maternal and paternal autonomy support, and the expectation was that they would yield similar results. The findings indicate that maternal autonomy support correlates to reduced ruminative exploration. By contrast, there was no significant relationship between paternal autonomy support and ruminative exploration. These findings suggest that parenting should be assessed not as a whole, but separately, as the mother and father each have a unique impact on the child. In clinical practice, this suggests that, when working with families, the practitioner should consider the

relationships between the child and each parent individually. It also implies that in research parenting dimensions should be assessed for each parent respectively.

### **Limitations and Future Directions for Research**

Clear limitations exist in the study due to the small sample size and participants being from a small, Christian university. It would be beneficial to further investigate these findings with a larger, more diverse sample population. While the findings validate that ruminative exploration is, in fact, relevant to individuals in late adolescence, it would be beneficial to explore how younger populations may or may not engage in ruminative exploration. This particular sample of college students was mainly representative of students in their first two years of studies, so it also would be helpful to see how ruminative exploration changes during the college years and how it is experienced as individuals move out of emerging adulthood.

It is clear from the findings that ruminative exploration is indeed a maladaptive aspect of identity development. However, at this point, much of the research on ruminative exploration focuses on depression, anxiety, and self-esteem as the measures of well-being (Beyers & Luyckx, 2016; Luyckx et al., 2008; Luyckx et al., 2013a). A limitation of this study and of other research in the literature is an understanding of how and why ruminative exploration develops. The correlational analyses provide insight that well-being is inversely related to ruminative exploration. However, this does not give insight into any causal relationships and whether ruminative exploration is a byproduct of an individual already having low self-esteem or symptoms of depression or if these negative well-being variables occur because an individual engages in ruminative exploration. It would be beneficial for future research to look more in depth at the

relationships and patterns in how the relationship with ruminative exploration and well-being occurs and changes throughout the entire process of identity development.

The findings in this study also raise many questions about how to better understand the relationship between parental autonomy support and identity development in emerging adults. The POPS appears to adequately measure how individuals perceive autonomy support from parents. However, there is little understanding of how parental autonomy support may change as an individual ages. Thus, the question is raised as to how to best measure parental autonomy support for college students, the majority of whom are living away from their parents. The research also does not address whether identity development is influenced more by current parental autonomy support or support over the lifespan. There is little understanding as to what impact parents have on identity development as adolescents enter emerging adulthood and begin to live independently from their parents.

More research is needed to explore how men and women may perceive or give importance to parental autonomy support differently. The findings in this study do suggest that a difference exists, or at least that maternal support holds more weight in both ruminative exploration and in well-being than paternal support. This brings up further questions about how to investigate how mothers and fathers may give autonomy support differently and how adolescents may perceive and give value to same-gender versus opposite-gender parents differently.

The findings of this study suggest that there is value in continuing to explore how late adolescents engage in identity development. It is particularly relevant how engaging in ruminative exploration may be maladaptive and decrease well-being. These findings

contribute to the understanding of how parental autonomy support is related to both well-being and ruminative exploration. The results suggest that there is still more to understand about measuring and understanding the relationship of parental autonomy support with emerging adolescents' identity development.

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## APPENDIX A

### IRB Approval Letter

#### ABILENE CHRISTIAN UNIVERSITY

*Educating Students for Christian Service and Leadership Throughout the World*

Office of Research and Sponsored Programs  
320 Harsh Administration Building, ACU Box 28103, Abilene, Texas 79699-9103  
325-674-2885

11/28/2016



**Kelsey Redmayne**  
Department of Psychology  
ACU Box 28011  
Abilene Christian University

Dear **Ms. Redmayne**

On behalf of the Institutional Review Board, I am pleased to inform you that your project titled

was approved by expedited review (46,110(b)(1) category 7 ) on **11/28/2016** for a period of **one year** (IRB # **16-092** ). The expiration date for this study is **11/28/2017** . If you intend to continue the study beyond this date, please submit the [Continuing Review Form](#) at least 30 days, but no more than 45 days, prior to the expiration date. Upon completion of this study, please submit the [Inactivation Request Form](#) within 30 days of study completion.

If you wish to make **any** changes to this study, including but not limited to changes in study personnel, number of participants recruited, changes to the consent form or process, and/or changes in overall methodology, please complete the [Study Amendment Request Form](#).

If any problems develop with the study, including any unanticipated events that may change the risk profile of your study or if there were any unapproved changes in your protocol, please inform the Office of Research and Sponsored Programs and the IRB promptly using the [Unanticipated Events/Noncompliance Form](#).

I wish you well with your work.

Sincerely,

*Megan Roth*

Megan Roth, Ph.D.  
Director of Research and Sponsored Programs

## APPENDIX B

### Dimensions of Identity Development Scale

1	2	3	4	5			
<b>Strongly disagree</b>	<b>Disagree</b>	<b>Neither disagree / Neither agree</b>	<b>Agree</b>	<b>Strongly agree</b>			
1. I have decided on the direction I am going to follow in my life.			1	2	3	4	5
2. I have plans for what I am going to do in the future.			1	2	3	4	5
3. I know which direction I am going to follow in my life.			1	2	3	4	5
4. I have an image about what I am going to do in the future.			1	2	3	4	5
5. I have made a choice on what I am going to do with my life.			1	2	3	4	5
6. I think actively about different directions I might take in my life.			1	2	3	4	5
7. I think about different things I might do in the future.			1	2	3	4	5
8. I am considering a number of different lifestyles that might suit me.			1	2	3	4	5
9. I think about different goals that I might pursue.			1	2	3	4	5
10. I am thinking about different lifestyles that might be good for me.			1	2	3	4	5
11. I am doubtful about what I really want to achieve in life.			1	2	3	4	5
12. I worry about what I want to do with my future.			1	2	3	4	5
13. I keep looking for the direction I want to take in my life.			1	2	3	4	5
14. I keep wondering which direction my life has to take.			1	2	3	4	5

- |  |   |   |   |   |   |
|--|---|---|---|---|---|
| 15. It is hard for me to stop thinking about the direction I want to follow in my life.                  | 1 | 2 | 3 | 4 | 5 |
| 16. My plans for the future match with my true interests and values.                                     | 1 | 2 | 3 | 4 | 5 |
| 17. My future plans give me self-confidence.   | 1 | 2 | 3 | 4 | 5 |
| 18. Because of my future plans, I feel certain about myself.   | 1 | 2 | 3 | 4 | 5 |
| 19. I sense that the direction I want to take in my life will really suit me.                            | 1 | 2 | 3 | 4 | 5 |
| 20. I am sure that my plans for the future are the right ones for me.                                    | 1 | 2 | 3 | 4 | 5 |
| 21. I think about the future plans I already made.   | 1 | 2 | 3 | 4 | 5 |
| 22. I talk with other people about my plans for the future.  | 1 | 2 | 3 | 4 | 5 |
| 23. I think about whether the aims I already have for life really suit me.                               | 1 | 2 | 3 | 4 | 5 |
| 24. I try to find out what other people think about the specific direction I decided to take in my life. | 1 | 2 | 3 | 4 | 5 |
| 25. I think about whether my future plans match with what I really want.                                 | 1 | 2 | 3 | 4 | 5 |

## APPENDIX C

### Center for Epidemiologic Studies Depression Scale (CES-D)

Below is a list of some of the ways you may have felt or behaved. Please indicate how often you've felt this way during the past week. Respond to all items.

1. I was bothered by things that usually don't bother me.

Rarely or none of the time (less than 1 day)

Some or a little of the time (1-2 days)

Occasionally or a moderate amount of time (3-4 days)

All of the time (5-7 days)

2. I did not feel like eating; my appetite was poor.

Rarely or none of the time (less than 1 day)

Some or a little of the time (1-2 days)

Occasionally or a moderate amount of time (3-4 days)

All of the time (5-7 days)

3. I felt that I could not shake off the blues even with help from my family.

Rarely or none of the time (less than 1 day)

Some or a little of the time (1-2 days)

Occasionally or a moderate amount of time (3-4 days)

All of the time (5-7 days)

4. I felt that I was just as good as other people.

Rarely or none of the time (less than 1 day)

Some or a little of the time (1-2 days)

Occasionally or a moderate amount of time (3-4 days)

All of the time (5-7 days)

5. I had trouble keeping my mind on what I was doing

Rarely or none of the time (less than 1 day)

Some or a little of the time (1-2 days)

Occasionally or a moderate amount of time (3-4 days)

All of the time (5-7 days)

6. I felt depressed.

Rarely or none of the time (less than 1 day)

Some or a little of the time (1-2 days)

Occasionally or a moderate amount of time (3-4 days)

All of the time (5-7 days)

7. I felt that everything I did was an effort.

Rarely or none of the time (less than 1 day)

Some or a little of the time (1-2 days)

Occasionally or a moderate amount of time (3-4 days)

All of the time (5-7 days)

8. I felt hopeful about the future.

Rarely or none of the time (less than 1 day)

Some or a little of the time (1-2 days)

Occasionally or a moderate amount of time (3-4 days)

All of the time (5-7 days)

9. I thought my life had been a failure.

Rarely or none of the time (less than 1 day)

Some or a little of the time (1-2 days)

Occasionally or a moderate amount of time (3-4 days)

All of the time (5-7 days)

10. I felt fearful.

Rarely or none of the time (less than 1 day)

Some or a little of the time (1-2 days)

Occasionally or a moderate amount of time (3-4 days)

All of the time (5-7 days)

11. My sleep was restless.

Rarely or none of the time (less than 1 day)

Some or a little of the time (1-2 days)

Occasionally or a moderate amount of time (3-4 days)

All of the time (5-7 days)

12. I was happy.

Rarely or none of the time (less than 1 day)

Some or a little of the time (1-2 days)

Occasionally or a moderate amount of time (3-4 days)

All of the time (5-7 days)

13. I talked less than usual.

Rarely or none of the time (less than 1 day)

Some or a little of the time (1-2 days)

Occasionally or a moderate amount of time (3-4 days)

All of the time (5-7 days)

14. I felt lonely.

Rarely or none of the time (less than 1 day)

Some or a little of the time (1-2 days)

Occasionally or a moderate amount of time (3-4 days)

All of the time (5-7 days)

15. People were unfriendly.

Rarely or none of the time (less than 1 day)

Some or a little of the time (1-2 days)

Occasionally or a moderate amount of time (3-4 days)

All of the time (5-7 days)

16. I enjoyed life.

Rarely or none of the time (less than 1 day)

Some or a little of the time (1-2 days)

Occasionally or a moderate amount of time (3-4 days)

All of the time (5-7 days)

17. I had crying spells.

Rarely or none of the time (less than 1 day)

Some or a little of the time (1-2 days)

Occasionally or a moderate amount of time (3-4 days)

All of the time (5-7 days)

18. I felt sad.

Rarely or none of the time (less than 1 day)

Some or a little of the time (1-2 days)

Occasionally or a moderate amount of time (3-4 days)

All of the time (5-7 days)

19. I felt that people disliked me.

Rarely or none of the time (less than 1 day)

Some or a little of the time (1-2 days)

Occasionally or a moderate amount of time (3-4 days)

All of the time (5-7 days)

20. I could not "get going."

Rarely or none of the time (less than 1 day)

Some or a little of the time (1-2 days)

Occasionally or a moderate amount of time (3-4 days)

All of the time (5-7 days)

## APPENDIX D

### Rosenberg Self-Esteem Scale

Instructions: Below is a list of statements dealing with your general feelings about yourself. Please indicate how strongly you agree or disagree with each statement.

1. On the whole, I am satisfied with myself.

Strongly Agree   Agree   Disagree   Strongly Disagree

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

Strongly Agree   Agree   Disagree   Strongly Disagree

3. I feel that I have a number of good qualities.

Strongly Agree   Agree   Disagree   Strongly Disagree

4. I am able to do things as well as most other people.

Strongly Agree   Agree   Disagree   Strongly Disagree

5. I feel I do not have much to be proud of.

Strongly Agree   Agree   Disagree   Strongly Disagree

6. I certainly feel useless at times.

Strongly Agree   Agree   Disagree   Strongly Disagree

7. I feel that I'm a person of worth, at least on an equal plane with others.

Strongly Agree   Agree   Disagree   Strongly Disagree

8. I wish I could have more respect for myself.

Strongly Agree   Agree   Disagree   Strongly Disagree

9. All in all, I am inclined to feel that I am a failure.

Strongly Agree    Agree    Disagree    Strongly Disagree

10. I take a positive attitude toward myself.

Strongly Agree    Agree    Disagree    Strongly Disagree

APPENDIX E

Perceptions of Parental Support Scale

My Father and Me

The following statements deal with the way in which your father behave towards you. Indicate to which degree you agree with these statements by encircling one of the numbers.

<b>Disagree</b>					<b>Agree</b>
<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	

1. My father listens to my opinion or perspective when I've got a problem ..... **1 2 3 4 5**
2. My father is usually willing to consider things from my point of view.... **1 2 3 4 5**
- 3, Whenever possible, my father allows me to choose what to do..... **1 2 3 4 5**
4. My father allows me to decide things for myself..... **1 2 3 4 5**
5. My father listens to my opinion when I have a problem ..... **1 2 3 4 5**
6. My father encourages me to do things I really want ..... **1 2 3 4 5**
7. My father helps me to choose my own direction in life ..... **1 2 3 4 5**

Adapted questions:

5. My father listens to my opinion when I have a problem was originally, 'My parents insist upon doing things their way.'

6. My father encourages me to do things I really want was originally, 'My parents aren't sensitive to many of my needs.'

### My Mother and Me

The following statements deal with the way in which your mother behave towards you. Indicate to which degree you agree with these statements by encircling one of the numbers.

<b>Disagree</b>					<b>Agree</b>
<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	

1. My mother listens to my opinion or perspective when I've got a problem..... **1 2 3 4 5**
2. My mother is usually willing to consider things from my point of view..... **1 2 3 4 5**
3. Whenever possible, my mother allows me to choose what to do..... **1 2 3 4 5**
4. My mother allows me to decide things for myself ..... **1 2 3 4 5**
5. My mother listens to my opinion when I have a problem ..... **1 2 3 4 5**
6. My mother encourages me to do things I really want ..... **1 2 3 4 5**
7. My mother helps me to choose my own direction in life..... **1 2 3 4 5**

Adapted questions:

5. My mother listens to my opinion when I have a problem was originally, 'My parents insist upon doing things their way.'

6. My mother encourages me to do things I really want was originally, 'My parents aren't sensitive to many of my needs.'