Career Identity and Mental Health in Emerging Adulthood:
The Roles of Parenting and Socioeconomic Status

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Abstract

Developing one’s identity is a major psychological process that primarily occurs during adolescence and emerging adulthood. Many findings point to the importance of one’s identity development for their mental well-being, and additional literature supports a link between career identity development and mental health in emerging adults. Parenting and socioeconomic status (SES) have been linked to these two psychological factors, but questions remain about the directionality of the relationships and the unique role of SES. In Study 1, we employ a longitudinal design to examine how parental autonomy support predicts career identity development and mental health, and vice versa. Additionally, we assess the role of SES as a potential moderator of these effects. In Study 2, we aim to replicate and extend these findings through the added use of a narrative approach. Results indicate that autonomy support predicts healthy career identity development and mental well-being, and this finding is especially true for low SES students. Additionally, the use of a contextualized narrative approach offers further insight into identity development and the role of parenting. Implications of the findings and directions for future research are discussed.
Introduction

Identity is considered “the central struggle of adolescence, with successful achievement resulting in a coherent sense of one’s roles and occupational pathway, one’s self in relation to others, and one’s values and purpose in life” (La Guardia, 2009, p. 91). Identity development primarily takes place during adolescence and emerging adulthood, and, as individuals grow older, they are more likely to have an achieved identity status (Meeus et al., 2012). Emerging adulthood—the period in which individuals transition from adolescence to adulthood (typically considered to be ages 18-25)—is particularly important for identity development, as individuals have more independence and are encouraged to explore and commit to identity as they transition to adulthood (Arnett, 2000). During this time, individuals are exploring identities in several life domains—academic interests (e.g. academic major), relationships, etc.—and determining who they are in order to craft their futures. One focus of identity development during this time is on one’s career—or vocational—identity. Particularly for emerging adults in college settings, exploring through classes and internships is an important step on the path to determining one’s future career plans and goals. Notably, identity development is an important process in emerging adulthood and many findings link it to mental well-being, suggesting these two psychological factors are intricately related and both deeply important and worth studying (Kunnen et al., 2008; Luyckx et al., 2012; Meca et al., 2015). Furthermore, findings show that career identity, specifically, and mental health are closely related in emerging adults as well (Garrison et al., 2017; Hirschi & Herrmann, 2012; Lannegrand-Willems et al., 2016). Considering the importance of one’s career path for their future life, these findings make sense. As such, career identity and mental health are important aspects of the lives of emerging adults that are worth exploring together.
Given the importance of identity development—particularly career identity—and mental health for emerging adults and their future well-being, it is important to better understand the factors that contribute to optimal development. In the present studies, we examine the question of how parenting and socioeconomic status influence career identity development and mental health in emerging adults. Notably, there is a long history of parenting being studied in relation to identity development and mental health (Romm et al., 2019; Schiffrin et al., 2014). The literature suggests that over-controlling parenting is negatively related to identity development and mental well-being. Furthermore, research suggests a similar link between controlling parenting and career identity development, specifically (Luyckx et al., 2007). Contemporary accounts of varying parenting styles point to economic inequality and financial pressures as key contributing factors to differences in parenting style (Doepke & Zilibotti, 2019). Specifically, parents in countries with greater income inequality place more value in “hard work,” while parents in countries with less income inequality value creativity, imagination, and the like, more. Parents who experience economic pressures may feel that they must instill a hard work ethic in their children in order for them to be financially successful. Doepke and Zilibotti (2019) found this to hold true across socioeconomic backgrounds in countries with large income inequality, suggesting a general feeling of economic anxiety, though parents earning a lower income likely feel additional financial stressors. Thus, over-controlling and hovering parenting styles may be a response to an increase in economic uncertainty and anxiety.

Considering this view on the role of economic anxiety in parenting, socioeconomic status is an important, and possibly related, variable to consider. Studies indicate a link between socioeconomic status and mental health (Jury et al., 2017; Ostrove & Long, 2007), though there is only limited research indicating a relationship between socioeconomic status and identity
development (Aries & Seider, 2007). As expected, lower socioeconomic status is associated with detrimental effects on the mental health of emerging adults (Jury et al., 2017). The literature suggests lower socioeconomic status may have a similar effect on identity development, as well (Aries & Seider, 2007). As colleges across the country get increasingly more diverse, these factors may greatly influence the experiences of college students and their ability to strive and succeed in a college setting and beyond (Mason, 2014). The present studies aim to extend the existing research to better understand the influences of parenting and socioeconomic status on the career identity development and mental health of emerging adults. By using a longitudinal design and including a narrative-based approach to personality in two studies on college students, we hope to shed new light on these relationships in order to better understand and support emerging adults.

Identity Development: Theories and Definitions

Identity Statuses Approach. Identity development is considered an important part of emerging adulthood, and a central focus of our studies. Erikson (1968) first identified adolescence as a major period of identity exploration: individuals are confronted with a ‘crisis,’ characterized by confusion regarding their role in different domains of their life. This instigates a period of identity exploration, which is now considered an important part of adolescence and emerging adulthood (Arnett, 2000). Marcia (1966) expanded upon Erikson’s theory with the identity statuses approach, which focuses on two key identity processes: exploration and commitment. Marcia (1966) posited that, through the course of identity development, individuals typically explore a variety of possible identities (in response to experiencing a ‘crisis’ or confusion). This exploration could come in the form of taking a variety of classes in college or having a multitude of jobs before settling on a career path. Exploration is a key aspect of identity
development and leads to the ultimate goal of identity commitment. Identity commitment describes choosing and committing to an identity in a particular domain of life.

In addition to these identity processes, Marcia (1966) identified four identity statuses: diffusion, foreclosure, moratorium, and achievement. Diffusion describes a lack of both exploration and commitment; foreclosure involves commitment without much exploration; moratorium refers to identity exploration that is leading to commitment; and achievement describes making a commitment following a period of exploration. The most normative and optimal path of development—as indicated and supported by a multitude of research—follows moratorium-achievement cycles, characterized by a healthy amount of exploration, followed by a commitment.

An extension of Marcia’s (1966) theory further breaks down the identity processes of exploration and commitment (Luyckx et al., 2006). First, exploration is broken down into two distinct processes: exploration in breadth and exploration in depth. Exploration in breadth aligns with the exploration process as described by Marcia (1966); in this case, exploration of a variety of options ultimately leads to making a commitment. Exploration in depth, on the other hand, refers to exploring one identity (usually after making a commitment to it) through various means. This latter form of exploration is consistent with the moratorium-achievement cycles previously mentioned, as individuals make a commitment and then return to moratorium to continue to explore that identity. In addition to these two forms of exploration, Luyckx et al. (2006) also distinguish between commitment making and identification with commitment. Commitment making, as described previously, refers to the act of committing to an identity. This act alone does not, however, indicate the level to which an individual identifies with the commitment. In other words, beyond whether an individual has made a commitment, it is important to understand
the extent to which the individual feels certain about this commitment and feels that it is consistent with their understanding of themselves. These identity processes, as defined by Marcia (1966) and Luyckx et al. (2006), have been validated with many years of research studies that indicate exploration followed by commitment is the normative developmental path and this normative progression is linked to optimal psychological functioning. As such, these processes constitute a core element of how we understand identity development in the present studies.

Narrative Identity Approach. In addition to the identity processes of exploration and commitment, the present studies employ an additional approach to examining identity development: the narrative approach. The narrative approach examines identity as a story developed from making meaning of past experiences. Narrative identity construction refers to the process of constantly integrating experiences into one’s understanding of themselves (McAdams & McLean, 2013). Through this process, individuals craft life stories that integrate key memories into a coherent narrative about who they are and how they came to this understanding of themselves. Narrative identities offer a valuable look into one’s identity development through a qualitative approach. Although originally developed to collect individuals’ complete life stories, narrative prompts can also be used to collect information on individuals’ experiences in specific domains of life. Recently, greater emphasis has been placed on contextualized measures of personality, in order to understand individuals’ roles and identity in specific life domains (Dunlop, 2015). Given the need for further research on context-specific narrative identities, several recent studies have used the narrative approach to examine the academic and romantic life domains (Dunlop, Hanley, & McCoy, 2019; Lilgendahl & McLean, in press). In the present studies, we aim to address the need for further research on context-based narrative identities by using a narrative approach to career identity.
The narrative approach offers a qualitative measurement of identity and the literature indicates that it is worthwhile to employ this method alongside the identity statuses approach (McLean & Pasupathi, 2012; McLean & Pratt, 2006). Through the process of meaning-making, individuals construct narratives integrating their past experiences into their current understanding of their identity. As such, narratives offer insight into the processes involved in identity development (McLean & Pratt, 2006). Several qualities of narratives are particularly important for examining the level of meaning-making evident in the story. Narratives are coded for such qualities, including exploratory processing, which is defined as an effort to explore and reflect on an experience and a demonstration of being open to learning from the experience (Pals, 2006). This aspect of narratives aligns with the previously discussed concept of identity exploration, in that both concepts involve an active exploration and analysis of experiences to determine the extent to which they fit with one’s sense of self. McLean and Pasupathi (2012) offer additional support that narrative qualities align with the identity statuses approach through a study that found that lower levels of meaning-making were associated with the diffusion and foreclosure identity statuses. In the present studies, the use of the two approaches together is expected to offer a more holistic view of identity, along with added insight into the processes of identity development and the important contributing factors.

*Self-determination theory.* Self-determination theory (SDT) serves as a useful framework for considering the goals of identity development and what individuals aim to achieve through the processes of identity development. Following our conceptualization of identity development using the identity statuses and narrative approaches, SDT offers insight into how identity influences and is influenced by other factors. Self-determination theory posits that there are three basic psychological needs that humans need to fulfill: autonomy, competence, and relatedness.
Autonomy refers to the ability to make your own decisions and feel fully engaged with these decisions. The need for competence suggests that individuals need to experience mastery and find importance in engaging in tasks and activities to broaden their knowledge and abilities. Lastly, relatedness refers to a need to feel that one belongs and is significant to others. In addition to the importance of fulfilling these psychological needs, self-determination theory describes the importance of motivation. Specifically, being intrinsically motivated in the way one fulfills these needs is considered the optimal form of development. Referring back to the identity statuses approach, motivation can be conceptually linked to identification with commitment: the more someone identifies with the way they fulfill psychological needs (i.e., intrinsically motivated), the more optimal their development is. In other words, the more a person identifies with their goals and behaviors, the better it is for their development and well-being (La Guardia, 2009). Thus, a goal of identity development, according to self-determination theory, is to fulfill the three psychological needs of autonomy, competence, and relatedness in ways that are intrinsically motivated.

Identity Development and Well-being

Given the complexity and importance of identity development processes in emerging adulthood, it is worthwhile to consider the relationship between identity and mental health. Most importantly, research suggests that feeling disengaged with the identity development process is associated with decreased psychosocial functioning in college students across the U.S. (Meca et al., 2015). Identity exploration can be a challenging and tumultuous period, characterized by uncertainty; such a finding suggests that difficulty with identity development is linked to detrimental effects on one’s mental health. An additional study by Azmitia, Syed, and Radmacher (2013) identified several clusters of emerging adults’ mental health during the
transition to college. These clusters included greatly improving mental health, maintaining positive mental health, poor mental health declining, and good mental health declining. The findings of the study indicated that those students who maintained or improved their mental health during the first year also showed higher levels of identity synthesis (i.e. an achieved identity combined with high identification with commitments). These students also reported receiving greater levels of emotional support from family. This is an important finding that demonstrates that mental health may predict and contribute to healthy identity development, as well as demonstrating that support seems to be an important component of healthy development in college students.

Thus, it is important to examine the relationship between identity and mental health further and consider how emerging adults successfully reach an achieved identity status and healthy psychosocial functioning. In a longitudinal study by Luyckx et al. (2012), the authors found that identity processes and mental well-being were related and influenced each other over time. Specifically, the study identified associations between identity processes and various forms of coping. Drawing a connection between identity exploration and problem-solving behavior, Luyckx et al. (2012) found that commitment processes were influenced by coping strategies and, reciprocally, identification with commitment was negatively associated with avoidance coping. The aforementioned studies offer a great deal of evidence for an association between identity development and mental health, and additional studies corroborate a link between strong identity commitments and high levels of well-being (Kunnen et al., 2008).

Based on the reviewed findings, the link between overall identity development and mental health in emerging adults is well-established. Further studies demonstrate a similar link between career identity development specifically and well-being. Several findings indicate that
career identity, specifically identity achievement, is related to positive affect and life satisfaction in college students in South Korea and Germany (Garrison et al., 2017; Hirschi & Herrmann, 2012). On the other hand, a weak vocational identity in students is associated with lower life satisfaction (Lannegrand-Willems et al., 2016). These findings, in addition to the previously cited literature, support a strong link between identity—in this case, career identity—and mental health, and these findings have implications for individual’s well-being beyond college. As such, the present study explores the factors that contribute to optimal identity development and psychological functioning with the acknowledgement that the relation between the two is well-established in the literature.

Beyond this established link between an achieved identity and better mental health, the literature suggests that there is a similar link between narrative identity qualities and psychological functioning. A review of the literature by Adler, Lodi-Smith, Philippe, and Houle (2016) suggests that narrative identity qualities indicative of healthy identity development (e.g. meaning-making, as measured by exploratory processing and other qualities) also correlate with well-being. Importantly, these qualities demonstrate incremental validity in predicting mental health, indicating that the narrative approach is a worthwhile method in offering insights beyond the identity statuses approach (Adler et al., 2016). Furthermore, a longitudinal study of narrative identities and well-being found that narrative qualities were associated with participants’ mental health trajectories over several years (Adler et al., 2015). As such, the reviewed literature supports an established link between identity development—as measured by the identity statuses approach and the narrative identity approach—and well-being over time. The present studies thus focus on examining these two psychological factors in parallel in order to better understand the variables that influence them.
The Role of Parenting in Identity Development

The impact of parenting on child development is a broad area that has long been researched. There are many different aspects and styles of parenting, with varying effects on the children. In the present studies, we focus specifically on how parenting relates to identity development during emerging adulthood. As stated previously, emerging adulthood is a time of increased independence from parents and the period in which youth truly start to forge their own identities, separate from their parents (Arnett, 2000). Although this is a unique period of increased independence, there is reason to believe that parenting continues to influence individuals during this time. Specifically, parents may play an important role in supporting emerging adults through the transition to independence.

Using self-determination theory as a framework, we primarily focus on two types of parenting: autonomy supportive parenting and psychologically controlling parenting (Joussemet et al., 2008). Autonomy supportive parenting is characterized by parents who encourage their children to be autonomous and make their own decisions, particularly those that are aligned with their intrinsic motivations. It is important to note that autonomy supportive parenting is not about a lack of involvement on the part of the parents. Rather, this concept addresses the way in which parents are involved in their children’s lives. In particular, autonomy supportive parents explain their requests to their children, recognize the child’s perspective, offer choices, and do not use controlling methods often (Joussemet et al., 2008). Generally, autonomy supportive parenting is considered to be positive for the well-being of the child (La Guardia, 2009).

While autonomy supportive parents are involved in their children’s lives in ways that promote the child’s developing independence, psychologically controlling parents are on the other end of the spectrum and are often over-involved in more harmful ways. Psychologically
controlling parenting is characterized by a manipulative control of the child that aims to change the child’s thoughts, feelings, or behaviors. Psychologically controlling parents may use guilt and invalidate their child’s feelings, and this generally undermines the intrinsic motivation of the child (Joussemet et al., 2008). The aforementioned research indicates that feeling intrinsically motivated is important for optimal identity development psychological functioning (La Guardia, 2009). As such, parenting that undermines a child’s personal motivation (for activities, tasks, paths, etc.) may have detrimental effects on the development and well-being of the child.

Parenting plays an important role in children’s development and this extends into emerging adulthood—an important period for identity development—suggesting that parenting may be important for identity development; many years of research suggest such a link between parenting and identity development does, in fact, exist. In reviewing the empirical literature, we are looking at autonomy support and psychological control, specifically, along with other parenting constructs that can be conceptually linked to these concepts. In a study examining the effects of psychological control on identity development, Romm et al. (2019) found that psychologically controlling parenting was negatively associated with identity commitment. Further research supports a link between parenting and career identity development, specifically. A study by Guerra and Braungart-Rieker (1999) found that career indecision was predicted by less parental acceptance. Additional research offers an explanation for such a finding. For example, one factor that may contribute to this result is a finding that higher levels of parental psychological control led to decreases in commitment in a longitudinal study (Luyckx et al., 2007). Parents who exert more control likely also indicate less acceptance of the decisions their children make on their own. Based on these findings, children who experience higher levels of control and feel less accepted as they are, are more likely to have a difficult time committing to
an identity. Additional research shows the same effect at the opposing end: parental support is associated with an increase in emerging adults’ career decision self-efficacy (Stringer & Kerpelman, 2010). This suggests that if parents are supportive of their children’s decisions and ability to make decisions, children feel more competent and equipped to make these decisions. This is supported by a finding that parental autonomy support is positively associated with autonomy in emerging adults and negatively associated with career indecision (Guay et al., 2003).

In sum, the literature offers a compelling argument that parenting and career identity are related. However, many of these studies are not longitudinal, so the findings do not offer conclusive evidence of the directionality of this relationship. A longitudinal study by Lindell, Campione-Barr, and Killoren (2017) helps to clarify some questions of directionality. Emerging adults provided information about their relationship with their parents during their first year of college, and filled out measures of parental control, vocational identity, and how prepared they felt for adulthood during their final year of college, three years later. The findings showed that less negativity in the parent-child relationship during the first year of college predicted emerging adults feeling more prepared for the transition to adulthood three years later. In addition, high levels of psychologically controlling parenting were negatively associated with vocational identity development, with both variables measured in the final year of college (Lindell et al., 2017). Emerging adults with highly psychologically controlling parents also tended to feel less competent in the transition to adulthood; competence, according to self-determination theory, is critically important for optimal development and well-being (La Guardia, 2009). However, aside from the finding on negativity in the parent-child relationship, these findings do not offer further
Importantly, though, the literature suggests that parenting does have strong connections to career identity development in emerging adults. Additionally, parenting during adolescence is associated with the career success of young adults, suggesting that parenting has longitudinal implications for their children’s success in various life domains (Gordon & Cui, 2015). Such a finding indicates that, beyond the importance of parenting in the transition to adulthood, parenting also has implications for success in young adulthood. Thus, parenting is important for optimal development throughout childhood, adolescence, and into adulthood. As previously cited, parenting may be influenced by economic anxieties, which may lead parents to be overly concerned about their child’s career plans. Particularly for parents struggling with financial burdens, there may be a strong pressure to ensure that their children choose a career path that provides economic security. This immense pressure and worry regarding financial security may lead parents to be overly involved and controlling, in an effort to secure their children’s future. As such, it is worth examining the role of parenting to better understand the impact of types of parenting—autonomy support and psychological control—on career identity development in emerging adults.

*Parenting, Mental Health, and Well-being*

Parenting also has implications for mental health during emerging adulthood. The literature suggests that highly controlling parenting is related to lower well-being, while high levels of autonomy supports are related to higher levels of well-being (Kouros et al., 2017). Additionally, Schiffrin et al. (2014) found that controlling parenting is associated with higher levels of depression and decreased life satisfaction, and this is explained by a lack of fulfillment
of the needs for autonomy and competence. Using self-determination theory as an explanation, autonomy supportive parents encourage their children to develop autonomy and to identify and seek out situations in which they excel (i.e. are competent). In addition, these parents allow their children to make their own choices and choose activities that they are more intrinsically motivated to pursue. As a result, children who experience autonomy supportive parents are given the opportunity to fulfill their basic psychological needs through means that are intrinsically motivated. Fulfilling these psychological needs and being intrinsically motivated are considered important for mental well-being (La Guardia, 2009). Self-determination theory offers a valuable explanation for the importance of parenting style in their children’s mental health, and the link between the two variables is supported by the literature. However, as previously stated, a similar issue with the research arises here: the cited studies are not longitudinal and do not offer a clear understanding of the directionality of this relationship.

As stated, there is a dearth of research examining the directionality of the relationship between parenting and the two psychological factors explored herein—identity development and mental health. One previously cited study does use a longitudinal approach and finds that exploration in breadth leads to increases in parental psychological control (Luyckx et al., 2007). This is compelling evidence that the direction is not simply always from parenting to identity development, as most would typically assume. There is a great need for additional research in this area, in order to better understand the relationship. Understanding the directionality of this relationship allows for a better understanding of the risk factors associated with an unachieved identity and lower mental well-being. While the assumption is that parenting likely leads to their child’s success, or lack thereof, with these psychological factors, a child who is struggling with their identity or mental health may prompt parents to attempt to take greater control of the
situation, in order to help. This type of relationship would indicate that, not only do emerging adults need appropriate guidance in their development, but that parents can be better supported in how they help their children succeed in adulthood. Our study employs a longitudinal design in order to address this gap in the literature and better understand the relationship between parenting and these two psychological factors.

In addition to the lack of research addressing the directionality of the relationship between parenting and the two psychological factors of identity development and mental health, limited research explores the factors that contribute to differing parenting styles. Notably, popular views of parenting have drawn a strong connection between an increase in economic insecurity and controlling parenting (Doepke & Zilibotti, 2019). Specifically, helicopter parenting—conceptualized as a developmentally-inappropriate level of involvement and control that undermines a child’s autonomy—has emerged as a culturally significant phenomenon that popular literature has linked to the rise in economic anxieties (Doepke & Zilibotti, 2019; Kouros et al., 2017). Based on these suggested links between economic pressure and parenting style, it is apparent that socioeconomic status may deeply influence parenting styles and the two variables may interact in complex ways in their associations and influences on (career) identity development and mental health.

**Impact of Socioeconomic Status on Identity Development and Well-being**

Considering the importance of economic security and its suggested link to parenting, socioeconomic status (SES) is another factor that can greatly affect the college experience for emerging adults, including experiences relevant to identity development and well-being. SES is a complex and multi-faceted construct, often operationalized through measures of family income, parent’s education level, and related information. Socioeconomic status can additionally be
examined through the lens of both culture and access, or a lack thereof, to resources. In recent years, socioeconomic status, and its effects, has become a greater focus of research in college students. This is primarily in response to the rise in the number of students attending college and, in particular, an increase in the socioeconomic, cultural, and racial diversity of such institutions (Mason, 2014). As institutions get increasingly more diverse, colleges must address the unique strengths and needs of a changing student body. As such, research into college students of diverse socioeconomic backgrounds has the potential to shed light on how colleges can be more inclusive and supportive of a diverse student population.

As stated, recent studies have begun to explore the effects of socioeconomic status on college students. Importantly, the literature suggests that lower-income students, who are also more likely to be the first in their families to attend college, have vastly different experiences than higher-income students. First-generation college students perceive themselves as being a family pioneer, instead of continuing the family legacy (Langenkamp & Shifrer, 2018). This sentiment has implications for how first-generation students navigate these institutions in unique and novel ways. In a study using a narrative approach to social class identity, Radmacher and Azmitia (2013) found that social class was a salient identity for many upwardly mobile (i.e. low-income) college students. Additionally, many of these students felt a divide between trying to be upwardly mobile by attending college, while attempting to continue to be a part of their community at home (Radmacher & Azmitia, 2013). These findings indicate that first-generation and low-income college students may feel preoccupied and deeply affected by their social class identity, while their higher-income peers likely do not experience similar thoughts and concerns. Further research found that college students rated social class as affecting their everyday experiences more than gender or ethnicity (Thomas & Azmitia, 2014). This finding, along with
the previously stated research, indicates that SES is deeply important for college students—likely even more so for low-income and first-generation students—and greatly impacts their college experiences. Additional research indicates that the effects of socioeconomic status on college students are not limited to their self-reported affective experiences. One study demonstrates that SES also has implications for students’ success in college, finding that low SES students have lowers grade point averages (GPAs) in college—and lower incomes after college—than high SES students (Walpole, 2003). Given the important role of SES in the experiences of college students, it is worth furthering this understanding of SES through a review of the literature on the associations between socioeconomic and the two psychological factors examined in the present studies—identity development and well-being.

A review of the literature produced limited results on the relationship between SES and identity development. However, the literature offers significantly more robust research on the link between SES and mental health in emerging adults. Overall, students of lower socioeconomic status are more likely to experience stereotype threat in college (Jury et al., 2017; Ostrove & Long, 2007). This experience of stereotype threat is shown to hinder well-being and academic performance (Jury et al., 2017). These findings can be explained by the recent increase in diversity across colleges in the U.S. (Mason, 2014). Since this rise in diversity is relatively recent, many colleges and universities—particularly elite institutions—were not built with diverse student bodies in mind. The methods of educating and supporting students at many of these institutions were not created for diverse student populations. As a result, low-income and first-generation students likely receive, and perceive, inadequate levels of support and, thus, experience greater levels of stereotype threat and feel that they do not belong at these institutions (Jury et al., 2017). In addition to this lower sense of belonging, low SES students are more likely
to feel emotional distress, contributing to a lower subjective well-being (Jury et al., 2017; Ostrove & Long, 2007). Jury et al. (2017) found that low SES students also felt less competent. As noted previously, competence is considered a basic psychological need, according to self-determination theory, and fulfillment of this need is important for well-being (La Guardia, 2009). This finding offers an explanation for why low SES feel that they do not belong: if students do not feel competent (i.e., do not feel like they have a chance to succeed), they may feel that they do not belong amongst their peers who appear to demonstrate competence and success.

Additional findings further support a link between lower SES and increased depressive symptoms and lower well-being (Steptoe, Wardle, Tsuda, & Tanaka, 2007; Tong & Song, 2004). Importantly, a study by John-Henderson, Rheinschmidt, Mendoza-Denton, and Francis (2014) found that lower socioeconomic status is associated with an increased physiological stress response, compared to higher SES. This literature offers a compelling argument for a link between socioeconomic status and mental health.

The reviewed literature on the relationship between SES and mental health is consistent with the theoretical frameworks previously discussed; the psychological need of competence, according to SDT, and popular accounts of the impact of economic insecurity are particularly relevant. Conceptually, a similar link can be extended to the relationship between SES and identity development. As stated, there is a limited amount of research exploring this relationship. A few studies, though, do offer insight into a possible association between socioeconomic status and identity development. In a study of low-income college students, Aries and Seider (2007) compared students at a school considered a Little Ivy and at a state college. Their findings indicate that low-income students at the Little Ivy demonstrated the greatest levels of identity exploration, while low-income students at the state college demonstrated the lowest levels of
exploration. Given the previous study on low-income students being family pioneers, along with consideration of the differences in these types of schools, these findings make sense: low-income students at a Little Ivy—who are amongst a greater population of higher-income peers—likely experience their socioeconomic status as a more salient identity and, thus, see themselves as family pioneers. In a position of doing something new, these students tend to explore their identities more, as they have less guidance from their families. On the other hand, low-income students at a state college are surrounded by a greater number of peers of a similar background. Their social class identity is not as distinct from that of their peers and, as such, is not as salient. This study sheds light on the relationship between SES and identity development; however, it is the only study examining such a link. Further research is necessary to better establish a relationship between the two variables, and research is especially needed to examine the link between SES and career identity development. Career identity is particularly important to consider in relation to socioeconomic status as one’s career path—and attending college—can be a means of changing one’s SES. Additionally, those from lower SES backgrounds experience, from their environment and their upbringing (i.e. parenting), a sense of greater economic insecurity. This can produce a need to pursue a career path that would provide economic stability and financial security. Low SES emerging adults likely face many of these concerns, which may influence their career identity development, perhaps leading to commitments that are more extrinsically (e.g. financially) motivated.

The literature reviewed thus far offers evidence for a relationship between the variables explored in these studies: career identity, mental health, parenting, and socioeconomic status. The relationship between career identity and mental health is well-established, making these two variables that are worth examining side by side. There are strong suggested links between
parenting and both career identity and mental health, as well. However, many of these studies lack the opportunity to examine the directionality of this relationship. Thus, our use of a longitudinal design has the potential to address this gap. An additional gap in the literature regards the unclear relationship between SES and identity development. Aries and Seider (2007) found that low SES college students at one type of school demonstrate high levels of identity exploration, while students at a different type of school demonstrate low levels of identity exploration. Importantly, these findings also only examine social class identity; the research looking at differences in career identity development for high versus low SES students is even more scarce. Our studies address this by directly examining these relationships through longitudinal and multi-method designs.

Finally, an important missing link in the literature is the possible relationship between parenting and socioeconomic status. One perspective of socioeconomic status as a culture sheds light on a possible relationship between parenting and SES. Stephens, Markus, and Phillips (2014) identified differing cultural ideals amongst working-class families versus middle-class families. Independence is considered an important American ideal, and middle-class norms best embody this ideal. As such, middle-class families—who are also likely less preoccupied with financial pressures—are concerned with what Stephens et al. (2014) term expressive independence, which is defined as an individual expressing their desires, wishes, etc. and having the right to independence. On the other hand, working-class families in the U.S. face greater financial limitations (e.g. limited resources) and, as a result, value hard independence, which is characterized by relying on others because of resource constraints and a focus on strength/toughness. These differing cultural ideals manifest themselves in different parenting styles and priorities, as parents work to prepare their children for the world they expect them to
encounter (Stephens et al., 2014). Middle-class parents believe their children need to be able to express themselves and be independent, so they encourage their children to share their thoughts and feelings and make more decisions on their own. These parents are not concerned with ensuring their children pursue a path of financial security and stability and, as a result, feel their children have more options and should be free to choose one on their own. Alternatively, working class parents believe their children need to be prepared for a harsher world and that they need to know how to stand up for themselves. As such, these parents give more severe consequences and have less of a tolerance for rule-breaking and error. Given these different ideals, it is relevant to consider the previously discussed parenting styles in relation to these ideals. It seems plausible that autonomy supportive parenting is more aligned with expressive independence and the parenting styles of middle-class parents, while psychologically controlling parenting is more aligned with hard interdependence and the parenting style of working-class parents. Although, theoretically, these concepts do align, further research is needed to identify possible links between parenting and socioeconomic status.

In one study, the findings suggest that psychological control is more common in low SES households (Tynkkynen et al., 2012). However, this is the only study of its kind demonstrating this association and it was conducted in Finland. As a result, these findings may not be generalizable to the United States. Additional research suggests that first-generation college students perceive less support from their parents (Sy et al., 2011). Further research is needed to better examine the link between these variables, which our studies aim to do. Beyond the link between parenting and SES, it is important to consider whether different parenting styles affect all groups the same way. Shigeto, Grzywacz, and Cui (2019) examined the effects of psychologically controlling parenting in Latina versus non-Latina students. Their findings
indicate that psychologically controlling parenting is harmful to the mental health of both Latinas and non-Latinas. This suggests that controlling parenting may be universally negative (i.e. all groups are harmed by psychologically controlling parenting). The present studies aim to explore this relationship more thoroughly and examine how parenting and SES interact in their influences on identity development and well-being.

Current Studies

The current studies aim to extend the literature described above by using both longitudinal methods and narratives to deepen our understanding of how parenting, SES, and their interaction relate to career identity development and mental health during college. Upon a thorough review of the literature, it is clear that the four variables we examine in the present studies—career identity development, mental health, parenting, and socioeconomic status—are closely related. The link between career identity development and mental health is well-established; as a result, in the present studies, these are our two dependent variables. Parenting and socioeconomic status are the independent variables, and the present studies also address the ways in which these variables are related and interact. Our studies aim to replicate the major findings of the current literature, as well as fill the gaps apparent in the research covered thus far. Specifically, the major gaps in the literature include questions of the directionality of the relationship between parenting and our two dependent variables, the relationship between parenting and socioeconomic status, and the question of whether parenting relates to identity and mental health differently for higher and lower SES students. Study 1 employs a longitudinal design, allowing us to test the directionality of the relationships, while study 2 has the benefit of using a narrative approach to extend previous findings on career identity development. Both studies include measures of parenting and SES, providing the opportunity to test the relationship
between the two variables and explore a possible interaction effect on identity development and mental health.

Study 1. Study 1 uses data collected as part of the Identity Pathways Project (IPP). IPP is an ongoing longitudinal study of identity development across the college years (Lilgendahl & McLean, in press). Data was collected from students at a small, liberal arts college and a medium-sized, public university. The study collected measures of parenting, career identity, mental health, and socioeconomic status. A previous analysis of the data found that psychologically controlling parenting predicted an increase on a measure of depressive and anxiety symptoms, though this finding was limited to the first year of college. In the present study, we analyze data from IPP across the four years of college, in order to examine the following hypotheses.

Based on the literature, we expect parenting to be reciprocally related to both identity development and mental health. Specifically, we hypothesize that higher levels of psychologically controlling parenting will predict decreases in well-being. We additionally expect decreased well-being to predict increases in controlling parenting over time. Similarly, we hypothesize that higher levels of psychologically controlling parenting will predict decreased levels of career identity development. We assess all four identity processes identified by Luyckx et al. (2006)—exploration in depth, exploration in breadth, commitment making, and identification with commitment. Previous findings suggest that parents play an important role in career identity development and supportive parenting is especially important for exploration and decision-making (i.e. commitment making) (Lindstrom et al., 2007; Whiston & Keller, 2004). Thus, we expect to find that higher levels of controlling parenting predict lower levels of both forms of exploration, as well as both facets of commitment. Again, as with mental health, we
also expect that lower levels of these four measures of identity development will predict increases in controlling parenting, which is consistent with a finding by Luyckx et al. (2007). Based on the reviewed research, we hypothesize that socioeconomic status will positively predict mental health.

In addition to the stated hypotheses, we also propose an exploratory hypothesis in order to examine a possible interaction effect of parenting and SES on career identity and mental health. Specifically, the exploratory hypothesis will examine the following question: is SES a moderator of the relationship between psychologically controlling parenting and career identity/mental health? We predict two possibilities for a potential moderation model. The first is based on the idea that psychologically controlling parenting is possibly more common in low SES households. Some literature suggests this link, though the results are difficult to generalize (Tynkkynen et al., 2012). However, Stephens et al. (2014) describe the cultural differences between middle-class and working-class parents. As described previously, these cultural differences are demonstrated through differing parenting practices, and an increase in economic anxieties has additionally been linked to more controlling parenting practices (Doepke & Zilibotti, 2019). The practices typically observed in a middle-class family are more consistent with autonomy supportive parenting, while the practices of working-class families more closely align with psychologically controlling parenting. Additionally, Joussemet et al. (2008) posit that experiences of increased stress and pressures—in this case, financial stress—can lead parents to be more psychologically controlling. Being of a low socioeconomic status places pressure on parents, particularly in being able to provide for their families. This increased pressure may contribute to an increased occurrence of psychologically controlling parenting in working-class families as parents aim for their children to not face similar economic hardships, as well as
prepare them for a world with some economic uncertainty (Doepke & Zilibotti, 2019; Stephens et al., 2014). As such, parents in this situation may exert more control over their child’s career identity. Given this possible link between socioeconomic status and psychologically controlling parenting, our first proposed moderation model suggests that the effects of psychologically controlling parenting are not as harmful for lower SES students. Since this form of parenting may be more common and consistent with their family’s cultural values, this type of parenting may not be as harmful as it is for higher SES students, for whom psychologically controlling parenting is perhaps more uncommon and inconsistent with their cultural ideals.

The second possible moderation model alternatively proposes that psychologically controlling parenting is especially harmful to lower SES students. This is based on the literature suggesting that low socioeconomic status is already quite harmful to the mental well-being of college students, due to increased stereotype threat and a decreased sense of belonging (Jury et al., 2017; Ostrove & Long, 2007). In addition, psychologically controlling parenting is similarly linked to harmful effects on identity development and mental health (Romm et al., 2019; Schiffrin et al., 2014). Given the detrimental effects of both low socioeconomic status and psychologically controlling parenting, we expect that low SES students may be especially harmed by the effects of controlling parenting, as this causes an additional level of inadequate support in their lives. Compared to the previous moderation model, we expect this one to be more likely. Specifically, low SES students who struggle to find a place in college may struggle more if they similarly do not feel supported at home, by their parents. Testing for such a moderation model allows us to better understand the risk factors associated with difficulties with identity development and mental health in college students.
Study 2. Study 2 is a new study that serves as a replication and extension of study 1. In this second study, we employ both a quantitative and qualitative approach to identity in order to further measure the relationships between career identity, mental health, parenting, and SES. Specifically, study 2 uses a narrative approach—along with a quantitative measure—to career identity, which allows us to extend the previous findings to a more holistic view of identity. For the purposes of this study, we developed a novel narrative prompt that asks participants to describe the development of their career identity up to this point, taking into consideration how their career plans have changed over time and the involvement, if any, of their parents in the development of these career plans. The use of a context-specific narrative prompt addresses the need for more research into domain-specific narrative identities (Dunlop, 2015). Additionally, previous research indicates that narrative identity qualities have greater predictive value of well-being beyond the identity statuses (Adler et al., 2016). In the present study, we planned to code for several narrative qualities that will be used in analyses: exploratory processing (Pals, 2006), intrinsic motivation, extrinsic motivation, and positive/negative current identity status. The latter three variables will be developed for the purposes of the narrative prompt and offer a narrative approach to examining motivation (as defined by SDT) and identity status.

In addition to the narrative, we similarly collect measures of SES, parenting, and mental health as in study 1. As described in the hypotheses for study 1, we expect to replicate findings of a positive association between SES and mental health. In addition, we expect psychologically controlling parenting to be negatively associated with mental health and career identity development. Based on the conceptual understanding that controlling parenting undermines children’s autonomy and may negatively affect their identity development, we hypothesize that psychologically controlling parenting will be negatively associated with exploratory processing,
which has been shown to be an indication of meaning-making and personal growth. Additionally, based on SDT, we expect psychological control to be associated with high extrinsic motivation and low intrinsic motivation. Self-determination theory further posits that extrinsic motivation negatively impacts the feeling that an identity is consistent with one’s view of themselves. As such, we predict that high psychological control will be associated with a negative current identity status. As described in the previous study, we will again test for our exploratory hypothesis to assess whether SES is a moderator of the relationship between psychologically controlling parenting and career identity/mental health.

Our studies offer important ways of filling the gaps of the current literature. Specifically, we address questions of directionality by employing a longitudinal study. Additionally, we evaluate the relationship between SES and parenting, and SES and identity development—two relationships that have not been well-explored thus far. Study 2 also uses a narrative approach that offers a more holistic view of identity development. Overall, our studies aim to shed light on the factors that contribute to the development of emerging adults. These findings have the potential to provide insight into how college students should best be supported in their development, as well as address risk factors to optimal development. This information can equip colleges with the information to provide appropriate resources to the students who need them most.

**Study 1 Method**

*Participants and Procedure*

Participants were drawn from the Identity Pathways Project (IPP), an ongoing longitudinal study of college students from two institutions: a small, liberal arts college in the
Northeast and a medium-sized, public university in the Northwest. The complete sample consists of four cohorts, recruited in a staggered fashion, across the two campuses, with participants starting the study in 2013, 2014, and 2015. For the purposes of our analyses, we used the maximum sample size for each set of analyses, with $N$ ranging from about 260 to 400.

IPP is an online survey study consisting of multiple waves, with participants recruited and starting the summer before college begins (Wave 1). Participants completed two more surveys during their first year, in the winter (Wave 2) and spring (Wave 3), and then three surveys (in the fall, winter, and spring) each following year (Waves 4-12). A follow up survey (Wave 13) is completed a year post-graduation. Participants received compensation of $20-25 for each completed wave. Each wave asks participants to complete several measures, using both quantitative and qualitative (i.e. narrative) methods. The current analyses include all four cohorts and their data from Waves 1-12. Table 1 indicates when (i.e. at which waves) the measures used in the present study were collected, with the specific waves used in our analyses indicated in bold.

As reported by Lilgendahl and McLean (in press), in the full sample at Wave 1 ($n = 638$), 35% identified as male and 63% as female. In this original sample, the racial breakdown was as follows: 75% white, 6% Black/African-American, 10% Latino/a, 18% Asian, 2% Native American, and 1% “other,” with 13% of the sample selecting more than one racial category. Socioeconomic status, assessed using measures of household income and parents’ education levels, differed between the two campuses, as expected. For Campus 1 (small, liberal arts college), 43% of participants’ household incomes fell below $90,000, while 56% fell above $120,000. Similarly, about 75% of participants’ parents had a 4-year college degree or higher, while the rest had some college or less. On the other hand, for Campus 2, about 60% had a
household income below $90,000, and only 26% fell above $120,000. About 50% of parents had a 4-year college degree or higher, and the other half had some college or less. With the two campuses together, the full IPP sample includes a broad range of socioeconomic statuses (Lilgendahl & McLean, in press). The sample used for analyses in the current study is comparable to Wave 1 in terms of these demographics.

**Measures**

**Socioeconomic Status.** SES was assessed at Wave 1 based on measures of household income, father’s education level, and mother’s education level. Participants were asked to estimate their parents’ (or guardians’) household income and choose one response from the following: less than 10,000; 10,001 to 30,000; 30,001 to 50,000; 50,001 to 70,000; 70,001 to 90,000; 90,001 to 120,000; 120,001 to 150,000; 150,001 to 200,000; or more than 200,000. Participants were then asked to choose the best option reflecting each parent’s highest level of education. The options were: less than high school; high school degree, GED, or vocational training instead of high school; some college or vocational training; four-year college graduate; Masters degree or equivalent; PhD, JD, MD, or equivalent. The responses to these three questions was used to determine participants’ socioeconomic status. In order to calculate a composite variable for socioeconomic status, we first averaged the parent’s levels of education together, and then averaged the standardized score of parental education level with a standardized score of household income.

**Parenting.** Students completed the Perceptions of Parents Scale (POPS; Niemiec et al., 2006) during the second survey of each year (i.e. during waves 2, 5, 8, and 11). This scale measures the perceived level of autonomy support/psychological control, involvement, and warmth of each parent, individually. Perceived parental autonomy support for each participant
was determined by averaging the scores for each parent together. The scale consists of 21 items for each parent, and participants responded to each item on a 7-point Likert scale ranging from 1 (not at all true) to 7 (very true). Sample items include, “My mother/father allows me to decide things for myself,” and “My mother/father tries to tell me how to run my life.”

Career Identity. Students completed the Vocational Identity Status Assessment (VISA; Porfeli, Lee, Vondracek, & Weigold, 2011) during the spring of each year. Thus, participants completed this measure at waves 3, 6, 9, and 12. The VISA includes several measures of exploration (in breadth; in depth) and commitment (commitment making; identification with commitment) that can be used to assess one’s identity status. The scale consists of 30 statements, each rated on a 5-point Likert scale ranging from 1 (Disagree strongly) to 5 (Agree strongly). Sample items include, “I know what kind of work is best for me,” and “My work interests are likely to change in the future.”

Mental Health. At each wave of the study, participants completed the Depression, Anxiety, and Stress Scale (DASS; Lovibund & Lovibund, 1995) to assess their mental health. For the purposes of our analyses, we only used DASS scores from waves 1, 3, 6, 9, and 12. The DASS consists of 19 items, designed to measure depression, anxiety, and stress. Important to note, higher DASS scores indicate worse mental health. Participants responded to each item on a 4-point Likert scale, ranging from 0 (Did not apply to me at all) to 3 (Applied to me very much, or most of the time), to indicate how much the statement applied to them over the past week. Sample items include, “I felt that I was using a lot of nervous energy,” and “I felt I wasn’t worth much as a person.”

Analysis Plan
Analyses included a series of moderated multiple regressions in order to test our hypotheses. In order to test the effects of SES, autonomy support, and the interaction on career identity development and mental health, we ran regressions with VISA and DASS measures from the end of each year as the dependent variable. The previous year’s version of the outcome variable was included in analyses in order to assess change over time. In addition, the same analyses were run without the previous year variable in order to determine consistent patterns that may replicate across the years. In order to test the effect of career identity development and mental health on parenting, we ran another series of moderated multiple regressions starting with parenting in the second year of college (wave 5), including parenting measures from the previous year as a predictor to assess change in level of autonomy support.

Importantly, due to the significant correlation between SES and Campus ($r = -0.31, p < 0.01$), which is consistent with the description of campus SES differences described above, Campus was included as a control variable in all analyses. In addition to the series of regressions described, we ran a partial correlation (controlling for Campus) to test our hypothesis that autonomy supportive parenting and SES are correlated.

**Study 1 Results**

Study 1 analyses involved a series of multiple regressions to test our hypotheses. Results are presented for each of our dependent variables: career identity development (exploration and commitment variables analyzed separately), mental health, and parenting. Socioeconomic status (measured at Wave 1—before the start of college) was included as a possible moderator in all regressions. Additionally, Campus was included as a control variable due to its high correlation with SES. For all years past the first year, the previous year’s version of the outcome variable was included as a predictor in order to predict change over time. For each career identity
measure, we also ran regressions without the previous year variable in order to establish possible patterns that replicate year to year.

First, in order to assess our hypothesis that higher SES is associated with more autonomy supportive parenting, we ran a partial correlation, controlling for campus. Results supported our hypothesis, such that SES was positively associated with autonomy support, as measured each year of college ($r = .17-.25, p < .001$). The following sections present the results on the rest of the analyses (described above).

**Career Identity Development**

**Year 1.** As this was the first year of data collection, analyses for this year were not predicting change (VISA was not included at Wave 1; first assessment was at Wave 3). Analyses examined whether parental autonomy support, socioeconomic status, and their interaction predict the four career identity measures (exploration in breadth, exploration in depth, commitment making, and identification with commitment). All results are listed in Table 2. As shown in the table, we found a main effect of autonomy support on exploration in breadth, exploration in depth, and identification with commitment, such that higher levels of autonomy support at Wave 2 (mid-year) predicted higher levels of all three of these identity measures at Wave 3 (end of year). We did not find support for an effect of parenting on commitment making in year 1. Additionally, though there were no significant interaction effects for this year, there was a main effect of SES on commitment making and identification with commitment, such that low SES predicted higher levels on the identity measures.

**Year 2.** Results from analyses examining change in career identity variables from year 1 to year 2 are listed in Table 3. The results indicate a relatively high level of stability across career
identity variables from the first year of college to the second. We observed a main effect of autonomy supportive parenting on exploration in depth and identification with commitment. Additionally, we found a significant interaction effect on identification with commitment (Figure 1), such that the effect of high autonomy support is especially present for low SES students. This provides some evidence towards our exploratory question regarding the moderating effect of SES.

In addition to analyzing change from year 1 to year 2, we also ran analyses solely on year 2 variables in order to look for consistent patterns across the years. The results of these analyses indicated a main effect of SES on exploration in breadth ($\beta = .135, p < .05$), commitment making ($\beta = -.153, p < .01$), and identification with commitment ($\beta = -.153, p < .05$). In addition, we observed a main effect of autonomy support on exploration in depth ($\beta = .177, p < .01$) and identification with commitment ($\beta = .212, p < .001$). As with the analyses predicting change, we found an interaction effect on identification with commitment ($\beta = -.129, p < .05$), again indicating that high autonomy support has an especially strong effect on low SES students.

Year 3. Results demonstrating change from year 2 to year 3 are listed in Table 4. Like the previous year, we found relatively high levels of stability from year to year. The only significant effect observed during this year is a main effect of parental autonomy support on identification with commitment, such that higher autonomy support predicts an increase in the identity variable from year 2 to 3. No interaction effects were observed during this year. In the analyses looking at patterns (i.e., not change) during year 3, we found only a significant effect of autonomy support on exploration in depth ($\beta = .201, p < .001$), commitment making ($\beta = .143, p < .05$), and identification with commitment ($\beta = .277, p < .001$). SES was not a significant predictor during year 3 in any analyses.
Year 4. All results examining change from year 3 to 4 are listed in Table 5. Similar to the results observed in year 3, we found only a main effect of autonomy support on identification with commitment. Additional significant effects came out of analyses only looking at year 4. Specifically, there was a main effect of autonomy support on exploration in depth ($\beta = .178, p < .01$), commitment making ($\beta = .134, p < .05$), and identification with commitment ($\beta = .320, p < .001$). We also found significant interaction effects on commitment making (Figure 2) and identification with commitment (Figure 3). It is worth noting that year 4 is the final year of college, which can explain the particularly unique results that came up when examining patterns during this year.

Mental Health

Results examining change in DASS scores across the college years are listed in Table 6. As noted in Table 1, DASS is measured at every wave of data collection. In the present analyses, we used scores measured at Waves 1, 3, 6, 9, and 12. The first outcome variable is Wave 3 DASS—or mental health at the end of the first year of college—with Wave 1 (measured prior to the start of the year) as a predictor. For all subsequent years, the previous year’s DASS score was included in analyses as a predictor. As shown by the table, DASS scores have a relatively high level of stability across the college years. As hypothesized, more psychologically controlling parenting was predictive of increases in DASS (i.e., worsening mental health) across the college years. We did not find support for the hypothesis that SES would be negatively associated with DASS scores. Rather, results suggested a positive association during year 3, such that higher SES was predictive of increased DASS scores. Additionally, we found no evidence of SES moderating the effect of autonomy supportive parenting on mental health across the college years.
Autonomy Supportive Parenting

Next, to test for directionality in the relationship between parenting and career identity development, we used multiple regression analyses testing for changes in parenting for each year of college (except for the first year, as that is the first data collection point). Analyses were used to determine potential effects of each VISA measure on parenting, with SES included as a potential moderator. The results showed no significant effects on changes in parenting in years 2 and 3. During year 4, we did observe significant effects on change in parental autonomy support from the previous year. Specifically, in testing for the effect of exploration in breadth on year 4 parenting, we found a main effect of SES ($\beta = .091, p < .05$). Additionally, with exploration in depth as the predictor, results indicated a main effect of the career identity variable ($\beta = .071, p < .05$) and SES ($\beta = .089, p < .05$). We observed a main effect of SES ($\beta = -.075, p < .05$) and a significant interaction effect (Figure 4) when testing for commitment making as a predictor of autonomy support. Finally, SES was a significant predictor ($\beta = .091, p < .05$) when testing the effect of identification with commitment.

Additionally, we tested the effect of DASS score on changes in parental autonomy support across the years. Results are listed in Table 7; notably, autonomy support is quite stable across the college years. In support of our hypotheses, we found the higher DASS scores did predict decreases in autonomy support from year 1 to 2 and year 2 to 3. No such effect was observed during year 4, though there was a main effect of SES that year. In addition, SES moderated the effect of DASS on parenting in year 3 (Figure 5), such that parents of lower SES students were especially likely to become more psychologically controlling if their child has increased DASS scores.
Study 1 Discussion

In Study 1, we found support for many of our hypotheses and some evidence for the answers to several important questions. Primarily, we expected parental autonomy support to positively predict career identity development and mental health across the college years, which we found substantial support for in the results. We also predicted this effect to persist in the other direction, such that career identity development and mental health predict parental autonomy support. Additionally, we expected low socioeconomic status to have more negative repercussions on these outcome variables, though we observed more varied results on these effects. Importantly, this study addresses two gaps in the literature: the directionality of the relationship between parenting and career identity development and mental health (since the assumption is typically that parenting is the causal factor, instead of the other way around), and if and how SES moderates these relationships. More detailed interpretations of the results examining effects on career identity development and mental health are discussed below, followed by discussion of the effects of those variables on parenting.

Career Identity Development and Mental Health

Autonomy Supportive Parenting. As hypothesized, parenting has a significant effect on career identity development and mental health across the college years. Based on analyses examining change in the career identity variables, autonomy supportive parenting is found to consistently predict increases in identification with commitment. This is consistent with findings in the literature that suggest more supportive parenting leads to children feeling more equipped to make career decisions and psychological control is associated with decreased career identity development (Lindell et al., 2017; Stringer & Kerpelman, 2010). Intuitively, this finding makes sense as autonomy supportive parents are more likely to encourage their children to make
autonomous decisions that align with their intrinsic motivations (Joussemet et al., 2008). In turn, feeling intrinsically motivated can contribute to one feeling that they strongly identify with the commitment they made. On the other hand, more controlling parents may unintentionally push their children towards a career path that they believe is appropriate or secure for them. While this may be well-intended—encouraging a child to make a commitment—the unintended consequence is likely that the child does not feel as strongly about their commitment. Thus, they are less likely to identify with their commitment. As such, our findings suggest it is important for parents to support their child’s independent identity development and provide space in order for development to unfold in a healthy way.

Parental autonomy support was also found to have a significant effect on exploration in breadth and exploration in depth during year 1. The significant effect on exploration in depth is maintained when examining change from the first to second year and was also found in testing for yearly patterns in years 3 and 4. As predicted, autonomy supportive parenting seems to contribute to identity exploration. While it makes sense that this exploration would be broader in year 1, parents are likely to encourage their children to explore one field more deeply past the first year of college. Autonomy supportive parents seem to be particularly effective in encouraging and supporting healthy identity development in their children. In analyses of years 3 and 4 of college, autonomy supportive parenting was also predictive of higher levels of commitment making. Again, normative identity development includes a period of exploration followed by commitment. This finding suggests that parenting is significant in supporting this identity pathway as it unfolds organically over time.

The findings point to a similar effect of parenting on mental well-being. Specifically, across the years, more controlling parenting consistently predicts worsening mental health. Our
finding replicates previous research that has found highly controlling parenting to be linked to lower well-being and higher levels of depression (Kouros et al., 2017; Schiffrin et al., 2014). Importantly, Schiffrin et al. (2014) posit that fulfillment of the needs for autonomy and competence, which autonomy supportive parents are better at doing, explains this association between parenting and mental health. Autonomy supportive parents are more likely to foster their children’s independence and encourage them to find areas in which they are competent and can succeed. Beyond this, autonomy supportive parents encourage their children to act in ways that are intrinsically motivated. According to self-determination theory, intrinsic motivation is vital for positive mental health, as is fulfilling one’s psychological needs of autonomy and competence (La Guardia, 2009). Our findings offer additional support for this theory and extends the existing research by offering insight into the directionality of the relationship. Though it is often assumed that parenting will predict outcomes in children, the present findings provide concrete evidence of this direction. Additionally, our findings indicate that parenting remains consistently important for mental health across the college years, as it is predictive of change in DASS scores from year to year. As such, the present study offers valuable insight into the role of autonomy supportive parenting in career identity development and mental health across the college years.

Interaction. An exploratory question that this study aimed to answer is if and how SES moderates the effect of parenting on career identity development and mental health. We proposed two hypotheses: the first, psychologically controlling parenting is especially detrimental to low SES students because it is compounded on other stressors; the second, psychologically controlling parenting is less consistent with the culture of higher SES and, as a result, would have more detrimental effects on high SES students. The findings offer more
support for the former, though with some nuances. We observed an interaction effect on change in identification with commitment from year 1 to 2 (Figure 1), as well as in year 2 alone (i.e., no change). During the final year of college, analyses not examining change indicated a significant interaction effect on commitment making and identification with commitment. All interactions suggest that the positive effect of autonomy support is more pronounced in or entirely driven by lower SES students. Although we did not observe an especially detrimental effect of psychologically controlling parenting on lower SES students, these findings align with our proposed hypothesis that parental autonomy support is more important for low SES students. Specifically, it seems that the support provided by parental autonomy support is especially important for the healthy identity development of low SES students. Additionally, this suggests that, despite the increased stressors experienced by low SES students, parenting is an important area of support for these students. This finding is novel and offers insight into potential interventions that may best support low-income college students, particularly in their career identity development.

*Socioeconomic Status.* Our findings suggest that socioeconomic status does have some effects on career identity development and mental health. We hypothesized that higher SES would be associated with increased scores on VISA measures and decreased scores on the DASS. We found some support for this hypothesis across the years, but many of the effects of SES were non-significant and others were in the opposite direction than that predicted.

First, in relation to career identity variables, we found that SES negatively predicts commitment making and identification with commitment during the first and second years of college. Although this did not exactly align with our hypotheses, this finding makes some sense and is supported by the literature. It is important to note that this main effect was only observed
in the first two years of college and was not found when looking at change in these variables across the years. Based on the understanding of normative identity development processes, it would be expected that individuals would spend time exploring different identities before committing to one. Since college is typically viewed as a steppingstone to one’s career, it would be expected that students spend their first year or two exploring different possible fields/careers before committing to one (e.g. by declaring an academic major). Our findings suggest that low SES students are actually more likely to commit to a career identity earlier on in college. In a review article on adolescent career counseling, Harless and Stoltz (2018) note that low SES students hold more inflexible career beliefs and are likely to choose the path that seems most realistic and acceptable. As discussed in the introduction of this paper, financial stressors are likely to place a greater burden on low SES students to choose a career that offers financial security. Additionally, Harless and Stoltz (2018) state that low SES students are less likely to have access to the resources and opportunities that afford them the ability to explore various career options. As such, our findings offer support for this notion that low SES students are more likely to commit to a career identity earlier on. Additional support for this is offered by the finding that SES positively predicts exploration in breadth in year 2. Thus, not only are low-income students more likely to commit to a career identity earlier in their college careers, they are exploring various options less than their higher SES peers; this offers further support to the idea put forth by Harless and Stoltz (2018).

In relation to mental health, we hypothesized that SES would predict better mental health (i.e. lower DASS scores). Our findings show minimal evidence for an effect of SES on mental health across the college years. The one significant finding actually suggests that SES predicts an increase in DASS scores from the second to third year of college. As discussed previously, the
literature offers strong evidence for a link between SES and mental health, such that lower SES students tend to experience worse mental well-being (Ostrove & Long, 2007). Although our findings contradict the literature, it is important to note that this finding was only present at one point in our longitudinal data set and does not necessarily represent the effect of SES across all the college years. In addition, we offer several possible explanations for our finding. First, it can be argued that access to college can be quite difficult to attain, especially to those of lower socioeconomic status. As such, those students of lower SES who are in college—particularly at more selective schools—may represent a more resilient group than low-income individuals in the general population. However, this explanation is insufficient as previous findings suggest a link in college students, specifically. Another potential explanation for the finding is self-report bias, such that higher SES students do not experience as much stigma surrounding disclosure of anxious and depressive thoughts and feelings. High SES students may feel safer admitting these experiences, as well as more entitled to help addressing them. While these offer some possible explanations for our finding, there is little to be said for why the significant effect showed up during junior year of college specifically. As such, in order to better understand this finding, additional research is necessary.

**Parental Autonomy Support**

In addition to the findings reported above, this study was novel in its examination of a relationship between SES and parenting, and in its testing of the directionality of the relationship between parenting and identity development and mental health. Directionality is relevant throughout our study, with the findings discussed above pointing to what many would assume: parenting predicts outcomes in children. However, our study extends beyond this to examine whether the opposite is also true—whether factors in children predict changes in parenting.
Addressing the link between SES and parenting, first, to our knowledge, only one previous study examines the relationship between SES and parenting, finding that psychological control is more common in low SES households (Tynkkynen et al., 2012). Theoretical support for this correlation stems from the view of socioeconomic status as representative of different cultures (Stephens et al., 2014). Our findings replicate those of Tynkkynen et al. (2012), offering support for a relationship between SES and parental autonomy support, at least during the college years.

With regard to the directionality of the relationship between parenting and career identity development and mental health, one previous study reports that exploration in breadth led to increases in psychologically controlling parenting (Luyckx et al., 2007). We did not replicate this finding in our study, but we did observe that exploration in depth is predictive of an increase in autonomy supportive parenting from year 3 to 4. In their final year of college, the goal is for students to be committed to a career identity and exploring this one identity more in depth. The parents of students who are able to achieve this may be less worried about their child’s career path and, thus, are less overbearing and more supportive of their child following the path they have chosen. In addition to this finding, we also found that SES moderates the effect of commitment making on changes in autonomy support from year 3 to 4 (Figure 4). This interaction suggests that the effect of commitment making on parenting is driven by low SES students, such that those low on commitment making are more likely to have their parents become more psychologically controlling. Given the financial stressors faced by low SES parents, they are likely to be more concerned about their child’s future career path and financial security. If a student has still not committed to a career identity by their final year of college, it makes sense that their parents would become more controlling in an attempt to guide their child towards a career path.
In addition to the effects of career identity development on parenting, we also observed important findings on the effect of mental health on parenting. As hypothesized, our findings indicate that higher DASS scores (i.e., worse mental health) are predictive of increases in controlling parenting in years 2 and 3. This offers support for the notion that not only is parenting predictive of a child’s mental health, but a child’s mental health is also predictive of parenting. Those who are higher on DASS may elicit their parents to attempt to help them feel better. However, the way in which this is done may feel overbearing and overprotective to the child, who perceives this as more controlling than supportive. Further research is needed in order to confirm these results and better elucidate this direction of the relationship. In addition to this main effect, we also found a significant interaction effect (Figure 5), which is similar to the previously described interaction of SES and commitment making. As before, the effect of DASS on changes in parenting from year 2 to 3 is driven by low-income students, such that low SES parents are more likely to show increases in psychologically controlling parenting if their child is higher on the DASS measure. Importantly, though, it is a stretch to apply the same rationale used to explain the interaction of SES and commitment making here. The previous finding could be explained by the increased financial stress faced by low SES parents. In the case of mental health, further research is necessary to explain these findings.

The present study makes great strides in helping to answer the question of directionality in the relationships between parenting and identity and mental health. Importantly, our findings suggest the relationships go in both directions to some extent. However, much of the findings indicate that parenting has a consistently greater effect on identity development and mental health than the reverse. In assessing whether students’ career identity development and mental health predict changes in parenting, we found support for a limited set of the variables (e.g.
exploration in depth, commitment making, DASS) and only in some years. Career identity variables only predicted change in parental autonomy support from the third to fourth year, which makes sense as parents may be especially concerned if their child has not made a commitment by their final year of college. Mental health showed the most consistent pattern of predicting change in parenting. Importantly, parenting consistently predicted mental health, as well. This suggests a back-and-forth relationship between these two variables that should be explored further in future research. Overall, although we show some evidence of identity development and mental health affecting parental autonomy support, we found significantly more evidence for an effect of parenting on those psychological factors. Intuitively, this is the assumption often made—that parenting leads to outcomes in children—and our study offers strong support for this.

Strengths, Limitations, and Conclusions

This study, through its use of a longitudinal approach, offers insight into some of the key questions raised by this paper. While the link between identity development—and, specifically, career identity—and mental health is well-established (Luyckx et al., 2012; Meca et al., 2015), the literature offers less evidence about the relationship between parenting, SES, and these psychological factors. Some studies have found that parenting—specifically, parental support and acceptance—is important to career commitment and career decision-making. Our study extends these findings by examining four identity processes (exploration in breadth, exploration in depth, commitment making, and identification with commitment) across the years of college to establish patterns of change and consistent patterns over time. With regard to mental health, it is established that parental autonomy support is related to greater mental well-being (Kouros et al., 2017; Schiffrin et al., 2014). The existing literature offers insight into the relationship...
between parenting and these outcome variables, but a key question of directionality remains. The longitudinal design of the present study allows us to draw conclusions about the directionality of these relationships, and the findings suggest that it is not simply that parenting leads to changes in identity development and mental health.

In addition to addressing questions of the relationship between parenting, career identity development, and mental health, the present study fills some of the gap regarding the role of socioeconomic status in these relationships. Limited data suggests a link between psychologically controlling parenting and lower SES (Tynkkynen et al., 2012). Our study provides more established evidence of this relationship across the college years. Future research should look further into this finding in order to generalize beyond the college years and to better understand why this relationship exists (though one explanation is offered by Stephens et al.'s (2014) notion of cultural differences across SES).

While this simple relationship between parenting and SES is important to understand, our study set forth to address a novel question: How does SES moderate the relationship between parenting and career identity development/mental health? Across the college years, we found evidence that SES does influence the effect of parenting on the outcome variables, and vice versa. A consistent pattern suggests that parental autonomy support is especially important for low-income students, such that low SES students show improved outcomes over all other groups on several key measures of career identity development and mental health. Importantly, we did not find that controlling parenting is especially detrimental for low SES students. Rather, the present findings suggest that low SES students thrive with parental autonomy support, but still do as well as their higher-income peers without it. This is crucial to understand as it points to one factor—parenting—that can be especially supportive of the success and healthy development of
low SES college students, who are more prone to experiencing difficulties, such as stereotype threat, during their time in college. Additionally, in examining the reverse relationship, it appears that low SES parents are particularly vulnerable to becoming more psychologically controlling when their child is lower on measures of career identity and mental well-being. This is important to note because, while low SES students benefit greatly from autonomy supportive parenting, they seem less likely to experience that form of parenting. This is especially true for those low-income students struggling with their career identity or mental health, who may actually benefit from parental autonomy support the most. These insights point to key areas for future research and possible interventions.

The present study addresses several gaps in the literature, offering new knowledge upon which to develop future research and more tailored support services and interventions. However, it is important to address several limitations of the study, which offer direction for future research. Although our sample represents a fairly diverse group of students, it is notable that the sample is largely white. Additionally, while participants were recruited from two campuses, providing a more diverse set of backgrounds and experiences, the institutions are moderately-highly selective. As such, it is worth extending these findings to a sample that is more racially/ethnically diverse, as well as looking across more institutions with varying levels of selectivity. In addition to expanding the sample, the next step with these findings is to determine whether change in one variable predicts change in other variables over time. While our study examined change in the outcome variables, we did not assess the effect of change in the predictor variables. This step would better establish how these variables relate over time, providing an increased understanding of when and how to offer support services and interventions.
Overall, Study 1 extends the existing literature in important ways, offering vital information on the identity development and mental health of college students. Based on these findings, there are several takeaways: Low SES students especially benefit from autonomy supportive parenting; low SES students are less likely to have autonomy supportive parents; and low SES parents are particularly vulnerable to becoming more psychologically controlling. The findings suggest that low SES students may especially need services to account for the potentially lower levels of autonomy support they experience from their parents. Additionally, support for low SES parents could help them address their child’s career identity development and mental health without becoming more psychologically controlling.

**Study 2 Method**

*Participants and Procedure*

Participants ($n = 131$) were recruited from Haverford College through posts on social media groups. Participants were asked to complete an online survey using Qualtrics and were compensated $10 for their participation. In the complete sample, 21% ($n = 27$) identify as male, 71% ($n = 93$) as female, and 3% ($n = 4$) identify as gender queer/gender fluid/non-binary. With regard to race/ethnicity, participants were instructed to select all that apply and the racial breakdown is as follows: 72% Caucasian/white, 6% black/African American, 12% Latinx, 18% Asian/Asian American/Pacific Islander, and 5% “other.” On a measure of household income, 59% of participants indicated a household income above $120,000, while only 30% fell below $90,000. Importantly, the sample was quite skewed, with 32% indicating a household income over $200,000. Parent education level was similarly skewed, with about 80% of parents with a 4-year college degree or higher, and only about 10-15% of parents had some college or less.
The survey first asked participants to answer questions about their household income and parents’ education levels to assess socioeconomic status. Additional demographic factors, including class year and gender, were also collected for descriptive purposes. Following completion of the demographic variables, participants were asked to respond to a narrative prompt, described below. After responding to the prompt, students were asked to complete measures of parenting, mental health, and career identity.

Measures

Socioeconomic Status. SES was assessed using the same method described in the previous study, through measures of household income and parents’ education levels. Complete information on the questions and response options is described above.

Parenting. Students completed the Perceptions of Parents Scale (POPS; Niemiec et al., 2006), to measure how autonomy supportive/psychologically controlling, involved, and warm they perceive their parents to be. To produce a composite variable for parental autonomy support, the scores for each parent on that scale were averaged together. For sample items, see above.

Career Identity. Participants completed the Vocational Identity Status Assessment (VISA; Porfeli, Lee, Vondracek, & Weigold, 2011). As detailed above, this scale measures career identity exploration and commitment variables.

Mental Health. Students completed the Depression, Anxiety, and Stress Scale (DASS; Lovibund & Lovibund, 1995) to assess their mental health. Further information on the scale and sample items are provided above.
Narrative Prompt. Participants responded to the following narrative prompt, regarding their career identity:

How have your career plans developed over time? Tell us a story about how your thoughts about what careers you might want to pursue began and what events, experiences, and people have been influential along the way. To what extent have your plans changed over time, and what has influenced the change? How are you feeling at this point in your life about your progress toward a clear career choice? As you tell us the story of the development of your career plans, please comment on whether or not your parents have been influential in this process, and if so, how.

Coding Procedure

Narrative coding variables were developed based on a subset of about twenty narratives. Although the original plan was to code for exploratory processing, intrinsic and extrinsic motivation, and positive/negative current identity status, the narratives were not suitable for coding for these qualities. As such, a modified set of narrative qualities and coding scales were developed based on a subset of narratives. A team of two trained coders coded a subset of narratives in order to achieve acceptable reliability (ICCs ranged from .71 to .91 across variables). Following this, all codes for each narrative quality were averaged together. The narrative qualities coded for, along with hypotheses based on these new qualities, are described in further detail below.

Career Identity Exploration. Coded on a scale of 1-4, this rating indicates the extent to which the narrative describes processes indicating exploration of different career options and paths, with 1 indicating no evidence whatsoever and 4 indicating significant exploration that is elaborated upon. Evidence of career identity exploration includes descriptions of past career exploration and thoughts of questioning and reflecting upon one’s career path. As with career
identity exploration measured by the VISA, we predicted that this variable to be correlated with the VISA measures of exploration and that autonomy support would be positively associated with higher exploration.

**Clarity of Current Career Identity Plans.** This variable indicates the extent to which participants express a clear idea of their career plans. Clarity was coded on a scale of 1-4, with 1 being a complete lack of clarity about career goals and 4 being a very clear vision of one’s career plans. Based on the hypothesis that autonomy support would be associated with commitment making (as measured by the VISA), we similarly hypothesized that clarity would be positively associated with VISA measures of commitment and that autonomy supportive parenting would be positively correlated with clarity of current career plans. We also expected clarity to be negatively associated with DASS scores, as lack of clarity on career goals can be anxiety-inducing.

**Intrinsic Motivation/Pursuit of Passion.** Based on SDT and our original coding plan, this narrative quality rates the extent to which the narrator expresses interest in and a passion for the field/work they are considering. Intrinsic motivation was rated on a scale of 1-3, with 1 indicating no presence and 3 indicating intrinsic motivation is highly present and developed. As described in the introduction, we hypothesized the autonomy supportive parenting would be associated with greater evidence of intrinsic motivation in narratives. Additionally, since this variable also indicates interest in and passion for one’s career path, we expected this measure to correlate with the VISA measure of identification with commitment.

**Extrinsic Motivation/Pragmatic Concerns.** On the other hand, extrinsic motivation is demonstrated by the presence of external concerns (e.g. money, job security, pleasing parents) in the career decision-making process. As with intrinsic motivation, this quality was coded on a
scale of 1-3, 1 being no presence and 3 being a high presence. On the flip side from intrinsic motivation, we predicted that autonomy support would be negatively correlated with extrinsic motivation.

**Perceived Positive Parental Support.** Parental support is the extent to which the narrator demonstrates feeling positively supported by their parents in their personal pursuit of a career path. Importantly, this measure is not about conditional support (e.g. support only if choosing a particular career), but rather support of the narrators’ own career decisions and their autonomy in these decisions. This variable was coded on a scale of 1-4, with 1 being no indication of support or expressing a lack of support and 4 being a clear and explicit description of positive parental support. As this variable is theoretically similar to the POPS measure of autonomy support—though this variable is more contextualized—we expected autonomy supportive parenting to be positively associated with perceived positive parental support.

**Parental Influence on Career Decision-Making—Negative.** This measure demonstrates the extent to which a narrator describes their parent(s) as trying to influence their career choice. In this case, this attempt to influence is experienced negatively by the narrator, perhaps because it feels controlling or differs from the participants’ own interests. Rated on a scale of 1-3, a rating of 1 indicates a narrative with no evidence of negative parental influence, while a rating of 3 indicates strong evidence of parental influence that is current and strongly negative. As this measure undermines a participant’s own decision-making, we hypothesized that autonomy supportive parenting would be negatively correlated with negative parental influence. Additionally, we predicted that this variable would be positively associated with DASS scores.

**Parental Influence on Career Decision-Making—Positive.** This narrative measure is the same as the previous one, but, in this case, parental influenced is experienced positively by the
participant. This can include descriptions of appreciation for the guidance from parents or feeling helped towards achieving specific career goals that the parents support. As in the previous measure, this was rated on a 1-3 scale, 1 being no evidence and 3 being strong evidence for positive parental support. Since this measure indicates parental influence that is experienced positively, we predicted that autonomy support would be positively associated with positive parental influence.

*Analysis Plan*

Analyses included a series of moderated multiple regressions to test the effects of autonomy supportive parenting and SES on each of the individual VISA measures, as well as on DASS. Additionally, another series of moderated multiple regression analyses were used to test the effects of parenting and SES on each of narrative qualities. We also used bivariate correlation analyses to assess any associations between the narrative qualities and DASS and VISA measures. A bivariate correlation analysis was used to test our hypothesis that SES and autonomy supportive parenting are correlated, as well.

*Study 2 Results*

*Career Identity Development and Mental Health*

We ran a series of linear regressions to assess the effect of parental autonomy support on the VISA measures and DASS. Results are listed in Table 8 and, unlike in Study 1, we only found evidence to support the hypothesis that autonomy support is negatively associated with DASS scores. Additionally, we found a marginally significant interaction effect on identification with commitment. As this was one of few significant results in this study, we graphed this effect.
(Figure 6) showing that more controlling parenting has an especially negative effect on low SES students.

**Narratives**

We ran linear regressions in order to test for the relationship between autonomy support and the narrative variables, with SES included in analyses as a possible moderator. Results are listed in Table 9, with the only significant finding being a main effect of parental autonomy support on the narrative variables of parental support and negative parental influence. Additionally, analyses were conducted in order to examine correlations between the narrative variables and the VISA and DASS measures. Table 10 lists the results from these correlational analyses. As indicated in the table, we found that clarity of current identity plans was negatively associated with exploration in breadth and positively associated with commitment making. Intrinsic motivation was positively associated with commitment making and identification with commitment, while extrinsic motivation is associated with exploration in depth. Finally, parental support was correlated with identification with commitment, and positive influence from parents is associated with commitment making.

**Study 2 Discussion**

In Study 2, we expected to replicate the findings of Study 1 regarding the relationship between parental autonomy support and career identity development and mental health. In addition to this, we aimed to extend the previous study by using an additional narrative approach to career identity development. We found limited support for our hypotheses, as described in further detail below.
Career Identity Development and Mental Health

While Study 1 findings offered evidence for a significant effect of parenting on identity development and mental health, our findings in this study only partially replicated these results. Specifically, we found no support for the hypothesis that parental autonomy support is related to career identity development. However, we did replicate the finding that higher levels of psychological control are associated with higher DASS scores. This supports the notion that controlling parenting has a detrimental effect on well-being. Unlike in Study 1, we did not find evidence that SES moderates any of these relationships, though there was a marginally significant interaction effect on identification with commitment. As this was one of the few effects found, we graphed the interaction and observed a similar pattern to that found in Study 1. Specifically, the effect of autonomy support on identification with commitment was primarily driven by low SES participants. This offers additional support for the importance of parenting for low SES college students. Excerpts from the narratives of two participants, both low SES, help to illuminate these findings. The first is from a participant who has a high level of identification with commitment, as well as a high level of perceived parental autonomy support:

I landed on nursing: it appeals to me because I’m actually not much of a STEM person, and am much more interested in the physical care-taking than I am in the hard science and application of diagnoses. I love people and working closely with them, and I love taking care of people. I’m empathetic and patient and perceptive, and nursing just seems absolutely right for me. My mom’s always been supportive about my career predispositions and plans.

The second excerpt is also from a low-income student, but one who indicated a low level of identification with commitment:
I wanted to do technical theater professionally. After I told my parents that, they encouraged me to stop doing theater altogether, so I had to do shows secretly. Now that I’m in college, I am majoring in Growth and Structure of Cities because of its versatility and practicality.

It is apparent that each participants’ motivation for their career decision is quite different, with the first demonstrating a strong passion for nursing, while the latter points to the practicality of their major decision. Although both students are from low-income backgrounds, they strongly contrast in the level of support they perceived from their parents. In the first excerpt, the participant indicates that their parent has always been supportive, and it is clear throughout the narrative that they feel nursing strongly aligns with who they are. On the other hand, the second narrator suggests that something practical, and perhaps acceptable to their parents, drove their career decision. These narrators present contrasting experiences of coming to a career commitment, as well as the extent to which they identify with this commitment. The narratives offer some insight into the different role parents may play and how this may especially impact low-income students, who likely already have some concerns about the practicality of their career paths. Low SES students with autonomy supportive parents may feel more freedom to choose a career they truly identify with. On the other hand, those with more controlling parents may feel additional pressure to choose a practical and financially secure path, though it may not be something they feel deeply passionate about.

Though we did not replicate many of the findings from Study 1, a few key distinctions between the studies must be noted. This study is not longitudinal and, as such, does not offer the ability to examine change in the outcome variables over time. Additionally, the results of Study 1 suggest notable differences in effects from year to year. In the present study, the sample included participants from each year of college, which we did not control for in our analyses. Finally,
Study 1 included a larger sample of participants from two different campuses, offering a more diverse sample. Despite these differences, we were able to replicate findings of an effect on mental health and demonstrate a similar interaction effect, though marginal, on identification with commitment.

_Narrative Approach_

Study 2 offered the added benefit of including a narrative approach to career identity development. Findings from these narratives offer insight into areas of further research. Narratives were coded for a variety of qualities, described above. We assessed the relationship between each of these variables with the VISA and DASS measures to better understand the quantitative and qualitative measures used in the study. Findings suggest that clarity in narratives was a clear indication of commitment making and lack of exploration in breadth, though it seems that the narrative code offers more information beyond the quantitative measure. Intrinsic motivation was positively associated with commitment making and identification commitment. This finding aligns with SDT and the notion that feeling intrinsically motivated is important to identifying with one’s career commitment. It is plausible that these two variables measure similar qualities in different ways, as our intrinsic motivation code incorporated expressing interest in/a passion for one’s planned career. We found evidence that parental support was positively associated with identification with commitment, though the quantitative equivalent (i.e. autonomy support) did not significantly relate to the career identity variable. This supports the use of a contextualized narrative approach, as the narrative variable of parental support is a context-specific version of the POPS autonomy support subscale. In addition to these findings, positive parental influence was associated with commitment making, while extrinsic motivation was associated with exploration in depth. The former makes intuitive sense as those whose
parents have urged them along certain paths (in a positive way) may be more likely to know what they are interested in doing and, thus, make a commitment. The latter relationship is more complex to explain, and further research is necessary to better understand this finding.

As with the quantitative measures, we ran analyses to assess the effect of autonomy support, SES, and their interaction on the narrative variables. We found limited support for our hypotheses, with significant effects indicating only that autonomy support was positively related to parental support and negatively associated with negative parental influence. As previously stated, the narrative variable of parental support can be described as a context-specific version of the autonomy support measure. Thus, a positive relationship between the two makes sense. As an example, one narrator states, “My mother has always been supportive of my career choice, but I came to this conclusion on my own.” Parents who are perceived as more autonomy supportive encourage their children to make their own decisions, and this quote highlights the fact that the parent provided the space for the narrator to do this regarding their career path. As such, it also makes sense that these parents are less likely to influence their children in a way that is perceived negatively, but rather support and encourage the child’s independent choice for a career.

Strengths, Limitations, and Conclusions

Study 2 extended the previous findings by incorporating a narrative approach to career identity. This added approach offers insight into how college students craft their career identities and what factors play a role in this development. Dunlop (2015) calls for the use of a more contextualized narrative approach in order to better understand identity development in specific life domains. Our findings suggest that the narrative qualities assessed in this study validate theoretically similar quantitative measures, as well as extend beyond the quantitative measures. As such, the use of a narrative approach provides novel insights into unique career identity
development pathways, as well as offering data that can be examined qualitatively for indications of what type of support students may benefit from.

Study 2 also aimed to replicate findings from the first study regarding the relationships between parenting, career identity development and mental health. We were unable to find significant effects of parenting on career identity variables, but the results do support a relationship between parental autonomy support and mental health. This latter finding replicates results from Study 1, as well as from the literature (Kouros et al., 2017; Schiffrin et al., 2014). Regarding the former—the lack of support for our hypotheses on the effects of parenting on career identity—several differences between the studies point to why this may be the case. Study 2 does not employ a longitudinal approach and participants were recruited from only one campus. Additionally, the sample was highly skewed with regard to SES, with the majority of participants indicating a household income over $120,000, with almost a third selecting an income over $200,000. Based on our findings in Study 1, several interaction effects point to the fact that the effect of autonomy support on career identity variables is largely driven by low SES students. Since the sample in the present study was so highly skewed, it is plausible that this effect was no longer significant.

As noted previously, this study does provide qualitative data that can be especially useful in better understanding the relationships found in the quantitative data. Several narrative qualities offer insight into how college students craft their career identities. The associations between intrinsic motivation in narratives and the VISA measures of commitment making and identification with commitment validate elements of self-determination theory that posit that feeling intrinsically motivated is important for one’s identity development. In support of the qualitative findings for study 1 and a multitude of researching citing this relationship (Lindell et
al., 2017; Stringer & Kerpelman, 2010), our findings also point to a positive correlation between parental support and identification with commitment. This extends the quantitative findings, as parental support in this case is a context-specific qualitative version of the autonomy support scale. Additionally, we found evidence the general autonomy supportive parenting is linked with less negative parental influence regarding career path.

These contextualized and qualitative findings extend the results of Study 1 and represent important strengths of this study. Notably, several limitations are also present, some which have been discussed. As previously mentioned, the sample of this study is significantly skewed with regard to socioeconomic status. That, along with the lack of longitudinal data, made it difficult to replicate and confirm our findings from Study 1. A more representative sample is particularly important to better understanding narrative differences, which can offer further insight into the support services that would most benefit college students, particularly those most vulnerable. Future research should examine these effects in representative samples across institutions.

**General Discussion**

The present studies extend previous research through the use of longitudinal and qualitative approaches. Our findings shed light on key relationships and the role of parenting and SES on the career identity development and mental health of college students. While previous research posited the importance of parenting in identity development and well-being, we were able to replicate and extend these findings.

Most importantly, our findings suggest that, as expected, parental autonomy support is good for career identity development and mental health. Beyond this, the effect is especially present in low SES students. Importantly, alongside these findings, we found a link between
parental autonomy support and SES, which, to our knowledge, has been found only once before by Tynkkynen et al. (2012). Together, these findings indicate that, while autonomy support is particularly important for low SES students, they are also less likely to experience it from their parents. Additionally, in testing the directionality of this relationship, we found that low SES parents are more vulnerable to becoming more psychologically controlling if their child is struggling with their career identity or mental health. This means that not only are low SES students at greater risk, but their parents are as well; this suggests a possible need for support on both ends.

While we were unable to replicate many of our findings in Study 2, the results point to the importance of a narrative approach in elucidating these relationships. In a more representative sample, the qualitative data can offer increased insight into these relationships and identify areas for support. Most importantly, it is worth considering what kind of support can be provided to students, especially to low SES students, if they are not receiving support from their parents. Future research should look to examine if support from teachers, counselors, etc.—and what type of support—can attenuate the negative effects of psychologically controlling parenting.

Additionally, across our studies we were unable to replicate findings from Ostrove & Long (2007) that low SES is predictive of lower mental well-being. In fact, the only significant link between SES and mental health signaled the opposite effect: high SES predicts lower well-being. However, this link was found at only point in our longitudinal data. Further research is necessary to examine this link more closely and determine if this effect is replicable. Better understanding of the factors that contribute to worsening mental health in college students is an important future step to explaining these relationships and providing appropriate support.
Overall, the present studies provide a wealth of new information, filling in gaps in the literature. We addressed questions of the directionality of the relationships between parenting and career identity development/mental health, as well as how SES moderates these relationships. Future research should look to replicate our findings and extend them by determining how change in one variable affects change in another. The narrative approach should additionally be incorporated into future research, in order to supplement the findings with a qualitative approach.
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Tables and Figures

<table>
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<th>Table 1.IPP Data Collection¹</th>
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¹A bold X indicates data that was used in analyses for the present study.

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<th>Table 2. Regressions Predicting Career Identity Development at End of the First Year of College from Parental Autonomy Support and SES in Study 1</th>
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<td>SESxAutonomy Support</td>
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Note. Values in table are standardized betas run separately for each of the career identity variables.

* p < .05
** p < .01
*** p < .001
Table 3.  
Regressions Predicting Change in Career Identity Development at End of the Second Year of College from Parental Autonomy Support and SES in Study 1

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<td>Year 1 Variable¹</td>
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<td>.510***</td>
<td>.637***</td>
<td>.487***</td>
</tr>
<tr>
<td>Autonomy Support</td>
<td>-.016</td>
<td>.121*</td>
<td>.030</td>
<td>.113*</td>
</tr>
<tr>
<td>SES</td>
<td>.099</td>
<td>.023</td>
<td>-.021</td>
<td>-.058</td>
</tr>
<tr>
<td>SESxAutonomy Support</td>
<td>-.002</td>
<td>-.072</td>
<td>-.073</td>
<td>-.118*</td>
</tr>
</tbody>
</table>

¹Year 1 version of the identity outcome variable.

* p < .05
** p < .01
*** p < .001

Table 4.  
Regressions Predicting Change in Career Identity Development at End of the Third Year of College from Parental Autonomy Support and SES in Study 1

<table>
<thead>
<tr>
<th>Predictors:</th>
<th>Exploration in Breadth</th>
<th>Exploration in Depth</th>
<th>Commitment Making</th>
<th>Identification with Commitment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Campus</td>
<td>-.028</td>
<td>.094</td>
<td>.117*</td>
<td>.169**</td>
</tr>
<tr>
<td>Year 2 Variable¹</td>
<td>.567***</td>
<td>.495***</td>
<td>.607***</td>
<td>.493***</td>
</tr>
<tr>
<td>Autonomy Support</td>
<td>-.040</td>
<td>.060</td>
<td>.042</td>
<td>.185***</td>
</tr>
<tr>
<td>SES</td>
<td>-.011</td>
<td>-.001</td>
<td>-.014</td>
<td>-.019</td>
</tr>
<tr>
<td>SESxAutonomy Support</td>
<td>.009</td>
<td>-.018</td>
<td>-.010</td>
<td>-.003</td>
</tr>
</tbody>
</table>

¹Year 2 version of the identity outcome variable.

* p < .05
** p < .01
*** p < .001
Table 5.  
*Regressions Predicting Change in Career Identity Development at End of the Fourth Year of College from Parental Autonomy Support and SES in Study 1*

<table>
<thead>
<tr>
<th>Predictors:</th>
<th>Exploration in Breadth</th>
<th>Exploration in Depth</th>
<th>Commitment Making</th>
<th>Identification with Commitment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Campus</td>
<td>.056</td>
<td>-.020</td>
<td>.029</td>
<td>.078</td>
</tr>
<tr>
<td>Year 3 Variable¹</td>
<td>.597***</td>
<td>.543***</td>
<td>.600***</td>
<td>.489***</td>
</tr>
<tr>
<td>Autonomy Support</td>
<td>.050</td>
<td>.107</td>
<td>.083</td>
<td>.235***</td>
</tr>
<tr>
<td>SES</td>
<td>.027</td>
<td>-.039</td>
<td>-.032</td>
<td>.003</td>
</tr>
<tr>
<td>SESxAutonomy Support</td>
<td>.004</td>
<td>-.065</td>
<td>-.057</td>
<td>-.044</td>
</tr>
</tbody>
</table>

¹Year 3 version of the identity outcome variable.

* p < .05
** p < .01
*** p < .001

Figure 1.  
*SES Moderates the Effect of Parental Autonomy Support on Change in Identification with Commitment from Year 1 to Year 2 of College in Study 1*
Figure 2.
*SES Moderates the Effect of Parental Autonomy Support on Year 4 Commitment Making in Study 1*

![Figure 2 Diagram]

Figure 3.
*SES Moderates the Effect of Parental Autonomy Support on Year 4 Identification with Commitment in Study 1*

![Figure 3 Diagram]
Table 6.
Regressions Predicting Change in Mental Health at End of Each Year of College from Parental Autonomy Support and SES in Study 1

<table>
<thead>
<tr>
<th>Predictors</th>
<th>Year 1 DASS</th>
<th>Year 2 DASS</th>
<th>Year 3 DASS</th>
<th>Year 4 DASS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Campus</td>
<td>.015</td>
<td>.011</td>
<td>.118*</td>
<td>.007</td>
</tr>
<tr>
<td>Previous Year DASS¹</td>
<td>.490***</td>
<td>.509***</td>
<td>.494***</td>
<td>.484***</td>
</tr>
<tr>
<td>Autonomy Support</td>
<td>-.144**</td>
<td>-.212***</td>
<td>-.212***</td>
<td>-.162**</td>
</tr>
<tr>
<td>SES</td>
<td>.003</td>
<td>-.028</td>
<td>.109*</td>
<td>.016</td>
</tr>
<tr>
<td>SESxAutonomy Support</td>
<td>.047</td>
<td>.002</td>
<td>-.013</td>
<td>-.015</td>
</tr>
</tbody>
</table>

¹DASS measure collected at the wave immediately prior to the year of the outcome variable.

* p < .05
** p < .01
*** p < .001

Figure 4.
SES Moderates the Effect of Commitment Making on Change in Parental Autonomy Support from the Third to Fourth Year of College in Study 1
Figure 5.
*SES Moderates the Effect of DASS on Change in Parental Autonomy Support from the Second to Third Year of College in Study 1*

Table 7.
*Regressions Predicting Change in Parental Autonomy Support Across the College Years from DASS in Study 1*

<table>
<thead>
<tr>
<th>Predictors:</th>
<th>Year 2 Autonomy Support</th>
<th>Year 3 Autonomy Support</th>
<th>Year 4 Autonomy Support</th>
</tr>
</thead>
<tbody>
<tr>
<td>Campus</td>
<td>.082*</td>
<td>-.002</td>
<td>.073</td>
</tr>
<tr>
<td>Previous Year Autonomy Support</td>
<td>.719***</td>
<td>.694***</td>
<td>.803***</td>
</tr>
<tr>
<td>DASS</td>
<td>-.100**</td>
<td>-.129**</td>
<td>.002</td>
</tr>
<tr>
<td>SES</td>
<td>.064</td>
<td>.035</td>
<td>.088*</td>
</tr>
<tr>
<td>SESxDASS</td>
<td>-.018</td>
<td>.079*</td>
<td>-.058</td>
</tr>
</tbody>
</table>

* p < .05
** p < .01
*** p < .001
Table 8.
*Regressions Predicting Career Identity Development and Mental Health from Parental Autonomy Support and SES in Study 2*

<table>
<thead>
<tr>
<th>Predictors:</th>
<th>Exploration in Breadth</th>
<th>Exploration in Depth</th>
<th>Commitment Making</th>
<th>Identification with Commitment</th>
<th>DASS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Autonomy Support</td>
<td>.074</td>
<td>-.031</td>
<td>-.071</td>
<td>.104</td>
<td>-.350***</td>
</tr>
<tr>
<td>SES</td>
<td>.012</td>
<td>.086</td>
<td>.081</td>
<td>.063</td>
<td>.044</td>
</tr>
<tr>
<td>SESxAutonomy Support</td>
<td>-.069</td>
<td>-.009</td>
<td>-.046</td>
<td>-.165</td>
<td>.084</td>
</tr>
</tbody>
</table>

*** p < .001

Figure 6.
*Marginal Interaction Effect Between SES and Autonomy Support on Identification with Commitment in Study 2*
### Table 9.  
Regressions Predicting Narrative Variables from Parental Autonomy Support and SES in Study 2

<table>
<thead>
<tr>
<th>Predictors:</th>
<th>Career Identity Exploration</th>
<th>Clarity of Career Plans</th>
<th>Intrinsic Motivation</th>
<th>Extrinsic Motivation</th>
<th>Parental Support</th>
<th>Negative Influence</th>
<th>Positive Influence</th>
</tr>
</thead>
<tbody>
<tr>
<td>Autonomy Support</td>
<td>-.022</td>
<td>-.025</td>
<td>.075</td>
<td>-.044</td>
<td>.209*</td>
<td>-.254**</td>
<td>.086</td>
</tr>
<tr>
<td>SES</td>
<td>-.144</td>
<td>.048</td>
<td>-.020</td>
<td>-.088</td>
<td>.049</td>
<td>.016</td>
<td>.112</td>
</tr>
<tr>
<td>SESxAutonomy Support</td>
<td>-.039</td>
<td>.018</td>
<td>-.066</td>
<td>-.005</td>
<td>-.081</td>
<td>-.130</td>
<td>.135</td>
</tr>
</tbody>
</table>

* p < .05  
** p < .01

### Table 10.  
Correlations of Narrative Variables with DASS and VISA Measures in Study 2

<table>
<thead>
<tr>
<th></th>
<th>DASS</th>
<th>Exploration in Breadth</th>
<th>Exploration in Depth</th>
<th>Commitment Making</th>
<th>Identification with Commitment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Career Identity Exploration</td>
<td>-.022</td>
<td>.157</td>
<td>.090</td>
<td>-.015</td>
<td>.132</td>
</tr>
<tr>
<td>Clarity of Current Career Plans</td>
<td>-.109</td>
<td>-.301**</td>
<td>.065</td>
<td>.453**</td>
<td>.150</td>
</tr>
<tr>
<td>Intrinsic Motivation</td>
<td>-.174</td>
<td>.044</td>
<td>.168</td>
<td>.185*</td>
<td>.243**</td>
</tr>
<tr>
<td>Extrinsic Motivation</td>
<td>.051</td>
<td>.100</td>
<td>.218*</td>
<td>.046</td>
<td>.017</td>
</tr>
<tr>
<td>Parental Support</td>
<td>-.129</td>
<td>.063</td>
<td>-.039</td>
<td>-.047</td>
<td>.180*</td>
</tr>
<tr>
<td>Negative Influence</td>
<td>.112</td>
<td>.055</td>
<td>.184</td>
<td>.110</td>
<td>.005</td>
</tr>
<tr>
<td>Positive Influence</td>
<td>.006</td>
<td>-.101</td>
<td>.083</td>
<td>.214*</td>
<td>.112</td>
</tr>
</tbody>
</table>

* p < .05  
** p < .01