Securing adulthood: An examination of the relationship between attachment styles and self-perception of adult status

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Abstract
The modern transition to adulthood spans a long and varied path, and little is understood about what factors may prevent some adults from making important role transitions such as commitment in relationships, independent living, and career stability, or gaining a subjective sense of adulthood. Through an electronic survey, this study measured role transitions, sense of adulthood, self-identification as an adult, and attachment styles in a sample of 469 U.S. adults between the ages of 25 and 35. Overall, it was shown that a higher sense of adulthood was positively correlated with a secure attachment style and negatively correlated with four different styles of insecure attachment. Additionally, self-identification as an adult was also positively correlated with a secure attachment style, and negatively correlated with styles of insecure attachment. These results are consistent with previous research, which has demonstrated that secure attachment is related to achievement of a wide variety of developmental outcomes across the lifespan. Less than 40% of participants reported that they felt they had reached adulthood at the time of taking the survey, which raises the question of whether the emerging adulthood stage is completed prior to age 30. Exploratory analyses of the relationship between adulthood and other variables such as age, gender, and role transitions are included. Clinical implications are discussed with an emphasis on attachment-focused psychotherapy as a potential intervention for adults challenged by making developmentally appropriate role transitions.

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SECURING ADULTHOOD:
AN EXAMINATION OF THE RELATIONSHIP BETWEEN ATTACHMENT STYLES AND
SELF-PERCEPTION OF ADULT STATUS

A DISSERTATION
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ABSTRACT

The modern transition to adulthood spans a long and varied path, and little is understood about what factors may prevent some adults from making important role transitions such as commitment in relationships, independent living, and career stability, or gaining a subjective sense of adulthood. Through an electronic survey, this study measured role transitions, sense of adulthood, self-identification as an adult, and attachment styles in a sample of 469 U.S. adults between the ages of 25 and 35. Overall, it was shown that a higher sense of adulthood was positively correlated with a secure attachment style and negatively correlated with four different styles of insecure attachment. Additionally, self-identification as an adult was also positively correlated with a secure attachment style, and negatively correlated with styles of insecure attachment. These results are consistent with previous research, which has demonstrated that secure attachment is related to achievement of a wide variety of developmental outcomes across the lifespan. Less than 40% of participants reported that they felt they had reached adulthood at the time of taking the survey, which raises the question of whether the emerging adulthood stage is completed prior to age 30. Exploratory analyses of the relationship between adulthood and other variables such as age, gender, and role transitions are included. Clinical implications are discussed with an emphasis on attachment-focused psychotherapy as a potential intervention for adults challenged by making developmentally appropriate role transitions.
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In 2000, Arnett first published his theory of emerging adulthood. In this theory he proclaimed that emerging adulthood is a distinct developmental stage that occurs from the late teens to the mid-twenties and is separate from both adolescence and young adulthood (Arnett, 2000). Arnett described the period as one highlighted by exploration in relationships and career choices. Arnett nodded to Erikson’s theory of prolonged adolescence and the privilege of *psychosocial moratorium* awarded to young people in certain cultures. According to Erikson’s theory, psychosocial moratorium, or the delay of adult responsibilities, can vary between individuals and societies (Erikson, 1968). During this period of psychosocial moratorium, individuals are given the freedom to experiment in different societal roles in order to find their niche. Arnett noted that Erikson’s theory of youth provided an initial foundation for modern understanding of emerging adulthood, but also that the developmental period has changed since Erikson published his writings. Since Arnett first introduced his idea of emerging adulthood, a flood of research has exploded throughout the social sciences, which has provided a concrete understanding of this period of development (e.g., Aronson, 2008; Badger, Nelson, & Berry, 2006; Berry, 2004; Bynner, 2005; Cohen, Kasen, Chen, Hartmark, & Gorden, 2003; Côté & Bynner, 2008; Donoghue & Stein, 2007; Galambos & Krahn, 2008; Galambos, Turner, & Tilton-Weaver, 2005; Kenyon, Rankin, Koerner, & Dennison, 2007; Nelson & Barry, 2005; Nelson et al., 2007). As a result, researchers have discovered that emerging adulthood is a long and varied transition to adulthood that is underscored by role transitions and establishing independence from parents.
The Developmental Process of Achieving Adulthood

The developmental paths of individual emerging adults follow very diverse patterns (Arnett, 2000; Räikkönen, Kokko, & Rantanen, 2011; Schulman & Ben-Artzi, 2003). Cohen et al. (2003) examined the patterns of developmental transitions between ages 17 and 27 among 200 participants who were from a larger study on the pattern of psychiatric disorders. By conducting 3 to 5 hour-long phone interviews with the participants the researchers were able to reconstruct the events of each participant’s life over the 10-year period of interest. The interviewers asked for detailed information regarding residence, finance, education, employment, romantic relationships, and parenthood. The authors specifically examined monthly transitions in four domains: residence, finance, romantic relationships and parenthood. The interviewer rated each of the four domains on a scale of 0-99, where 0 represented a complete child-like role and 99 represented a complete adult role. The authors defined a fully adult role as independence from parents, communication of own ambitions and choices, and the undertaking of responsibilities. The interviews were tape recorded and then independently rated by another blind interviewer. Interrater reliabilities for the four domains of transition levels were all greater than .90, which is considered to be nearly perfect agreement (Landis & Koch, 1977). Though data on employment and career transitions were collected, the ratings were more difficult to apply due to the researchers’ uncertainty about how to code times when participants were not working due to school or parenthood so the data were not included in the analysis. The authors found that while participants on average experienced role transitions and took on additional responsibilities over time, the patterns of doing so were exceedingly diverse. Furthermore, rather than a linear pattern of increased adoption of adult role transitions, the pattern for most participants fluctuated across the 10 years. There were times when participants assumed more
responsibility as well as times when they regressed back into more child-like roles. Essentially, the results of this study demonstrated that emerging adults move at different rates across various, non-linear developmental paths.

The study by Cohen et al. emphasized that achievement of adulthood can include such role transitions as independent living, completing education, establishing a career, commitment in a romantic relationship, and parenthood. These same role transitions and developmental markers are emphasized across the literature on emerging adulthood and throughout Arnett’s definition of the period. Arnett developed a measure to assess young people’s perceptions of what criteria are necessary for achieving adulthood (Arnett, 2001). The criteria used in the measure were developed from a theoretical basis rather than statistical grounds. The subscales for the measure are individualism, family capacities, norm compliance, biological transitions, legal/chronological, and role transitions. Internal consistencies have shown to be moderate at best and studies have failed to replicate the factor loadings (Kins & Beyers, 2010). Despite the poor reliability, it is notable that Arnett’s research with the measure found that adolescents, emerging adults, and young to midlife adults all rate independence as the most important criteria for achieving adulthood (Arnett, 2001). In reviewing the literature I will provide information about independence and the role transitions that are highlighted in the current research on emerging adults.

Living independently from parents. Western researchers appear to agree that living independently from one’s parents is an important marker for achieving adulthood (e.g., Arnett, 2001; De Marco & Berzin, 2008; Jordyn & Byrd, 2003; Kins & Beyers, 2010; Kins, Beyers, Soenens, & Vansteenkiste, 2009; Newman, 2008; Reitzle, 2006; Sassler, Ciambrone, & Benway, 2008; Settersten & Ray, 2010; Shulman & Ben-Artezi, 2003). Researchers at Ghent University in
Belgium have published two studies looking at how delayed home leaving impacts emerging adults (Kins & Beyers, 2010; Kins et al., 2009). Both studies included 224 Dutch-speaking participants who were between the ages of 22 and 23. The authors justified this age group due to evidence from a study on a variety of data for people in Flanders between the ages of 12 and 30, which reported that adjustments to living environments occur commonly between the ages of 22 and 25 for Belgian adults (Vettenburg, Elchardus, & Walgrave, 2007). By using a stratified sampling technique, the authors attempted to balance the sample in terms of gender, education level, and residential status (independent living versus co-residing with parents). The first study employed the use of surveys to assess the relationship between living situation, motivation for living situation, satisfaction with living situation, subjective well-being, and whether the participants’ parents were classified as controlling or autonomy-supportive based on two separate measures (Kins et al., 2009). The first measure included all but two items of the Autonomy-Support subscale of the Perceptions of Parents Scale (POPS; Grolnick, Ryan, & Deci 1991) and was shown to have Cronbach’s alphas equal to .82 for the young adults, .72 for fathers, and .70 for mothers, all of which are considered to be sufficient levels of reliability for research purposes (Nunnally & Bernstein, 1994). Two items were removed because they had very low item total correlations on the parent version of the scale.

The second measure of parenting style was the Psychological Control Scale (PCS; Barber, 1996), which had Cronbach’s alphas equal to .80 for young adults, .80 for fathers, and .74 for mothers. The authors acquired a composite score for autonomy-supportive versus controlling parenting by calculating the mean of the two measures, with a reverse scoring for the items from the PCS. The composite scores had Cronbach’s alphas equal .86 for young adults, .84 for fathers, and .80 for mothers. The surveys about parenting classification were completed by
both participants and their parents. The authors found that autonomy-supportive parenting was more predictive of subjective well-being for the emerging adults than living situation or satisfaction with living situation. This finding demonstrates that adults feeling supported by their parents in achievement of autonomy could be more important for well-being than independent living.

In the second study Kins and Beyers (2010) explored the effect of delayed home leaving on the attainment of independence and the transition to adulthood. The study also looked at the relationship between achievement of adult status and subjective well-being. The authors surveyed participants through the mail over two time points 1 year apart. The measures aimed to assess living situation, achievement of adult status, and subjective well-being. The authors did not report any information about the origin or psychometric properties of the living situation questionnaire. What was reported was the content of the questionnaire, which asked participants about where they live (i.e., with both parents, with one parent, alone, with partner, in student’s apartment, or other). If respondents indicated that they did not live with their parents then they were asked to respond to additional items about how far their residence was from their parents’ homes and how often they slept overnight at their parents’.

To measure achievement of adult status, the authors adapted Arnett’s measure of the criteria for adulthood discussed previously. The primary adaptation the authors made to Arnett’s measure was that they created a third response option of *in some respects yes and in some respects no* to add to the previously dichotomous items. In this study the internal consistencies of the subscales was lower than in previous studies one by Arnett. The independence subscale had alpha values that ranged from .36 to .44 and the alpha values for the interdependence subscale ranged from .11 to .22. The other subscales had alpha values that ranged from .56 to
Due to this and their failure to replicate the domains using factor analysis, the authors decided to conduct analyses on the item level rather than use subscale scores. The authors stated that the results are still of interest because the items convey assorted ways of conceptualizing adulthood.

The third measure of subjective well-being included three scales: the Satisfaction With Life Scale (SWLS; Diener, Emmons, Larsen, & Griffin, 1985), the Subjective Vitality Scale (SVS; Ryan & Frederick, 1997), and the Center for Epidemiologic Studies-Depression Scale (CES-D; Radloff, 1977). All of these scales had been previously established to have good reliability and validity. In this study the SWLS had alphas of .84 at Time 1 and .86 at Time 2, the SVS had alphas of .81 at both time points, and the CES-D had alphas of .87 at Time 1 and .86 at Time 2. The results of the study were consistent with Arnett’s conception that achievement of adult status is a multidimensional process because a majority of the participants reported achieving adulthood in some aspects but not others. Additionally, 19% of participants regressed in their level of independence over the 1-year of assessment, which is consistent with Cohen et al.’s description of adult development as a non-linear process. Kins and Beyers confirmed their hypothesis that adults with independent living status are more successful in the transforming relationship with their parents, gaining financial independence, starting committed relationships, and achieving role transitions including starting families. The results also demonstrated that achievement of adult status is correlated with higher subjective well-being.

**Education and career transitions.** In addition to establishing independence from parents, another important role transition for achieving adulthood is the completion of education and the development of a career (Arnett, 2001; Konstam & Lehmann, 2011; Lehmann & Konstam, 2011; Luyckx, De Witte, & Goossens, 2011; Luyckx, Schwartz, Goossens, & Pollock,
One study in Belgium specifically examined employment and sense of coherence as processes that would influence a sense of adulthood (Luyckx, Schwartz, Goossens et al., 2008). The authors looked at a process of identity formation as a potential mediator for the relationship between the variables. Participants in the study were 317 18- to 30-year-old Dutch-speaking adults from Belgium. A total of 143 of the participants were attending college and were asked to fill out the measures at the end of a psychology course. The other participants were nonstudents and were considered to be active in the workforce. There were many differences between the two groups. Important to note is that the nonstudents were on average 4 years older than the participants attending college. Additionally, 26.3% of the nonstudents reported being married and 20.6% reported having at least one child. The participants were given four different measures, two of which were to assess subjective achievement of adulthood. The first was an assessment of sense of adulthood, which consisted of three items from the Identity Stage Resolution Index (Côté, 1997). In this study Cronbach’s alpha for the sample was .79. The authors also gave a single item measure of self-classification of adulthood taken from earlier work by Arnett (Arnett, 1997; Nelson & Barry, 2005). This item is, “Do you think that you have reached adulthood?” and response options include “Yes,” “No,” and “In some respects yes, in some respects no.” The authors administered both the Côté (1997) and the Arnett (1997) measures because each was useful with different statistical analyses.

The authors also assessed identity development by administering the Dimensions of Identity Development Scale (Luyckx, Schwartz, Berzonsky et al., 2008), which assesses for five identity dimensions: commitment making, identification with commitment, exploration in
breadth, exploration in depth, and ruminative exploration. Each dimension included five items and responses were gathered on a 5-point Likert-type scale. Sample items and Cronbach’s alphas were as follows: “I have decided on the direction I want to follow in my life” (commitment making, .88); “I sense that the direction I want to take in my life will really suit me” (identification with commitment, .84); “I regularly think over a number of different plans for the future” (exploration in breadth, .89); “I regularly talk with other people about the plans for the future I have made for myself” (exploration in depth, .80); and “It is hard for me to stop thinking about the direction I want to follow in my life” (ruminative exploration, .82). Finally, the authors administered the Orientation to Life Questionnaire (Antonovsky, 1987), which is a measure of sense of coherence and related to self-efficacy and agency and had a Cronbach’s alpha in the study of .76.

Results demonstrated a positive relationship between sense of adulthood and both commitment making and identification with commitment. Results also demonstrated a positive relationship between ruminative exploration and not viewing oneself as an adult. Ruminative exploration describes identity exploration that is highlighted by indecision and hesitation to make a commitment. The authors concluded that these results were consistent with Arnett’s theory of emerging adulthood, and with Erikson’s theory of identity development, in that individuals who do not view themselves as adults may experience some sort of an identity crisis. The authors also found that the variables of attending college verses being employed, as well as a self-reported sense of coherence, were both related to experiencing a sense of adulthood. The college students were more likely to engage in ruminate exploration as well as exploration in breadth. The authors concluded that this finding could be due to the variety of paths presented in a university setting; however, the findings could be less accurate due to the differences between
the two groups. Nonetheless, this finding may still provide some support for existing theories that employment and development of a career influence a sense of adulthood achievement.

**Establishing commitment in relationships.** Establishing commitment in romantic relationships is considered to be an important part of the transition to adulthood (Arnett, 2001; Cohen & Manning, 2010; Jamison & Ganong, 2011; Jones, O’Sullivan, & Rouse, 2006; Kokko, Pulkkinene, & Mesiäinen, 2009; Masche, 2008; Räikkönen et al., 2011; Reitzle, 2006; Whitton & Kuryluk, 2012). However, only one of these studies looked at how commitment in a romantic relationship impacts self-identification as an adult. Reitzle (2006) combined cross-sectional and longitudinal data to examine the relationship between work and family transitions on perceptions of adulthood in a sample of German participants. The cross-sectional sample included 2,656 participants between the ages of 18 and 29 and the longitudinal sample included a total of 461 participants between the ages of 20 and 27. A single item was given to assess for self-perception of being an adult, which read, “Would you regard yourself as being more of an adolescent or more of an adult or as what else would you regard yourself?” Data were also collected on demographic information related to several different types of role transitions such as relationship status, living arrangements, parenthood, education/work, and source of income.

The results demonstrated that having a child and a marriage or a consistent relationship, with or without cohabitation, significantly increased the probability that respondents perceived themselves as adults. The authors also found that respondents who were able to maintain consistency in their relationships or parenthood were more likely to perceive themselves as adults. Furthermore, it was found that participants who experienced relationship losses were more likely to regress from a self-perception of adulthood to one of being an adolescent. Living alone or in a shared apartment with same-age peers was related to an increase in the probability
of perceiving oneself as an adolescent, more so even than those participants living with their parents. There were no significant results related to work or financial situations. However, the findings are consistent with Arnett’s theory in that role transitions, especially those related to maintaining consistent romantic relationships, are critical for achieving a sense of adulthood.

It is important to note that the literature reviewed thus far has focused on Western populations. Therefore, the concepts discussed may not apply to other cultures or populations. However, the research provided demonstrates that emerging adulthood is the prolonged and variable route to Western adult status. Based on the developmental tasks of emerging adulthood, one can assume that the outcome, or the achievement of adult status, would include a completion of role transitions and a general state of independence from parental figures. The purpose of this study was to explore one factor that may impact the completion of the tasks of emerging adulthood. While there are many aspects that could potentially contribute to a delay in adulthood (e.g., sociocultural, economic, or psychological factors), the present author focused on how attachment styles might play a role in American adults’ achievement of adult status. Prior to presenting the methods of the study, a review of the field of attachment and the impact of attachment on developmental outcomes, including adulthood, will be provided.

**Brief Overview of Attachment Field**

John Bowlby originally developed attachment theory with an intention to create a context for understanding a child’s bond to his or her primary caregiver and how that bond influences adjustment and behavior across the course of a lifetime (Bowlby, 1969). Bowlby’s attachment theory has become a preeminent theoretical foundation for comprehending personality, interpersonal development, and intimate relationships (Fraley, Vicary, Brumbaugh, & Roisman, 2011). The theory stresses the function of early experiences in determining the beliefs that are
formed by a child in regard to the accessibility, receptiveness and trustworthiness of important others (Fraley, 2002). Attachment theory states that a child nurtured in a responsive and dependable way will anticipate others to be accessible, caring, and helpful when required or wanted (Bretherton, 1992). The aforementioned anticipations, also called internal working models, are believed to mold the way humans develop socially and behave interpersonally (Fraley et al., 2011).

Bowlby regarded attachment as one of several evolved behavioral and motivational systems acquired by humans to promote survival even in the face of physical vulnerability. The attachment system is believed to be just as vital to infant survival as feeding, because the system is used to assess the availability of protective individuals and run to those individuals as a source of refuge during times of distress or danger (Main, 1996). The attachment system is employed to preserve a sense of security in times of stress or threats to safety by providing social connections to call on when in need. First attachments are shaped by 7 months and the attachment system activates when infants become distressed such as in situations of fear, hunger, or distance from caregiver, and leads to attachment behavior such as seeking proximity to a caregiver (Shaver & Mikulincer, 2009). Once protection and closeness to caregiver is achieved, the system deactivates and the infant is calm.

However, different caregivers respond to infants in varied ways. While some caregivers are consistent, caring and responsive, others may be inconsistent, uncaring and inattentive. In order to survive, infants must adapt to their caregivers and cope in the environment in which they live. Most attachment literature is focused on infants’ relationships with their mothers as the primary caregivers; however, it has been noted that infants may have different attachment styles with mothers than with fathers (Pietromonaco & Barrett, 2000).
Measurement of infant attachment styles. The current gold standard for measuring infant attachment styles is the Strange Situation (Ainsworth & Wittig, 1969). The Strange Situation involves examining the response of infants as they are separated from and reunited with their mothers. As a result the Strange Situation yields three primary styles of infant attachment: secure, avoidant and ambivalent. Main and Solomon (1986) later developed a fourth attachment style, labeled disorganized. Research has shown that about 65% of infants exhibit secure attachment styles, 20% avoidant, 15% ambivalent, and 5% disorganized (Domo & Cox, 2000). In studies with the Strange Situation, securely attached infants tended to venture curiously around the playroom when their caregiver was present and then demonstrate signs of missing their caregiver during separation. Following reunion with the caregiver securely attached infants would greet the parent, gain comfort through contact and then return to play (Main, 1996).

Infants with insecure attachment are apt to exhibit one of two styles of attachment: avoidant or ambivalent. Infants characterized as having an avoidant attachment style venture around the playroom while caregiver is present, and do not cry or fuss upon separation. When the caregiver returns avoidant infants will ignore the parent and turn away when picked up. Overall, avoidant infants tend to be unemotional and do not express anger (Main, 1996). Infants characterized as having an ambivalent attachment style tend to be anxious as soon as they enter the playroom and display disinterest in exploration of the room. Rather, these ambivalent infants appear to be preoccupied with the caregiver throughout the process, and may display anger, while alternating between seeking and resisting the caregiver. When the caregiver returns to the room, ambivalent infants cannot be pacified and remain focused on the caregiver (Main, 1996).

The fourth dimension of attachment styles, disorganized attachment, is used to describe infants who do not fit into the other three categories. Disorganized or disoriented behaviors
include freezing with a dazed expression, standing then falling face down upon the caregiver’s return, or clutching the caregiver while simultaneously leaning away. These behaviors are believed to be evidence of fear or confusion toward the caregiver. The fact that attachment behaviors are used to seek safety and security places infants who fear their caregivers in a paradox (Main, 1996).

**Measurement of adult attachment styles.** The Adult Attachment Interview (AAI; George, Kaplan, & Main, 1985) was the first established measure for assessing adult attachment styles (Ravitz, Maunder, Hunter, Sthankiya, & Lancee, 2010). The AAI is a semistructured interview that asks participants to discuss early attachment relationships and events. Individuals that are classified as **secure** or **autonomous** are likely to describe their experiences with a consistent and logical approach. While secure individuals may have undergone trauma or other problems, they can assimilate their current and previous experiences in a sound discourse without excluding information or adding extraneous details (Bakermans-Kranenburg & van Ijzendoorn, 1993; George, 1996). Moreover, in a similar fashion as securely attached infants, adults with secure attachment can resolve stress and concerns in an organized manner (Madigan et al., 2006).

Adults classified with a **dismissing** attachment style have a tendency to express their experiences extremely favorably, and then later in the interview provide information that indicates negative experiences. Overall, similar to infants with an avoidant attachment style, dismissing adults are likely to diminish or play down their experiences with attachment relationships (Binkley, 2011). Alternatively, **preoccupied** adults have a tendency to put a spotlight on childhood attachment relationships, placing excessive attention on those experiences. These adults are similar to infants with ambivalent attachment styles, and present
with a fixation on caregivers. During the interview, preoccupied adults can demonstrate confusion or anger and may provide unnecessary and vague details about attachment experiences. Lastly, adults who are classified with any of the three styles (e.g., secure/autonomous, dismissing, preoccupied) may also receive an additional classification as unresolved/disorganized in respect to certain traumatic experiences. What is important to note is that the terms to classify infant and adult attachment may not be entirely consistent, the behaviors of the corresponding groups are parallel.

Since the AAI was developed, at least 28 other measures of adult attachment have been developed (Ravitz et al., 2010). Hazan and Shaver (1987) first examined how three different attachment style classifications (i.e., secure, avoidant, anxious) would apply to adults’ perceptions of themselves in context of romantic relationships. Their initial work set off a flurry of more refined self-classification systems and questionnaire-based measures (Ravitz et al., 2010). Such measures differ in ways such as self-report versus observed data, categorical versus dimensional measurement, and state versus trait behaviors. The various measures also utilize different terminology for classification of attachment styles, and can focus on different relationships for the respondents. As models of attachment are primarily focused on pairs of individuals, measures of adult attachment can explore a variety of relationship pairs. Different measures may assess memories of attachment to parents, experiences in current romantic relationships, attitudes regarding romantic relationships in general, or attitudes toward one’s own children.

**Attachment in relation to developmental outcomes across childhood and adolescence.** There is a breadth of information available that attests to the influence of attachment on a variety of developmental outcomes. To take the most comprehensive approach
in presenting information on this topic, literature reviews were examined in addition to individual studies to gather a broad understanding of the extent to which attachment influences developmental outcomes. There appears to be some consistency across reviews that attachment has physiological, cognitive, emotional and interpersonal consequences.

There is a significant body of research on the impact of attachment on cognition. Studies have demonstrated that infants with secure attachment are more sophisticated than their insecurely attached counterparts throughout development when it comes to object permanence, symbolic play, and increased problem solving (Ranson & Urichuck, 2008). A positive relationship appears to exist between secure attachment and advanced language abilities (van IJzendoorn, Dijkstra, & Bus, 1995). Securely attached children have been shown to be more persistent, more proficient with problem solving, more flexible in preschool, and more goal-oriented in childhood than insecurely attached children (Carlson, Sampson, & Sroufe, 2003). Furthermore, secure attachment has been linked to higher scores on tests of intelligence and higher levels of academic achievement (Ranson & Urichuck, 2008).

As early attachment strategies are utilized to regulate emotions, it would follow that attachment would influence emotional development. One reason for this is that attachment with primary caregivers may function as a base for self-regulation (Cicchetti & Tucker, 1994). The quality of infant attachment has been linked with the growth of empathy across maturational stages (Carlson et al., 2003). Attachment style has been shown to be predictive of aggression in school age boys, and secure attachment predicts ego resilience. Additionally, there is evidence for negative mental health outcomes related to insecure attachment, such as anxiety disorders, depression, and personality disorders (Ranson & Urichuck, 2008). Insecure attachment appears to be connected with difficulty coping with stressful life events as well as put individuals at
higher risk for antisocial behaviors, while disorganized attachment has been linked to dissociative symptoms (Carlson et al., 2003).

The infant-caregiver attachment relationship is thought to set the stage for subsequent social relationships; therefore, it would follow that attachment styles would impact interpersonal functioning. Across the board, it has been demonstrated that secure attachment predicts better outcomes for social functioning (e.g., Bohlin, Hageskull, & Rydell, 2000; Booth, RoseKrasnor, & Rubin, 1991; Cassidy, 1988; Cohn, 1990; Easterbrooks & Lamb, 1979; Erickson, Sroufe, & Egeland, 1985; Fagot, 1997; Lieberman, 1977; Londerville & Main, 1981; Pastor, 1981; Renken, Egeland, Marvinney, & Mangelsdorf, 1989; Schmidt, Demulder, & Denham, 2002; Urban, Carlson, Egeland, & Sroufe, 1991; Waters, Wippman, & Sroufe, 1979). For preschoolers, this is demonstrated in competence with peer interactions, affective sharing, compliance, and cooperativeness (Ranson & Urichuck, 2008). Preschoolers with secure attachment have also been shown to be more competent in group participation. For school age and children and adolescents, secure attachment also predicts social competence with peers and teachers, increased organization in social group functioning, leadership skills, and better performance in groups with both genders (Carlson et al., 2003).

It appears that of all the developmental factors influenced by attachment, least is known about physiological outcomes. There is some evidence that early relationships with caregivers can impact brain development and lead to long-term neuronal effects (Carlson, et al., 2003; Erickson & Egeland, 2004). Secure attachment has also been shown to influence growth and development of the limbic system, which helps establish coping strategies in young infants (Schore, 2001). Furthermore, securely attached infants have been linked with having lower levels of cortisol, whereas insecure toddlers have been linked to having cortisol elevations
(Ranson & Urichuck, 2008). There may also be a relationship between insecure attachment and failure to thrive syndrome, which is highlighted by a lack of weight gain and physical growth (Ranson & Urichuck, 2008). Finally, one study has demonstrated that female infants with insecure attachment went on to complete puberty and have menarche earlier than infants who had secure attachments (Belsky, Houts, & Pasco Fearon, 2010).

This author will note that there also exists some criticism of attachment theory. Harris (1995, 1998), the primary critic of the theory, believes that attachment theorists underemphasize genetic influences and group socialization. Her theory, which she calls “the nurture assumption,” posits that the term “nurture” is used interchangeably with the term “environment,” giving rise to an assumption that environmental influences on child development exist solely in the parental home (1998). She points to sibling differences, similarities between twins raised apart, and language fluency of first generation immigrant children as evidence that parents do not influence personality development over time. Harris, it should be noted, is not a psychologist, nor is she affiliated with any research institution. Her 1998 book, “The Nurture Assumption” received significant criticism (Kagan, 1998).

This brief account of the relationship between attachment styles and developmental outcomes should provide a foundational understanding of far-reaching implications of attachment representations. Before addressing the relationship between attachment and adult development, a discussion of the patterns of stability and change in attachment will be provided. This is to allow for some context of how early attachment styles may or may not translate to adult attachment styles.

**Patterns of stability and change in attachment.** The patterns of stability and change in attachment styles have not been definitively established. Some theorists (e.g., Fraley, 2002;
Kagan, 1996; Lewis, Feiring, & Rosenthal, 2000) have stated that early attachment styles, or internal working models, are modified with enduring life experience, while others (e.g., Roisman, Collins, Sroufe, & Egeland, 2005; Waters, Hamilton & Weinfield, 2000; Waters, Merrick, Treboux, Crowell, & Albersheim, 2000) have stated that internal working models may be modified, but those established in infancy are impervious and shape interpersonal relations throughout the life span. In a comprehensive evaluation of the debate, Fraley (2002) named the former perspective the revisionist model and the latter the prototype model.

Revisionist theorists have stressed that although creation of attachment representations starts in infancy, it is liable that those representations remain in development for the first 5 or 6 years of life and are susceptible to environmental influences, although increasingly less so over time (Bowlby, 1973). In accordance with this concept, Fraley (2002, 2011) described the revisionist perspective to hypothesize that internal working models are continually modified over the life span, and as a result, infant attachment styles may not always be consistent with adult attachment styles. The prototype model, on the other hand, stresses the moderately fixed quality of the internal working models established in early infancy. From the prototype perspective, early internal working models impact relationships throughout the lifespan and therefore increase the odds that infant attachment styles will be consistent with adult attachment styles.

Overall, the two models are not entirely distinct and there is much overlap between the revisionist and prototype perspectives. The primary difference between the two perspectives seems to rest in the relative weight each allocates to the significance of early internal working models on interpersonal relationships. However, from both perspectives, early attachment representations influence later adult relationships.
Attachment Styles Related to Factors of Adulthood

Adult attachment has been defined in similar ways as infant attachment. Berman and Sperling (1994) defined adult attachment as “the stable tendency of an individual to make substantial efforts to seek and maintain proximity to and contact with one or a few specific individuals who provide the subjective potential for physical and/or psychological safety and security” (p. 8). Research on adult attachment arrived later than research related to infant attachment and consequently there is less literature available on the topic. However, there still exists ample research to describe a relationship between adult attachment and factors of adulthood.

**College student adjustment.** Recently a meta-analysis of the relationship between adjustment and development and college students’ attachment to their parents was published, which covered 156 studies performed between the years 1987 and 2009 (Mattanah, Lopez, & Govern, 2011). The authors found that the average effect size between parental attachment and college adjustment was .23, which indicated that there would need to be an additional 90,436 studies demonstrating no relationship between the variables to bring the probability of the effect size down to non-significance. An examination of potential methodological moderators revealed that the relationship between attachment and college student adjustment was stable across various methodologies. The authors found that gender and other demographic variables also did not moderate the relationship between attachment and adjustment. Results demonstrated that college students’ attachment relationships with their parents is associated with a variety of outcomes in college adjustment, including academic motivation, academic competence, interpersonal competence, relational satisfaction, distress, high risk behaviors, self-worth, self-efficacy, identity development, and separation-individuation. The results demonstrated that the
task of separation-individuation from parents had a significantly correlation than any other developmental task assessed in the various studies, which confirms theories that secure attachment advances the separation-individuation process. Additionally, results revealed that secure attachment was a better predictor of college student adjustment for those students who left home and no longer lived with their parents.

**Home-leaving patterns.** On a related note, attachment is also a predictor of home-leaving patterns in young adults. Seiffge-Krenke (2006) conducted a longitudinal study to examine parent-adolescent relationships and young adult attachment representations as predictors of home-leaving patterns and the relationship between those home leaving patterns and psychological health. Data were collected for 93 German youth participants and their parents at 8 time points across 11 years. The average age of youth participants was 14.2 years at the first time point and 25.3 years at the last time point. The authors collected data by administering several measures. Four subscales from the Family Environment Scale (FES; Moos & Moos, 1981) were used to assess varying factors of family atmosphere including cohesion, conflict, independence, and control. Alphas for the four subscales ranged from .79 to .82 in the sample. The AAI was used to assess participant’s state of mind with regard to current and previous attachment. The AAI includes 18 questions related to previous and current experiences with parents when the participants underwent stress, illness, or loneliness. One rater coded the transcripts of the interviews in accordance with the scoring system developed by Main and Goldwyn (1988), which emphasizes verbal coherence and organization of thoughts, memories and feelings across 10 scales. A second rater recoded 20 interview transcripts, which were randomly selected. Kappa levels for interrater reliabilities of the 10 scales ranged from .62 to .79. Participants were then assigned to one of three groups: secure, dismissing, or preoccupied.
The authors used the Child Behavior Checklist (CBCL; Achenbach, 1991a) and the Youth Self Report (YSR; Achenbach, 1991b) to assess psychological health during adolescence and the Symptom Checklist-90-R (SCL-90-R; Derogatis, 1994) to assess psychological health during young adulthood. When participants were between the ages of 14 and 17 they were administered the YSR and their parents were administered the CBCL. Both adolescents and their parents were asked to complete the four subscales of the FES. Participants were interviewed with the AAI when they were 21 and they also were administered the SCL-90-R at this time. Participants were divided into four different groups based on home leaving patterns. Participants classified as in-time leavers (55%) left home at an average age of 21 for females and 23 for males. Participants who remained in their parents’ home until age 25 were classified as still in the nest (14%). Participants who left home later than what was normative were classified as late leavers (20%). Finally, participants who returned to their parental home at some point between the ages of 21 and 25 were classified as returners (11%).

The results of the study demonstrated that in-time leavers had been given high levels of autonomy during adolescence and were more likely to be classified as securely attached according to the AAI than late leavers and returners. Additionally, participants who were classified in any of the three non-normative home leaving patterns had elevated rates of insecure attachment representations and were less likely to be involved in a romantic relationship.

**Ability to cope with home leaving.** In addition to evidence that attachment representations are associated with young adult home-leaving patterns, one study demonstrated that attachment styles are related to the ability for young adults to cope with home-leaving. This study was conducted in Israel and assessed the relationship between attachment representations
and ability to cope with emerging adulthood developmental tasks (Scharf, Mayseless, & Kivenson-Baron, 2004).

The authors administered the AAI to 88 Israeli males during their senior year of high school. The following year, during participants’ time in basic training, the authors asked the participants and two of their peers from basic training whom they felt knew them well to report on the participants’ adjustment to service in the Israeli Defense Forces. The authors assessed distress levels, coping strategies, functioning, and ability to rely on parental support through the following measures. Distress levels were measured with nine items from the Mental Health Inventory (Veit & Ware, 1983), which has been demonstrated to have high internal consistency and good test-retest reliability in addition to good construct and discriminant validity (Florian & Drory, 1990). Coping was assessed with the Ways of Coping scale (Folkman & Lazarus, 1980), which has been shown to have good validity (Mikulincer & Florian, 1995). The authors developed a 5-item measure for this study to assess participants’ perceptions of their abilities to rely on their parents’ support during basic training, which was shown to have adequate reliability with Cronbach’s alphas of .75 for the mothers scale and .81 for the fathers scale. The measure given to participants’ peers had two separate scales and was used to assess adjustment and coping observed by others (Catz & Orbach, 1990). The 3-item Distress scale assessed stress of the participant had adequate reliability (Cronbach’s alpha of .86). The 6-item Instrumental and Social Functioning Scale assessed the participants’ ability to successfully cope with basic training and also had adequate reliability (Cronbach’s alpha of .82).

The authors then conducted in-depth interviews and further questionnaire assessments with participants and their parents 3 years later to assess the participants’ individuation and capacity for intimacy. The Affective Relationships Scale (Takahashi & Nagima, 1994) was used
to assess attachment-related emotions and behaviors in close relationships. Participants were asked to rate the accuracy of statements about their relationships with their mothers and their fathers. The scale demonstrated good reliability with Cronbach’s alphas of .92 for items about relationships with mothers and .91 for items about relationships with fathers. The parents of participants were also given the same measure and asked to rate the accuracy of statements about their relationships with their sons. For parents the measure demonstrated adequate reliability with Cronbach’s alphas of .75 for mothers and .76 for fathers. The authors developed a measure of positive relationship changes for this study to assess improvements in parental relationships. The participants were administered this measure, which demonstrated adequate reliability with Cronbach’s alphas of .75 for assessment of relationships with mothers and .81 for fathers. The Intimacy Status Interview (Orlofsky, 1993; Orlofsky & Roades, 1993) is a 60- to 90-minute semistructured interview that was used to assess the participants’ interpersonal attitudes, behavior, and their capacity for intimacy in friendships and romantic relationships. The Intimacy Status Interview includes questions about emotional closeness, conflict resolution, autonomy, satisfaction and commitment in relationships as well as previous or current romantic partners. The interviews were recorded and coded by two separate raters according to the manual (Orlofsky & Roades, 1993). Interrater reliabilities for the various scales of the measures were all above .91 for romantic relationships and above .83 for friendships, and demonstrated at least adequate reliability for the measure.

Individuation, which is defined by the authors as differentiation of the self, efficacy and maturation, was assessed using several measures. The Differentiation of Self Scale (Haber, 1993) was used to measure intellectual and emotional differentiation of the self and has been shown to have good internal reliability and content and construct validity (Garbarino, Gaa, &
Gratch, 1995). The General Perceived Self-Efficacy Scale (Schwarzer, 1993) was used to assess participants’ levels of optimism about their ability to cope with stressors and has been demonstrated as reliable and valid in previous research (Schwarzer, Mueller, & Greenglass, 1999). The authors created a measure to assess participants’ perceptions of the extent that military service impacted their maturity levels for this study, which was demonstrated to have adequate reliability with Cronbach’s alpha of .86. Finally, the Stressful Life Events Questionnaire (Levav, Krassnoff, & Dohrenwend, 1981) was an Israeli developed, culturally-relevant measure used to assess participants’ experiences with stressful situations as a means to control for extraneous variables. No psychometrics for the Stressful Life Events Questionnaire was provided.

The results demonstrated that secure attachment representation was correlated with increased ability to cope with basic training as well as increased competence with mature intimacy during emerging adulthood. More specifically, those participants with secure attachment were had a greater ability to form mature bonds with friends and romantic partners, while at the same time preserving close, age appropriate relationships with parents. Contrary to the meta-analysis discussed previously (Mattanah et al., 2011), secure attachment was not associated with markers of individuation, which the authors attributed to the influence serving in the military.

**Career decision-making self-efficacy.** Attachment has also been demonstrated to have an impact on career-related variables, including self-efficacy, a term used to describe individuals’ confidence about their own skills and capabilities. Wright and Perrone (2008) conducted a review of 18 studies that assessed the relationship between parental and/or peer attachment and career constructs such as career self-efficacy, career development and vocational
exploration, primarily in samples of undergraduate students. The authors found that 17 out of
the 18 studies reported a significant relationship between the variables. The most common
finding of studies was that attachment had a significant positive relationship with career
decision-making self-efficacy. The authors concluded that secure attachment supplies the
foundation for career development.

Wright and Perrone (2010) conducted a later study that utilized structural equation
modeling to examine whether social self-efficacy and career decision-making self-efficacy were
mediators of the relationship between attachment and life satisfaction. The authors administered
surveys to 374 undergraduate students to assess variables of attachment, social self-efficacy,
career decision self-efficacy and life satisfaction. Two measures were used to assess attachment,
which were the Experience in Close Relationships-Revised (ECR-R; Fraley, Waller, & Brennan,
2000) and the Adult Attachment Questionnaire (AAQ; Simpson, Rholes, & Phillips, 1996). The
ECR-R includes two 18-item subscales, anxiety and avoidance, and have been shown to have
good reliability, with Cronbach’s alphas of .94 and .95 for the two scales respectively (Fraley et
al., 2000). Construct validity for the ECR-R has also been demonstrated (Fairchild & Finney,
2006). The AAQ has the same two subscales, which have been demonstrated to have adequate
reliability with Cronbach’s alphas between .74 and .86 (Rholes, Simpson, Campbell, & Grich,
2001). Evidence for convergent and construct validity have also been demonstrated for the AAQ
(Bartholomew & Horowitz, 1991; Simpson et al., 1996).

Two measures were used to assess social self-efficacy: the Scale of Perceived Social
Self-Efficacy (PSSE; Smith & Betz, 2000) and the Relational Esteem subscale of the
Relationship Assessment Questionnaire (RAQ; Snell & Finney, 1993). The PSSE measures
respondents’ belief in their social skills such as building relationships, providing help, and
performing in group settings. The PSSE has been demonstrated to have high internal consistency reliability with a Cronbach’s alpha of .94, adequate test-retest reliability with an alpha of .82, and strong concurrent and convergent validity (Smith & Betz, 2000). The Relational Esteem subscale of the RAQ assesses respondents’ beliefs in the capacity to relate with other individuals and has been shown to have adequate psychometric properties with a Cronbach’s alpha of .86, test-test reliability of .84, and evidence for convergent validity (Snell & Finney, 1993).

Career decision-making self-efficacy was assessed using the Career Decision Self-Efficacy Scale Short-Form (CDSE-SF; Betz & Taylor, 2001), which measures respondents’ confidence in their ability to make career decisions such as selecting goals, planning, and solving problems. The CDSE-SF has been demonstrated to have adequate internal consistency for its 5 scales with Cronbach’s alphas ranging from .81 to .95 (Betz, Hammond, & Multon, 2005). Construct validity has also been demonstrated for the CDSE-SF (Betz & Taylor, 2001). Finally, life satisfaction was assessed with two different measures, the Brief Multidimensional Students’ Life Satisfaction Scale (BMSLSS; Seligson, Huebner, & Valois, 2003), and the SWLS, which was discussed earlier in the present paper. The BMSLSS is used to assess overall life satisfaction across several domains and has been demonstrated to have adequate internal consistency reliability with Cronbach’s alpha of .78 as well as convergent validity with other life satisfaction measures (Seligson et al., 2003; Zullig, Huebner, Gilman, Patton, & Murray, 2005).

The results of the study demonstrated that social self-efficacy and career decision-making self-efficacy partially mediated the relationship between attachment and life satisfaction. The authors concluded that the results support the theory that adult attachment provides a basis for
the perceived self-efficacy in areas of interpersonal relationships and career decisions, both of
which in turn influence overall life satisfaction.

Aim of Study

This review of literature has demonstrated that achievement of adulthood requires the
completion of the developmental stage of emerging adulthood and can be measured by role
transitions, subjective sense of adulthood, and self-identification as an adult. The literature has
also shown that attachment representations can impact developmental outcomes throughout
infancy, childhood, adolescence, and young adulthood. Currently, no literature is available that
establishes a direct relationship between attachment styles and adulthood achievement. The
present study aimed to explore whether such a relationship exists.

Hypotheses

This study gathered information from adults about demographics, the role transitions
related to achievement of adulthood, a subjective sense of adulthood, self-identification as an
adult, and attachment styles. The principal goal of this study was to examine the relationship
between attachment styles and sense of adulthood or self-identification as an adult. Attachment
was measured using the Attachment Styles Questionnaire (ASQ; Feeney, Noller, & Hanrahan,
1994). Higher scores on the Confidence dimension of the ASQ were used to indicate secure
attachment and higher scores on the other four dimensions (Discomfort with Closeness,
Preoccupation with Relationships, Need for Approval, and Relationships as Secondary) were
used to indicate insecure attachment. Sense of adulthood was assessed on a dimensional scale
with higher scores on the Adult Identity Resolution Scale (AIRS; Côté, 1997) indicating higher
sense of adulthood. Self-identification as an adult was assessed using Arnett’s single item
measure of self-identification as an adult (Arnett, 1997), and individuals were divided in to three
groups of self-identification as an adult: “Yes,” “No,” and “Yes and No.” There were four primary alternative hypotheses.

1. There is a significant relationship between secure attachment and subjective sense of adulthood. Specifically that secure attachment, as measured by scores on the Confidence scale of the ASQ would positively correlated with scores on the AIRS.

2. Insecure attachment, as measured by scores on the Discomfort with Closeness, Preoccupation with Relationships, Need for Approval, and Relationships as Secondary scales of the ASQ, would be negatively correlated with scores on AIRS.

3. Individuals in the “Yes” group of self-identification as an adult would have significantly higher average scores on the Confidence scale of the ASQ compared to individuals in the “No” and “Yes and No” groups.

4. Individuals in the “No” and “Yes and No” groups of self-identification as an adult would have higher average scores on the other four dimensions of the ASQ (Discomfort with Closeness, Need for Approval, Preoccupation with Relationships and Relationships as Secondary) compared to individuals in the “Yes” group.

Method

Participants

The targeted population for this study was adults between the ages of 25 and 35 who were citizens of the United States (U.S). Many studies of adulthood are limited to college students or a small age range in the mid twenties (e.g., Kins & Beyers, 2010; Kins, Beyers, Soenens, & Vansteenkiste, 2009; Reitzle, 2006); however, at the time of data collection, there were no existing studies that had examined the transition to adulthood for people in their late twenties and early thirties. The author of this study intended to explore how attachment styles...
may impact sense of adulthood. Therefore, it was important to study participants who were at an age where adult status would be expected or appropriate. Wright and Perrone (2010) have suggested that future research in this area should be conducted with a broader age range, beyond a college student population. Furthermore, researchers continue to find conclusive evidence that the parts of the brain that control executive functioning continue to develop into the second decade of life (Barber, Caffo, Pekar, & Mostofsky, 2013; Blakemore, 2012; Romine & Reynolds, 2005; Sowell, Thompson, Holmes, Jernigan, & Toga, 1999; Toga, Thompson, & Sowell, 2006). Therefore, this study aimed to assess young adults who have reached an age of complete brain maturation. There were no other exclusionary criteria for participation, other than an ability to read and understand English.

A total of 577 people completed the survey. Ninety-one were removed because their internet protocol addresses were collected outside of the U.S. The author believed that this led to uncertainty about whether or not those respondents were in fact U.S. citizens. An additional 17 response protocols were removed because the respondents had selected “No” to at least one of the items of the informed consent. The remaining 469 completed survey responses were analyzed. Responses were collected from 45 different states. A total of 88 (18.8%) of responses were collected from the state of Oregon, where the author resides. The average age of respondents was 28.72. About 57% (268) of respondents were male and about 42% (198) were female. With a total of 386 (84%), an overwhelming majority of respondents identified themselves as Caucasian. Furthermore, about 70% (330) of participants reported having a bachelor’s degree or higher. For complete data on the demographics of participants, please see Table 1.
Information was collected to assess the socioeconomic status of participants. This included items about parent education levels and estimated parent income. More than half of the participants’ parents were reported to have attained a bachelor’s degree or higher. Nearly 40% of participants reported that their parents’ annual household income was over $100,000. For more information on parent education and income level, please see Table 2.

Table 1.
Respondent Demographics

<table>
<thead>
<tr>
<th>Survey Item and Response Category</th>
<th>Number of Respondents per Category (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Age</strong></td>
<td></td>
</tr>
<tr>
<td>25</td>
<td>89 (19)</td>
</tr>
<tr>
<td>26</td>
<td>54 (11.5)</td>
</tr>
<tr>
<td>27</td>
<td>44 (9.4)</td>
</tr>
<tr>
<td>28</td>
<td>48 (10.2)</td>
</tr>
<tr>
<td>29</td>
<td>58 (12.4)</td>
</tr>
<tr>
<td>30</td>
<td>58 (12.4)</td>
</tr>
<tr>
<td>31</td>
<td>24 (5.1)</td>
</tr>
<tr>
<td>32</td>
<td>22 (4.7)</td>
</tr>
<tr>
<td>33</td>
<td>31 (6.6)</td>
</tr>
<tr>
<td>34</td>
<td>18 (3.8)</td>
</tr>
<tr>
<td>35</td>
<td>23 (4.9)</td>
</tr>
<tr>
<td><strong>Gender Identity</strong></td>
<td></td>
</tr>
<tr>
<td>Female</td>
<td>198 (42.2)</td>
</tr>
<tr>
<td>Female to male transgender</td>
<td>0 (0.0)</td>
</tr>
<tr>
<td>Male</td>
<td>268 (57.1)</td>
</tr>
<tr>
<td>Male to female transgender</td>
<td>1 (0.2)</td>
</tr>
<tr>
<td>Not sure</td>
<td>1 (0.2)</td>
</tr>
<tr>
<td>Other</td>
<td>1 (0.2)</td>
</tr>
<tr>
<td><strong>Race</strong></td>
<td></td>
</tr>
<tr>
<td>American Indian or Alaska Native</td>
<td>3 (0.6)</td>
</tr>
<tr>
<td>Asian</td>
<td>15 (3.2)</td>
</tr>
<tr>
<td>Black or African American</td>
<td>1 (0.2)</td>
</tr>
<tr>
<td>Caucasian</td>
<td>396 (84.4)</td>
</tr>
<tr>
<td>Hispanic or Latino</td>
<td>20 (4.3)</td>
</tr>
<tr>
<td>Native Hawaiian or Other Pacific Islander</td>
<td>1 (0.2)</td>
</tr>
<tr>
<td>Two or More Races</td>
<td>22 (4.7)</td>
</tr>
<tr>
<td>Other/Decline to Identify</td>
<td>11 (2.3)</td>
</tr>
<tr>
<td><strong>Highest Level of Education</strong></td>
<td></td>
</tr>
<tr>
<td>12th grade or less</td>
<td>3 (0.6)</td>
</tr>
<tr>
<td>Graduated high school or equivalent</td>
<td>9 (1.9)</td>
</tr>
<tr>
<td>Some college, no degree</td>
<td>92 (19.6)</td>
</tr>
<tr>
<td>Associate degree</td>
<td>35 (7.5)</td>
</tr>
<tr>
<td>Bachelor's degree</td>
<td>193 (41.2)</td>
</tr>
<tr>
<td>Post-graduate degree</td>
<td>137 (29.2)</td>
</tr>
</tbody>
</table>
Table 2.

<table>
<thead>
<tr>
<th>Survey Item and Response Category</th>
<th>Number of Respondents per Category (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mother’s Highest Level of Education</td>
<td></td>
</tr>
<tr>
<td>12th grade or less</td>
<td>19 (4.1)</td>
</tr>
<tr>
<td>Graduated high school or equivalent</td>
<td>68 (14.5)</td>
</tr>
<tr>
<td>Some college, no degree</td>
<td>87 (18.6)</td>
</tr>
<tr>
<td>Associate degree</td>
<td>55 (11.7)</td>
</tr>
<tr>
<td>Bachelor’s degree</td>
<td>137 (29.2)</td>
</tr>
<tr>
<td>Post-graduate degree</td>
<td>103 (22)</td>
</tr>
<tr>
<td>Father’s Highest Level of Education</td>
<td></td>
</tr>
<tr>
<td>12th grade or less</td>
<td>17 (3.6)</td>
</tr>
<tr>
<td>Graduated high school or equivalent</td>
<td>72 (15.4)</td>
</tr>
<tr>
<td>Some college, no degree</td>
<td>63 (13.4)</td>
</tr>
<tr>
<td>Associate degree</td>
<td>38 (8.1)</td>
</tr>
<tr>
<td>Bachelor’s degree</td>
<td>124 (26.4)</td>
</tr>
<tr>
<td>Post-graduate degree</td>
<td>155 (33)</td>
</tr>
<tr>
<td>Parents’ Approximate Household Income</td>
<td></td>
</tr>
<tr>
<td>Less than $25,000</td>
<td>21 (4.5)</td>
</tr>
<tr>
<td>$25,000 to $34,999</td>
<td>27 (5.8)</td>
</tr>
<tr>
<td>$35,000 to $49,999</td>
<td>52 (11.1)</td>
</tr>
<tr>
<td>$50,000 to $74,999</td>
<td>94 (20.0)</td>
</tr>
<tr>
<td>$75,000 to $99,999</td>
<td>88 (18.8)</td>
</tr>
<tr>
<td>$100,000 to $124,999</td>
<td>69 (14.7)</td>
</tr>
<tr>
<td>$125,000 to $149,999</td>
<td>36 (7.7)</td>
</tr>
<tr>
<td>$150,000 or more</td>
<td>82 (17.5)</td>
</tr>
</tbody>
</table>

Research Design and Procedure

A proposal to conduct research was submitted to the Pacific University’s Institutional Review Board (IRB) in February 2013 and was approved in March 2013, at which point data collection began. Recruitment took place through a snowball sampling method as follows. The author posted a link to the survey on her Facebook page, as well as through other social media sites, including Twitter and Reddit. At the end of the survey participants were supplied with a link to repost the survey on their Facebook or Twitter accounts if they chose to do so. The primary author also sent emails to many of her contacts, including the listserv for her academic program asking people to take the survey and also to forward the link to their contacts. Within 24 hours more than 500 surveys were completed.
The study took place online because researchers have shown that, as of 2011, 95% of 19-34 year olds were using the Internet, which implies that the target population of this study will be accessible online (Zickuhr, 2011). Additionally, researchers have found that, as of 2011, there were no significant differences in race, income, education, or location (i.e., urban, suburban, rural) of people who use social networking sites (Madden & Zickuhr, 2011). For a sample online posting request for participation, please see Appendix A. The posting included a link to the survey, which was available via SurveyGizmo (www.surveygizmo.com). The initial page of the survey thanked the respondent, and provided informed consent for participation. For a complete copy of the informed consent form, please see Appendix B.

**Measures and Variables**

The study included four different measures. The first was a measure of demographic information developed by the author according to the literature and existing demographic questions on SurveyGizmo. The second was a measure of role transitions, which was adapted from a measure used in a previous study (Reitzle, 2006). The third measure included two pre-existing assessments of adulthood. Finally, the fourth measure was a pre-existing questionnaire about adult attachment styles. Please see Appendix C for a complete copy of how the survey appeared on SurveyGizmo.

**Demographics.** The first measure was seven items that assessed for demographic information, including age, gender, race/ethnicity, education level, highest level of education for each parent, and approximation of parent household income. Age was important to assess because it is a variable related to adulthood achievement (Arnett, 1997) and gender was included because research has reported sex differences in adulthood achievement (Marini, 1978). Items about education level, parent education level, and parent income were included because previous
research has demonstrated a link between socioeconomic status and the transition to adulthood (Cohen et al., 2003; Côté, 1997).

**Role transitions.** The second measure included five items assessing the role transitions that have been shown to be related to adulthood achievement: relationship status, living arrangements, parenthood, career/education status, and primary source of income. The present author developed the items based on those used in a previous study of which role transitions impact sense of adulthood (Reitzle, 2006). Changes were primarily made to simplify language and increase readability. For the item assessing relationship status the present author modified the category of “No boyfriend/girlfriend” to “Single” and the category of “Girlfriend/boyfriend, but not living together” to “In a relationship but not living together.” For the item assessing living arrangements the word “apartment” was changed to “home” and the category of “Living with one’s own family” was changed to “Living with spouse or romantic partner.” The item assessing parenthood was modified from a retrospective format to one that is asking about parenthood in the present. Therefore the category of “Had a child before” was changed to “Yes,” the category of “No child” was changed to “No,” and the category of “New child” was changed to “Expecting a child within the next year.” In the Reitzle study, the item assessing employment had categories of “Education,” “Work,” “Housewife/husband,” “Unemployed,” and “Retraining in remedial schemes.” The present author retained the “Unemployed” item, changed “Education” to “College or graduate student,” and created three different variables to delineate different types of work. The categories for the item assessing source of income were retained but again modified for simplicity and readability. No psychometric information was provided for this measure of role transitions in the study by Reitzle; therefore, the psychometrics of the items included in this survey are not known.
**Sense of adulthood.** The third measure included the Adult Identity Resolution Scale (AIRS) from the Identity Stage Resolution Index (Côté, 1997). The AIRS includes three items that aim to assess a subjective sense of adulthood. All three items of the AIRS are rated on a 5-point Likert-type scale ranging from 1 (not at all true) to 5 (entirely true), and read as follows: “I consider myself to be an adult,” “I feel I have matured fully,” and “I feel respected by others as an adult.” In previous studies Cronbach’s alpha for the AIRS have ranged from .77 to .79 (Côté, 1997; Luyckx, Schwartz, Goossens, et al., 2008). This section also included a single item of self-classification as an adult (Arnett, 1997; Nelson & Barry, 2005), which reads as: “Do you think that you have reached adulthood?” Response options include “Yes,” “No,” and “In some respects yes, in some respects no.” This item has been shown to be strongly correlated to the AIRS (Spearman’s $\rho = .71$, $p < .001$) and therefore is considered a valid measure for assessing a subjective sense of adulthood (Luyckx, Schwartz, Goossens, et al., 2008). As this single item and the AIRS are considered interchangeable measures of the same construct, they will both be included in this survey as they are each suited for different statistical analyses; while the AIRS yields a continuous score based on the three items, Arnett’s single item generates three distinct groups.

**Attachment style.** The final measure was the Attachment Styles Questionnaire (ASQ), a 40-item measure of adult attachment (Feeney et al., 1994). The ASQ contains five separate dimensions: Confidence (in self and others), Discomfort with Closeness, Need for Approval, Preoccupation with Relationships, and Relationships as Secondary (to achievement). The ASQ was selected based on several factors described in a literature review of adult attachment measures (Ravitz et al., 2010). First, it is a relatively short measure that can be administered via online survey rather than interview. Second, it does not focus on specific relationships such as
parents or romantic partner, but rather focuses on close relationships in general. This was thought to be important because participants of the survey may not be involved in a romantic relationship, and the author preferred not to use a measure that assesses parental relationships due to limitations related to the retrospective quality of such measures. Finally, the ASQ has been shown to have adequate reliability and evidence for convergent validity. In the development of the measure, the authors demonstrated high levels of internal consistency for the scales. The coefficient alphas were .80 (Confidence), .84 (Discomfort with Closeness), .79 (Need for Approval), .76 (both Preoccupation with Relationships and Relationships as Secondary). The authors also demonstrated acceptable levels of stability using a calculation of test-retest reliability on a sample of 295 university students in an introductory psychology course. The reliability coefficients for the five scales over a period of about 10 weeks were .74 (both Confidence and Discomfort with Closeness), .78 (Need for Approval), .72 (Preoccupation with Relationships), and .67 (Relationships as Secondary).

The authors found that the pairwise correlations between the five dimensions were significant. The Confidence scale was found to be negatively correlated with all four other scales, and most strongly so with the Discomfort with Closeness scale (-.52). All four of the scales measuring insecurity were positively intercorrelated. The scales that indicate Anxiety (Need for Approval and Preoccupation with Relationships) were more highly intercorrelated with one another (.57), and the scales that indicate Avoidance (Discomfort with Closeness and Relationships as Secondary) were more highly intercorrelated with one another (.44). The authors also conducted an additional validity check by dividing participants into secure, avoidant, and anxious/ambivalent groups based on Hazan and Shaver’s (1987) Adult Attachment Styles forced-choice measure. Feeney and colleagues found that participants classified as secure,
scored significantly higher than the other two groups on the Confidence scale, F (2, 292) = 23.10, p < .0001, and significantly lower than the other two group on the Discomfort with Closeness scale, F (2, 292) = 49.37, p < .0001. Participants classified as anxious/ambivalent scored significantly higher than the other two groups on the Preoccupation with Relationships scale, F (2, 292) = 41.22, p < .0001, and on the Need for Approval scale, F (2, 292) = 15.40, p < .0001. Participants classified as avoidant scored significantly higher than those classified as secure on the Relationships as Secondary scale, F (2, 292) = 8.11, p < .0001.

**Statistical Analyses**

Simple frequency analysis was used to examine respondent characteristics and responses to survey questions. Scores on the three items of the AIRS were added together to create a total AIRS score for each participant. Pearson’s product moment correlations were used to compare total scores on the AIRS with each of the five scales of the ASQ. Additionally, an analysis of variance (ANOVA) was used to compare groups of Arnett’s single item measure of self-classification as an adult with each of the five scales of the ASQ. Analysis was performed with SPSS statistical software, version 21.0 (International Business Machines, IBM [http://www.spss.com/]) (SPSS Inc., 2010).

**Results**

The data were analyzed for outliers prior to conducting any other statistical analyses. Multivariate outliers consist of unusual combinations of scores on two or more variables simultaneously. Mahalanobis distance (D^2) was used to analyze for outliers with a regression procedure in SPSS. There were nine outliers identified in the analysis, which were retained for the remaining analyses, because it was clear that the outliers were not the result of data entry error. Additionally, one data point was identified as missing, which was a response to one of the
items of the Relationships as Secondary scale of the ASQ for one participant, who was one of the nine outliers. Following the data analysis discussed below, data were re-analyzed with the outliers removed. The results of the analyses without the outliers were very similar to the results with the outliers included. Visual inspection of histograms revealed that the data appeared to be normally distributed.

**Role Transitions**

Information was collected to assess the role transitions that have been shown to be related to adulthood achievement, including relationship status, living arrangements, parenthood, career/education status, and primary source of income. More than 30% of participants (145) reported being single; however only 41 (8.7%) participants reported living in their parents’ homes. The majority (81.2%) of participants reported that they do not have children. A total of 212 participants (45.2%) reported working in a professional career, and 363 (77.4%) reported that work is their primary source of income. For more information on the adulthood role transitions of participants please see Table 3.

The researcher was interested in determining if significant relationships existed between attachment styles and sense of adulthood. Specifically, Pearson product-moment correlations were computed between scores on the AIRS and each of the five scales of the ASQ. The results of the correlational analyses indicated that all five of the correlations were statistically significant (see Table 4).

**Correlations Between the AIRS and the ASQ**

First, there was a significant positive relationship found between the Confidence scale of the ASQ and total scores on the AIRS, $r(467) = .36, p < .01$. The 95% confidence interval for the population correlation coefficient would be between a value of .28 and .49. A significant
negative relationship was found between the Discomfort with Closeness scale of the ASQ and total scores on the AIRS, \( r(467) = -0.27, p < .01 \). The 95\% confidence interval for the population correlation coefficient would be between a value of -0.35 and -0.18. A significant negative

Table 3.
Role Transitions

<table>
<thead>
<tr>
<th>Survey Item and Response Category</th>
<th>Number of Respondents per Category (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Relationship Status</td>
<td></td>
</tr>
<tr>
<td>Single</td>
<td>145 (30.9)</td>
</tr>
<tr>
<td>In a relationship, but not living together</td>
<td>52 (11.1)</td>
</tr>
<tr>
<td>Cohabitating</td>
<td>109 (23.2)</td>
</tr>
<tr>
<td>Married</td>
<td>148 (31.6)</td>
</tr>
<tr>
<td>Separated/divorced/widowed without a new partner</td>
<td>11 (2.3)</td>
</tr>
<tr>
<td>Separated/divorced/widowed with a new partner</td>
<td>4 (0.9)</td>
</tr>
<tr>
<td>Living Arrangements</td>
<td></td>
</tr>
<tr>
<td>Living at parental home</td>
<td>41 (8.7)</td>
</tr>
<tr>
<td>Living alone in a single household</td>
<td>86 (18.3)</td>
</tr>
<tr>
<td>Sharing a home with peers</td>
<td>92 (19.6)</td>
</tr>
<tr>
<td>Living with spouse or romantic partner</td>
<td>250 (53.3)</td>
</tr>
<tr>
<td>Children</td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>82 (17.5)</td>
</tr>
<tr>
<td>No</td>
<td>381 (81.2)</td>
</tr>
<tr>
<td>Expecting a child within the next year</td>
<td>6 (1.3)</td>
</tr>
<tr>
<td>Employment Status</td>
<td></td>
</tr>
<tr>
<td>Unemployed</td>
<td>32 (6.8)</td>
</tr>
<tr>
<td>College/Graduate student</td>
<td>106 (22.6)</td>
</tr>
<tr>
<td>Have a part-time job</td>
<td>25 (5.3)</td>
</tr>
<tr>
<td>Work full-time in one or more jobs</td>
<td>94 (20.0)</td>
</tr>
<tr>
<td>Work in a professional career</td>
<td>212 (45.2)</td>
</tr>
<tr>
<td>Primary Source of Income</td>
<td></td>
</tr>
<tr>
<td>Work</td>
<td>363 (77.4)</td>
</tr>
<tr>
<td>Partner/Spouse</td>
<td>45 (9.6)</td>
</tr>
<tr>
<td>Family/Relatives</td>
<td>24 (5.1)</td>
</tr>
<tr>
<td>Public sources</td>
<td>37 (7.9)</td>
</tr>
</tbody>
</table>

Table 4.
Correlations Between the AIRS and the ASQ Scales

<table>
<thead>
<tr>
<th>Variable</th>
<th>Confidence</th>
<th>Discomfort with Closeness</th>
<th>Relationships as Secondary</th>
<th>Need for Approval</th>
<th>Preoccupation</th>
</tr>
</thead>
<tbody>
<tr>
<td>AIRS Total Score</td>
<td>0.36*</td>
<td>-0.27*</td>
<td>-0.13*</td>
<td>-0.32*</td>
<td>-0.22*</td>
</tr>
</tbody>
</table>

* \( p < .01 \)
relationship was found between the Relationships as Secondary scale of the ASQ and total scores on the AIRS, \( r(467) = - .13, p < .01 \). The 95% confidence interval for the population correlation coefficient would be between a value of -.22 and -.04. A significant negative relationship was found between the Need for Approval scale of the ASQ and total scores on the AIRS, \( r(467) = - .32 p < .01 \). The 95% confidence interval for the population correlation coefficient would be between a value of -.41 and -.23. A significant negative relationship was found between the Preoccupied scale of the ASQ and total scores on the AIRS, \( r(467) = - .22 p < .01 \). The 95% confidence interval for the population correlation coefficient would be between a value of -.31 and -.13. The results of the above correlations demonstrate that participants who scored higher on the measure of sense of adulthood (AIRS) were significantly more likely to score higher on the confidence scale of the ASQ, and were also significantly more likely to score lower on the four scales of the ASQ that represent insecure attachment. This provides evidence that a relationship exists between attachment styles and sense of adulthood.

**Analysis of Variance Between Arnett’s Measure and the ASQ**

A one-way analysis of variance (ANOVA) was conducted to evaluate the relationship between participants’ responses on Arnett’s single item measure of self-identification as an adult (“Do you think that you have reached adulthood?”) and scores on the five scales of the ASQ. The author originally intended to compare participants in all three responses categories of Arnett’s single item measure; however, the group who responded “No” was too small to include in statistical analyses. A total of 185 participants responded “Yes” to the item, 273 participants responded “In some respects yes, in some respects no,” and only 11 participants responded “No.” Therefore, the independent variable included two groups: participants who responded “Yes” and participants who responded “In some respects yes, in some respects no.” For sake of brevity, the
latter group will be referred to as “Some Respects” for the remainder of the results section. The dependent variable was scores on the five scales of the ASQ. Data met the homogeneity of variance assumption based on the result of Levene’s test; therefore, it was assumed that the variances were homogenous between the two groups.

The one-way ANOVA was significant for the Confidence scale, $F(1, 456) = 11.07, p < .05$, indicating that there were significant differences in scores on the Confidence scale between the Yes group ($M = 34.31, SD = 5.99$) and the Some Respects group ($M = 32.33, SD = 6.39$). The effect size of the relationship between self-identification as an adult and scores on the Confidence scale, assessed by $\eta^2$, was small, with the responses to Arnett’s item accounting for about 2% of the variance in the dependent variable.

The one-way ANOVA was significant for the Discomfort with Closeness scale, $F(1, 456) = 7.81, p < .05$, indicating that there were significant differences in scores on the Discomfort with Closeness scale between the Yes group ($M = 33.99, SD = 8.64$) and the Some Respects group ($M = 36.29, SD = 8.63$). The effect size of the relationship between self-identification as an adult and scores on the Discomfort with Closeness scale, assessed by $\eta^2$, was small, with the responses to Arnett’s item accounting for about 2% of the variance in the dependent variable.

The one-way ANOVA was significant for the Relationships as Secondary scale, $F(1, 455) = 4.31, p < .05$, indicating that there were significant differences in scores on the Relationships as Secondary scale between the Yes group ($M = 17.97, SD = 5.26$) and the Some Respects group ($M = 19.00, SD = 5.14$). The effect size of the relationship between self-identification as an adult and scores on the Relationships as Secondary scale, assessed by $\eta^2$, was small, with the responses to Arnett’s item accounting for about 1% of the variance in the dependent variable.
The one-way ANOVA was significant for the Need for Approval scale, $F(1, 456) = 12.65, p < .05$, indicating that there were significant differences in scores on the Need for Approval scale between the Yes group ($M = 20.49, SD = 5.88$) and the Some Respects group ($M = 22.53, SD = 6.13$). The effect size of the relationship between self-identification as an adult and scores on the Need for Approval scale, assessed by $\eta^2$, was small, with the responses to Arnett’s item accounting for about 3% of the variance in the dependent variable.

The one-way ANOVA was not significant for the Preoccupation scale, $F(1, 456) = 2.94, p > .05$, indicating that there were not significant differences in scores on the Preoccupation scale between the Yes group ($M = 25.59, SD = 6.38$) and the Some Respects group ($M = 26.61, SD = 6.16$).

Overall, the results of the ANOVA demonstrated that those who responded “Yes” to the item asking “Do you see yourself as an adult” had significantly higher average scores on the Confidence scale of the ASQ. Similarly, those who responded “In some respects yes, in some respects no” had significantly higher average scores on the Discomfort with Closeness, Relationships as Secondary, and Need for Approval scales of the ASQ. There was not a significant difference between the two groups in average scores on the Preoccupied scale of the ASQ.

**Exploratory Analyses**

In addition to the above analyses, the author also examined the relationship between adulthood and other variables, such as age and role transitions, to explore factors that may be influencing the results of the relationship between attachment and adulthood. To examine the differences between participants who responded Yes to Arnett’s single item measure and participants who responded Some Respects, the author divided the data into the two groups and
conducted frequency analyses of response items such as age, gender, and role transitions. In looking at age differences, the author compared participants who were under 30 with those who were over 30. About one-third of participants under 30 and about half of participants over 30 responded Yes to Arnett’s item. Similarly, about one-third of males and about half of females responded Yes. More than one-quarter of participants who identified as single, and more than half of participants who identified as married responded Yes to the item. For complete results of the frequency analyses for group differences on Arnett’s single item, please see Table 5.

Table 5
Differences Between Yes and Some Respects Groups of Arnett’s Single Item Measure

<table>
<thead>
<tr>
<th>Survey Item and Response Category</th>
<th>Number in Yes Group (n = 185)</th>
<th>Number in Some Respects Group (n = 273)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Under 30 (n = 293)</td>
<td>99</td>
<td>185</td>
</tr>
<tr>
<td>Over 30 (n = 176)</td>
<td>86</td>
<td>88</td>
</tr>
<tr>
<td>Gender</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Female (n = 198)</td>
<td>93</td>
<td>102</td>
</tr>
<tr>
<td>Male (n = 268)</td>
<td>92</td>
<td>168</td>
</tr>
<tr>
<td>Relationship Status</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Single (n = 145)</td>
<td>38</td>
<td>99</td>
</tr>
<tr>
<td>In a relationship, but not living together (n = 52)</td>
<td>18</td>
<td>34</td>
</tr>
<tr>
<td>Cohabitating (n = 109)</td>
<td>44</td>
<td>64</td>
</tr>
<tr>
<td>Married (n = 148)</td>
<td>78</td>
<td>69</td>
</tr>
<tr>
<td>Living Arrangements</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Living at parental home (n = 41)</td>
<td>12</td>
<td>27</td>
</tr>
<tr>
<td>Living alone in a single household (n = 86)</td>
<td>26</td>
<td>57</td>
</tr>
<tr>
<td>Sharing a home with peers (n = 92)</td>
<td>26</td>
<td>62</td>
</tr>
<tr>
<td>Living with spouse or romantic partner (n = 250)</td>
<td>121</td>
<td>127</td>
</tr>
<tr>
<td>Children</td>
<td></td>
<td></td>
</tr>
<tr>
<td>No (n = 381)</td>
<td>134</td>
<td>236</td>
</tr>
<tr>
<td>Yes (n = 82)</td>
<td>47</td>
<td>35</td>
</tr>
<tr>
<td>Employment Status</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Unemployed (n = 32)</td>
<td>12</td>
<td>17</td>
</tr>
<tr>
<td>College/Graduate Student (n = 106)</td>
<td>43</td>
<td>60</td>
</tr>
<tr>
<td>Have a part-time job (n = 25)</td>
<td>11</td>
<td>14</td>
</tr>
<tr>
<td>Work full-time in one or more jobs (n = 94)</td>
<td>33</td>
<td>59</td>
</tr>
<tr>
<td>Work in a professional career (n = 212)</td>
<td>86</td>
<td>123</td>
</tr>
</tbody>
</table>

One-way ANOVAs were conducted to explore the relationship between sense of adulthood and several variables such as age, gender, and role transitions. A one-way ANOVA
was conducted to evaluate the relationship between participant ages and total scores on the AIRS. As emerging adulthood is believed to end in the twenties, the author compared participants who were under 30 with those who were over 30. Therefore, the independent variable included two groups: participants between age 25 and age 29 and participants between age 30 and age 35. The dependent variable was total scores on the AIRS. Data met the homogeneity of variance assumption based on the result of Levene’s test; therefore, it was assumed that the variances were homogenous between the two groups.

The one-way ANOVA was significant for the AIRS total score and age, $F(1, 467) = 11.29$, $p < .01$, indicating that over 30 group ($M = 11.11$, $SD = 2.40$) scored significantly higher on the AIRS when compared to the under 30 group ($M = 10.31$, $SD = 2.51$). The effect size of the relationship between age and total scores on the AIRS, assessed by $\eta^2$, was small, with age accounting for about 2% of the variance in the dependent variable.

A one-way ANOVA was conducted to evaluate the relationship between participant gender and total scores on the AIRS. The dependent variable was total scores on the AIRS. Data met the homogeneity of variance assumption based on the result of Levene’s test; therefore, it was assumed that the variances were homogenous between the two groups.

The one-way ANOVA was significant for the AIRS total score and gender, $F(1, 464) = 6.85$, $p < .01$, indicating that female group ($M = 10.97$, $SD = 2.55$) scored significantly higher on the AIRS when compared to the male group ($M = 10.36$, $SD = 2.42$). The effect size of the relationship between age and total scores on the AIRS, assessed by $\eta^2$, was small, with gender accounting for about 1% of the variance in the dependent variable.

A one-way ANOVA was conducted to evaluate the relationship between participant relationship status and total scores on the AIRS. Therefore, the independent variable included
six groups: single, in a relationship but not living together, cohabitating, married, separated/divorced/widowed without a new partner, and separated/divorced/widowed with a new partner. The dependent variable was total scores on the AIRS. Data met the homogeneity of variance assumption based on the result of Levene’s test; therefore, it was assumed that the variances were homogenous among the six groups.

The one-way ANOVA was significant for the AIRS total score and relationship status, \( F(5, 463) = 6.64, p < .01 \), indicating that there were significant differences in scores on the AIRS scale among the six groups. The single group (\( M = 9.78, SD = 2.32 \)) had significantly lower scores than the in a relationship but not living together group (\( M = 10.71, SD = 2.29 \)) and the cohabitating group (\( M = 10.61, SD = 2.61 \)). The married group (\( M = 11.41, SD = 2.38 \)) had significantly higher scores than the other five groups. The effect size of the relationship between relationship status and total scores on the AIRS, assessed by \( \eta^2 \), was medium, with relationship status accounting for about 7% of the variance in the dependent variable.

A one-way ANOVA was conducted to evaluate the relationship between participant living arrangements and total scores on the AIRS. Therefore, the independent variable included four groups: living at parental home, living alone in single household, sharing a home with peers, and living with spouse or romantic partner. The dependent variable was total scores on the AIRS. Data met the homogeneity of variance assumption based on the result of Levene’s test; therefore, it was assumed that the variances were homogenous among the four groups.

The one-way ANOVA was significant for the AIRS total score and living arrangements, \( F(3, 465) = 7.98, p < .01 \), indicating that there were significant differences in scores on the AIRS scale among the four groups. The living at parental home group (\( M = 9.80, SD = 2.69 \)) and the living with age peers group (\( M = 9.93, SD = 2.30 \)) had significantly lower scores than the living
alone in a single household group \((M = 10.27, SD = 2.23)\) and the living with spouse or romantic partner group \((M = 11.12, SD = 2.52)\). The effect size of the relationship between relationship status and total scores on the AIRS, assessed by \(\eta^2\), was small, with relationship status accounting for about 5% of the variance in the dependent variable.

A one-way ANOVA was conducted to evaluate the relationship between participant parental status and total scores on the AIRS. Therefore, the independent variable was whether or not participants had children. The dependent variable was total scores on the AIRS. Data met the homogeneity of variance assumption based on the result of Levene’s test; therefore, it was assumed that the variances were homogenous between the two groups.

The one-way ANOVA was significant for the AIRS total score and parental status, \(F(1, 466) = 10.15, p < .01\), indicating that participants who had children \((M = 11.70, SD = 2.39)\) scored significantly higher on the AIRS when compared to participants who did not have children \((M = 10.37, SD = 2.46)\). The effect size of the relationship between age and total scores on the AIRS, assessed by \(\eta^2\), was small, with parental status accounting for about 4% of the variance in the dependent variable.

A one-way ANOVA was conducted to evaluate the relationship between participant employment status and total scores on the AIRS. Therefore, the independent variable included five groups: unemployed, college/graduate student, part-time job, work full-time in one or more jobs, and professional career. The dependent variable was total scores on the AIRS. Data met the homogeneity of variance assumption based on the result of Levene’s test; therefore, it was assumed that the variances were homogenous among the four groups.
The one-way ANOVA was not significant for the AIRS total score and employment status, \( F(3, 465) = 7.98, \ p > .05 \), indicating that there were not significant differences in scores on the AIRS scale among the five groups.

Overall, the results of the additional analyses demonstrated that participant age, relationship status, living arrangements, and parental status were all significantly related to sense of adulthood. Participant factors such as being 30, married, living with a romantic partner, and having children were associated with significantly higher scores on the AIRS. However, the employment status of participants was not significantly related to sense of adulthood.

**Discussion**

This study explored the relationship between attachment styles and self-perception of adulthood in U.S. adults between the ages of 25 and 35. Overall, the four hypotheses were supported and it was shown that a higher sense of adulthood was positively correlated with a secure attachment style and negatively correlated with four different styles of insecure attachment. Additionally, self-identification as an adult was also positively correlated with a secure attachment style, and negatively correlated with styles of insecure attachment. These results are consistent with previous research, which has demonstrated that secure attachment is related to achievement of a wide variety of developmental outcomes across the lifespan (Belsky, et al., 2010; Carlson, et al., 2003; Erickson & Egeland, 2004; Mattanah, et al., 2011; Ranson & Urichuck, 2008; Scharf, et al., 2004; Schore, 2001; Seiffge-Krenke, 2006; Wright & Perrone, 2008, 2010).

Exploratory analyses demonstrated that participant age, relationship status, living arrangements, and parental status were all significantly related to sense of adulthood. These results are consistent with research describing the importance of achieving role transitions in the
definition of adulthood (Kins & Beyers, 2010; Reitzle, 2006). Employment status was not found to be significantly related to sense of adulthood, which is also similar to previous findings (Reitzle, 2006). However, these results indicate that other factors may have contributed to the finding that attachment and sense of adulthood were significantly correlated. This study did not assess many other possible factors that could contribute to delayed adulthood such as sociocultural factors, economic factors, or the influence of physical or mental health. It should also be noted that attachment patterns are thought to have existed much longer than the modern phenomenon of delayed adulthood; therefore, this author believes that the relationship between attachment and sense of adulthood does not alone explain the current trend of emerging adulthood and prolonged adolescence.

**Limitations**

One limitation of this study stemmed from the lack of available measures of adulthood. While the measures of adulthood that were used in this study have been demonstrated to have adequate psychometrics, the results of this study may have been stronger had more comprehensive measures of adulthood existed. The convenience sampling method was a limitation of this study as it did not provide a random sample. The self-report nature of this study was also a limitation. While attempts were made to create confidence in the anonymity of participation, responses may still have been impacted by a social-desirability bias. A final limitation of this study was the lack of diversity in the sample. Participants in this study were primarily White and well-educated; therefore, the results are not generalizable.

**Clinical Implications**

The data in this study provided preliminary evidence that subjective sense of adulthood and self-identification as an adult are also developmental outcomes that relate to secure
attachment. The primary clinical implication of these results is that adults who are struggling with achieving role transitions of adulthood (e.g., commitment in romantic relationships, independent living, career achievement) may benefit from psychotherapy that integrates attachment theory. Utilizing the therapeutic relationship as the mechanism of change, interventions can be molded to individual attachment needs, and assist in the development of more secure attachment (Wallin, 2007).

In 1988, Bowlby wrote, “the therapist’s role is analogous to that of a mother who provides her child with a secure base from which to explore the world” (p. 140). This concept is the foundation from which attachment-focused psychotherapy has grown. As stated previously in the review of literature, attachment styles are thought to have both stability and flexibility throughout the lifespan (Fraley, 2002). Attachment-focused psychotherapy rests on the belief that psychotherapy can provide a secure relationship through which a client can explore early attachment relationships and integrate painful experiences from the past to create more sound sense of self (Wallin, 2007). By attending to attitudes, beliefs, and behaviors that stem from former insecure attachments, the therapy can modify the client’s internal working models (Daniel, 2006). Overall, attachment-focused psychotherapy does not vary drastically from other psychotherapies; rather, it just places more emphasis on the therapeutic relationship and the probability of an insecure attachment history (Daniel, 2006).

Nonverbal communication is crucial in attachment-focused psychotherapy, as theorists believe that attachments are formed during pre-verbal development. The therapist must be aware of their own attachment style and remain attuned to their subjective experiences during therapy, as the transference-countertransference relationship can provide data and insight into the earlier attachment experiences of the client, which the therapy aims to integrate (Wallin, 2007).
Attachment-oriented psychotherapists also focus on helping clients increase their capacity to mentalize, which is the ability to understand mental states in the self as well as in others (Fonagy & Target, 2006). Mentalization is similar to meta-cognition, or thinking about thinking, and is fundamental to the process of healing in attachment-focused psychotherapy. Research has shown that insecure adults have less capacity for mentalization, which leads to either patterns of dismissing the significance of their experience or being preoccupied with it (Wallin, 2007). An increased ability to mentalize can help clients with emotion regulation and integration of past experiences in the development of a more stable sense of self (Wallin, 2007).

At the time of this study, research on attachment-focused psychotherapy was still in the initial stages of development. A review looking at the modification of attachment styles as a result of psychotherapy concluded that psychotherapeutic intervention appears to be capable of altering adult attachment styles toward more security (Daniel, 2006). However, this is an area that needs continued research with the use of control groups as well as the development of more consistent assessment measures across research studies (Daniel, 2006).

Nonetheless, practitioners can integrate attachment theory into their existing orientation. Attachment theory is thought to be well suited for psychotherapy integration as it can supply a developmental structure and a sound empirical foundation to a wide-variety of treatment methods (Connors, 2011). A recent review of treatment models that have integrated attachment theory outlined the extensive list of treatments that have integrated attachment theory over the past 40 years, and reported that attachment theory has been integrated with many treatment methods to delineate a model for psychotherapeutic relationships and also to create a framework for exploration of current and historical relationship issues (Gold, 2011). For example, the initial work on cognitive therapy for depression cited Bowlby’s (1973) theory as an underpinning for
the treatment and an explanation for clients’ development of negative thoughts about the self, the world, and the future (Beck, Rush, Shaw, & Emery, 1979).

**Future Research**

The results of this study challenged the current notions of emerging adulthood, which describe the developmental stage to be limited to the late teens and twenties (van Dulmen, 2013). Less than 40% of participants reported that they felt they had reached adulthood at the time of taking the survey, which raises the question of whether the emerging adulthood stage is completed prior to age 30. Future research should be dedicated to enhancing the definition of the emerging adulthood stage and creating a greater understanding of how and why the stage may extend beyond the twenties. Researchers may want to consider collecting data from participants across adulthood to gather a more comprehensive understanding of how adults define their developmental stage.

The field should also work toward developing more thorough measures of adulthood achievement and status. This study utilized subjective measures of adulthood because there were no existing objective measures. A better-defined understanding of adulthood may facilitate the creation of psychometrically sound objective measures of adulthood. Both dimensional and categorical measures based on either self-reported or observed data would be of use. Future research would benefit from the ability to more accurately measure adulthood so that the field can better understand the factors that related to delayed adult status.

Future research should explore the relationship between attachment and sense of adulthood with a more racially diverse sample, from a wider range of socioeconomic statuses. Researchers may want to consider posting requests for participation on sites that target young
adults of color. Furthermore, attempts should be made to collect data through online accounts belonging to individuals with racially and economically diverse social networks.

Some preliminary results of this study also revealed gender differences in both self-perception of adulthood and attachment styles. Specifically, females had significantly higher scores on the AIRS than males as well as higher scores on the Confidence scale of the ASQ. Males had significantly higher scores on the Dismissing and Relationships as Secondary scales of the ASQ. Future research should explore these gender differences in more detail.
References


Appendix A

Do you think of yourself as an adult? Are you between the ages of 25 and 35? Please click the link to participate in my study examining the relationship between sense of adulthood and how you relate to others. The survey should take about 10-15 minutes and will contribute to the completion of my doctoral degree. Thank you! http://goo.gl/XW9YR
Appendix B

Examining the Relationship Between Attachment and Sense of Adulthood
Leah Kamin, M.S. – leahkamin@pacificu.edu
Pacific University, School of Professional Psychology, Hillsboro, OR 97123

Thank you for participating in our study on attachment and sense of adulthood.

As an adult between the ages of 25 and 35, you are invited to participate in a research study on the potential relationship between on attachment styles and sense of adulthood. The results of this study will be used to provide information about the modern transition to adulthood to the field of psychology. This study is taking place online through SurveyGizmo (www.surveygizmo.com) and will be active through March, 2013.

Should you choose to participate in this research, you will not be asked for your name or any other information related to your personal identity. Your responses will not be connected to your email or the social networking page through which you linked to this survey. Your responses will be anonymous and your participation is voluntary. The security of information transmitted through the Internet cannot be guaranteed. However, the survey tool is configured to not collect IP address and no individually identifiable information (e.g., name, birth date, identification numbers, mailing address, email address, etc.) is being collected. Similarly, no combination of indirect identifiers is being collected which would reasonably allow the investigator or anyone else to identify participants. Only the primary investigator will have access to the database.

Your decision whether or not to participate will not affect your current or future relations with Pacific University. If you decide to participate, you are free to not answer any question or withdraw at any time without prejudice or negative consequences. This project stands to benefit the scientific community as there are no studies to date that have examined this specific topic. There are no foreseeable risks involved in your participation. The project has been approved by the Pacific University IRB and will be completed by July 2015.

The researcher will be happy to answer any questions you may have at any time during the course of the study. Complete contact information for the researchers is noted on the first page of this form. If the study in question is a student project, please contact the faculty advisor. If you are not satisfied with the answers you receive, please call Pacific University’s Institutional Review Board, at (503) 352–1478 to discuss your questions or concerns further. All concerns and questions will be kept in confidence.

You are one of a minimum of 60 participants for this survey. Data will be confidential and reported in aggregate form. The survey should take about 10-15 minutes to complete.

We strongly encourage you to print a copy of the above pages for your records.
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<th>Yes</th>
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Appendix C

DEMOGRAPHICS

1. What is your age?
   - 25
   - 26
   - 27
   - 28
   - 29
   - 30
   - 31
   - 32
   - 33
   - 34
   - 35

2. What is your gender?
   - Female
   - Female to male transgender
   - Male
   - Male to female transgender
   - Not sure
   - Other (please specify): __________________

3. With which race or ethnicity do you identify?
   - American Indian or Alaska Native
   - Asian
   - Black or African American
   - Caucasian
   - Hispanic or Latino
   - Native Hawaiian or Other Pacific Islander
   - Two or more races
   - Other

4. What is your highest level of education?
   - 12th grade or less
   - Graduated high school or equivalent
   - Some college, no degree
   - Associate degree
   - Bachelor’s degree
   - Post-graduate degree
5. What is your mother’s highest level of education?
   - □ 12th grade or less
   - □ Graduated high school or equivalent
   - □ Some college, no degree
   - □ Associate degree
   - □ Bachelor’s degree
   - □ Post-graduate degree

6. What is your father’s highest level of education?
   - □ 12th grade or less
   - □ Graduated high school or equivalent
   - □ Some college, no degree
   - □ Associate degree
   - □ Bachelor’s degree
   - □ Post-graduate degree

7. What is your parent’s approximate household income? Please note, if you come from a divorced or other non-traditional family please indicate the approximate income of the household in which you spent most of your years as a child and adolescent.
   - □ Less than $25,000
   - □ $25,000 - $34,999
   - □ $35,000 - $49,999
   - □ $50,000 - $75,999
   - □ $100,000 - $124,999
   - □ $125,000 - $149,999
   - □ $150,000 or more
ROLE TRANSITIONS

8. How would you describe your current relationship status?
   - Single
   - In a relationship but not living together
   - Cohabitating
   - Married
   - Separated/divorced/widowed without a new partner
   - Separated/divorced/widowed with a new partner

9. What are your current living arrangements?
   - Living at parental home
   - Living alone in a single household
   - Sharing a home with peers
   - Living with spouse or romantic partner

10. Do you have children?
    - No
    - Yes
    - Expecting a child within the next year

11. How would you describe your current employment status?
    - Unemployed
    - College/graduate student
    - Have a part-time job
    - Work full-time in one or more jobs
    - Work in a professional career

12. What is your primary source of income currently?
    - Work
    - Family/Relatives
    - Public Sources
ADULTHOOD

Please rate the following items:

<table>
<thead>
<tr>
<th>(1) Not at All True</th>
<th>(2)</th>
<th>(3) Somewhat True</th>
<th>(4)</th>
<th>(5) Entirely True</th>
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<tbody>
<tr>
<td>I consider myself to be an adult.</td>
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<tr>
<td>I feel I have matured fully.</td>
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<tr>
<td>I feel respected by others as an adult.</td>
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</table>

14. Do you think that you have reached adulthood?

☐ No
☐ In some respects yes, in some respects no
☐ Yes

ATTACHMENT

Show how much you agree with each of the following items by rating them on this scale: 1 = totally disagree; 2 = strongly disagree; 3 = slightly disagree; 4 = slightly agree; 5 = strongly agree; or 6 = totally agree

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<tr>
<td>Overall, I am a worthwhile person.</td>
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<td>I am easier to get to know than most people.</td>
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<td>I feel confident that other people will be there for me when I need them</td>
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<td>I prefer to depend on myself rather than other people.</td>
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<td>I prefer to keep to myself.</td>
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<td>To ask for help is to admit that you’re a failure.</td>
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<td>People’s worth should be judged by what they achieve.</td>
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<td>Achieving things is more important than building relationships.</td>
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<td>Doing your best is more important than getting on with others.</td>
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<td>If you’ve got a job to do, you should do it no matter who gets hurt.</td>
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<td>It’s important to me that others like me</td>
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<td>It’s important to me to avoid doing things that others won’t like.</td>
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<td>I find it hard to make a decision unless I know what other people think.</td>
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<td>My relationships with others are generally superficial.</td>
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<td>Sometimes I think I am no good at all.</td>
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<td>I find it hard to trust other people.</td>
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<td>I find it difficult to depend on others.</td>
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<td>I find that others are reluctant to get as close as I would like.</td>
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<td>I find it relatively easy to get close to other people.</td>
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<td>I find it easy to trust others.</td>
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<td>I feel comfortable depending on other people.</td>
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<td>I worry that others won’t care about me as much as I care about them.</td>
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<td>I worry about people getting too close.</td>
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<td>I worry that I won’t measure up to other people.</td>
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<td>I have mixed feelings about being close to others.</td>
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<td>While I want to get close to others, I feel uneasy about it.</td>
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<td>I wonder why people would want to be involved with me.</td>
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<td>It’s very important to me to have a close relationship.</td>
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<td>I worry a lot about my relationships</td>
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<td>I wonder how I would cope without someone to love me.</td>
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<td>I feel confident about relating to others.</td>
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<td>I often feel left out or alone.</td>
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<td>I often worry that I do not really fit in with other people</td>
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<td>Other people have their own problems, so I don’t bother them with mine.</td>
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<td>When I talk over my problems with others, I generally feel ashamed or foolish.</td>
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<td>I am too busy with other activities to put much time into relationships.</td>
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<td>If something is bothering me, others are generally aware and concerned.</td>
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<td>I am confident that other people will like and respect me.</td>
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<td>I get frustrated when others are not available when I need them.</td>
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<td>Other people often disappoint me.</td>
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</table>

Thank you for your participation!

If you would like to be contacted for pre-publication results or would like to make further comments, please contact the primary investigator:

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Hillsboro, OR 97123

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****SHARE THIS SURVEY ON TWITTER****