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The Role of Sibling Relationships in College friendships

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Honors Thesis

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A Thesis Submitted to Fulfill the Requirements of the Honors Program at Assumption

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Abstract

Past research suggests that children's sibling relationships play an important role in their friendships, though much less is known about these linkages during adulthood. The purpose of this study was to explore whether the quality of young adults' sibling relationships is associated with the quality of their non-romantic friendships. A sample of fifty-nine Undergraduate students who were predominantly white and female and attending a small liberal arts college reported on their perceptions of their sibling and friendship relationship quality as well as their attachment orientation and personality characteristics. Findings indicated that young adults' sibling relationship quality was associated with the number of friends they reported in high school and with certain aspects of their relationship quality with friends. Specifically, the nurturance, reassurance of worth, social integration, and guidance young adults perceived in their relationships with their siblings were associated with these same relationship qualities in their non-romantic friendships. Furthermore, young adults with and without siblings did not differ in their friendship harmony. Attachment security and personality characteristics played important roles for the harmony and conflict young adults reported in their sibling relationships as well as for their friendship harmony. This study was one of the first to explore how young adults' experiences with their siblings relate to the nature of friendships they form before and during their transition to college. In contrast to prior research with children and adolescents, linkages between sibling and friendship relationship harmony during the early adulthood stage did not appear to be as strong suggesting that perhaps the unique social environment in college overshadows the impact siblings have on friendships for those with secure attachment orientations and positive personality characteristics.

The Role of Sibling Relationships in College Friendships

Friendships have a crucial impact on peoples' lives. Close and supportive friendships are associated with prosocial behavior, emotional stability, increased academic achievement, and increased life satisfaction (Brooks, 2007; Rose, 1984; Stocker & Dunn, 1990). It is important to understand what factors influence the nature of friendships people form throughout their lives.

One of the factors that has been shown to play an important role for the development of friendships involves the relationships individuals form within their families early in life, especially with caregivers and with siblings. Approximately 85% to 90% of families have more than one child within the United States (Milevsky, 2011, as cited in Kramer et al, 2019). Across the different stages of their development, older siblings can be very influential in younger siblings' lives, especially given the attachment bonds that develop between most siblings. Attachment with caregivers in the first year of life has been extensively studied and found to influence the nature of relationships with others outside the family throughout their lives (Sroufe et al., 2005). Specifically, studies report that infants who develop a secure attachment with their caregivers later develop more empathy and better social skills with peers in preschool, are more popular with peers in middle childhood, and show greater social competence in their peer groups as well as in intimate relationships during adolescence (Sroufe et al., 2005). The relationship between siblings, especially the relationship of an older sibling to a younger sibling often plays an influential role in the trajectory of their lives. Older siblings set norms and expectations that later shape the lifestyle of younger siblings. A comprehensive literature review by McHale, Updegraff, and Whiteman (2012) reported abundant evidence of siblings' positive and negative impact on each other's lives thus demonstrating how influential sibling relationships are.

Although relationships between siblings have been extensively studied over the course of childhood into adolescence, less is known about sibling relationships during adulthood and how the quality of sibling relationships, both in the past and concurrently, influences young adults' friendships. The next sections will review studies focused on the quality of sibling and peer relationships starting in childhood and into young adulthood, and explore factors that have been shown to influence friendship relationships.

Quality of Sibling Relationships

Over the course of childhood, most siblings who grow up together within the same household spend a significant amount of time in daily interactions with one another. These interactions between siblings leave a lasting impression on their social, cognitive, and emotional development and affect the quality of their sibling relationships (Sherman, Lansford, & Volling, 2006; Tseung, 2004; Volling & Belsky, 1992; Young, Marshall, & Murray 2016; Kramer, Conger, Rogers, & Ravindran, 2019).

The majority of studies on children's sibling relationships have focused on warmth and conflict among siblings. While generally high rates of conflict between siblings have a negative impact on children's prosocial behaviors, Kramer (2019) found that some sibling conflict helps children learn how handle conflict, leading to higher levels of prosocial behavior. Children are able to learn through experience with the guidance of an older sibling. Advice from a sibling close in age is more likely to be accepted than advice from adults. Between the ages of eleven and fourteen, sibling support, trust, intimacy, and companionship increase while conflict continues to decrease (Kramer et al., 2019). One reason for reduced sibling conflict is sibling deidentification which is defined as "a process by which individual siblings may differentiate themselves and establish their own unique identity, role, or niche within the family system" (p.

522). Reducing competition decreases the amount of conflict between siblings for parental attention and increases levels of warmth, especially in adult sibling relationships (Kramer et al., 2019).

Another study by Feinberg and colleagues (2003) explored sibling deidentification in college students with one or two siblings. Sibling deidentification becomes common as siblings get older and begin to develop individualized interests and skills, which tends to decrease the amount of conflict between them. Feinberg et al. (2003) found that the first and second college-aged child differed more than the first and third child within families in their study (Feinberg, McHale, Crouter, & Cumsille, 2003). This suggests that closeness in age may influence sibling deidentification, which in turn reduces sibling conflict. In addition, another change experienced in sibling relationships in young adulthood as a result of increasing differentiation between siblings is an increase in warmth in their relationship (Feinberg et al., 2003).

A few studies demonstrated that the relative quality of sibling relationships remains consistent from childhood to late adolescence (Kramer & Kowal, 2005). While sibling interactions undergo overall changes with age, Kramer and Kowal found that siblings who were high in warmth and positive behaviors and low in conflict, rivalry, and negative behaviors in early childhood compared to other siblings predicted these same qualities in sibling relationships during adolescence. In other words, while overall quality improved with age, the relative ranking of sibling relationship quality remained consistent over time to allow for predictions of sibling relationship quality in adolescents based on their childhood sibling relationship quality.

There is some evidence that sibling relationships change with young adults' transition into college (Rose, 1984; Brooks, 2007), though siblings remain an important source of advice, provide social support during hardships, and constitute a connection to home (Dunn, 1988 as

cited in Tseung & Schott, 2004, Pulakos, 1989). Changes in sibling relationships in young adulthood may be influenced by increases in independence from their family and decreases in daily sibling interactions Pulakos (1989).

In summary, sibling relationships have been studied during childhood with respect to warmth and intimacy as positive characteristics and conflict and rivalry as negative qualities. Positive sibling relationships were found to be fostered by maternal warmth. In comparison to a multitude of studies focused on children's sibling relationships, significantly fewer studies involved adult sibling relationships, which is an important oversight as adult sibling relationships are likely to continue exerting important influences on adults' functioning, especially as they transition into college .

Factors that Influence the Quality of Sibling Relationships

Researchers have explored different factors that influence sibling relationships. One predictor of the quality of children's sibling relationships is their temperament. Temperament is considered a relatively fixed trait that becomes apparent shortly after birth. McCoy, Brody, and Stoneman (2002) examined the relationship between temperament and same-sex siblings ranging from four to eleven years of age and found that sibling relationships were influenced by temperament. More difficult temperaments in children predicted higher levels of conflict in their same-sex male and female sibling relationships (McCoy et al, 2002).

A second factor that has been shown to influence sibling relationships is parent-child attachment security. Specifically, the attachment between parents and children influences the level of conflict and control siblings experience in their relationships with one another. Teti and Ablard (1989, as cited in Volling et al., 1992) found a significant correlation between children's attachment security, especially with mothers, and their sibling relationship quality. When a

younger sibling cried or showed signs of distress, a child with an insecure attachment was less likely to respond and provide care than a child with a secure attachment. Furthermore, if both children had insecure attachments with their mother, their interactions were observed to be more aggressive (Teti & Ablard, 1989, as cited in Volling et al., 1992). In addition, Volling and Belsky (1992) found evidence that children's attachment to their fathers also affected their sibling relationship. Specifically, they found that when older children had a secure attachment to their father who expressed more affection towards them, older siblings were more likely to have prosocial interactions with younger sibling (Volling & Belsky, 1992). Volling and Belsky (1992) also found that the level of maternal control when playing with their children and the type of punishment mothers delivered influenced cooperation and positive play interactions between siblings (Volling & Belsky, 1992). When mothers encouraged their children to be open and curious along with showing sensitivity toward their child's needs, prosocial behavior such as cooperation increased between siblings. In contrast, maternal differences in responsiveness towards each sibling, such as favoring one child over the other, and maternal use of physical punishment were found to increase sibling conflict and aggression and to decrease positive play between siblings. Solving sibling conflicts by using more authoritative power also resulted in increases in sibling conflict. In contrast, parents' use of child-centered strategies that focused equally on both children during sibling conflicts was found to be most beneficial for supporting positive sibling relationships (Kowel, Krull, & Kramer, 2006; Kramer et al., 2019).

Another study by Kramer (2019) reported that parental differential treatment of siblings was associated with sibling conflict, namely with low levels of warmth between siblings. Low levels of warmth and increased rivalry have been linked to favoritism by at least one or both parents. (Kowel et al., 2006; Kramer et al., 2019). In addition, children's perceptions of

differential parental treatment that had no reasonable explanation were associated with higher levels of conflict between siblings. However, if differential treatment by parents seemed understandable and fair to a child, the sibling relationship was reported to be more positive (Kramer et al, 2019).

In sum, parental differential treatment can have a lasting effect on sibling relationships and has been linked to sibling warmth and rivalry for both younger and older siblings. In contrast, positive parental interactions with children, regardless of their age, can increase warmth within sibling relationships.

Aside from child temperament, attachment security, and differential parental treatment of siblings, a fourth factor found to influence sibling relationship quality is the age gap between siblings. Kramer and Kowal (2005) found that the smaller the age gap between siblings, the higher the rivalry and competition was between them. On the other hand, Brumbaugh's (2017) review of the literature on adult sibling relationships describes that the closer siblings are in age, the more secure the attachment between them (Ainsworth, 1991, as cited in Brumbaugh, 2017). These contradictory results are difficult to interpret and it is likely that other factors are also at play that interact with closeness in siblings' ages and their relationship quality.

Finally, a fifth factor determining sibling relationships in adulthood is individuals' romantic relationship status. Past research indicates that adults who were single were more likely to regard their siblings as attachment figures compared to those who were involved in romantic relationships (Brumbaugh, 2017). Furthermore, if they identified their closest sibling as a sister, they were more satisfied than those who identified a brother as the closest sibling.

In summary, children's relationship quality with siblings is influenced by a variety of different factors such as siblings' temperaments, closeness in age, gender, and attachment

security with parents. Sibling relationship quality is also affected by parents' attachments to their children and by parents' differential treatment of siblings. With respect to factors that shape adults' sibling relationships, research is again more limited but there is some evidence that closeness in age, romantic relationship status, and gender play a role in the quality of adult sibling relationships.

Quality of Children's Friendships

While sibling relationships play an important role during childhood, the increased interaction with children outside of their family influences the development of peer friendships. During the preschool years, children's peer relationships start to form into friendships, providing them with a context for practicing their emerging social skills. Especially during adolescence, these peer relationships start to gain importance as adolescents spend increasingly more time with their peers (Feinberg et al., 2003; Updegraff et al., 2001).

Children who have supportive friends have been shown to adjust better to new situations and enjoy school whereas children who are rejected feel isolated and do not participate in group activities and do not enjoy being in school (Danby, Thompson, Theobald, & Thorpe, 2012; Johnson, Ironsmith, Snow, & Poteat, 2000). Having a friend in school is crucial in children's perception of school and their desire to attend. Short-term and long-term success in schooling is influenced by friendships. When looking at the beginning of friendships, perceived aggression by other children is an important factor that determines peer acceptance or rejection. Children who display more aggressive behaviors are more likely to experience social rejection. On the other hand, children who display age appropriate prosocial skills and positive interactions with classmates increase their chances of peer acceptance and experience an easier transition into school (Johnson et al., 2000).

Examining the criteria for selecting friendships, Danby (2012) assessed how kindergarten and first grade students chose their friends. The development of friendship requires the child's perception of the situation and determining what they have in common with peers, waiting or asking to enter within a friendship, and then accepting or rejecting the peer's response. The process of making friends starts with three strategies: requests, collaborative actions during playtime, and how children perceive their actions with others (Danby et al., 2012). By 'requests', Danby et al. mean that the child is making a request to play or begin an interaction with peers, which is the first step in forming a friendship. This step requires the child to observe their surrounding and determine the likelihood of being accepted and how to approach the situation. The second strategy involves collaborative actions, which means that children work on increasing the amount of interactions they have with their peers. The final step is social awareness, which means that children observe their surroundings which allows them to include others. During this step, the child is already included in a peer group and is now working on building larger social networks (Danby et al., 2012). In addition to following this strategy, the child's attention, kindness, and thoughtfulness also influences whether other children continue to interact with him or her and eventually develop a friendship. Children's fear of rejection can disrupt the formation of their friendships but if they observe their social environment, the likelihood of rejection decreases (Danby et al., 2012).

In summary, children's friendships afford them many benefits from better school adjustment to practice in social skills. In turn, better prosocial skills facilitate peer acceptance and formation of friendships in childhood. As will be discussed in a later section, the quality of relationships children have with their siblings contributes importantly to the quality of their friendships.

Quality of Young Adults' Friendships

Friendships are just as if not even more important in adulthood, though less research has focused on factors that promote non-romantic friendships past the developmental stage of adolescence. Young adults classify their friendships with peers to be more valuable than their relationship with their closest sibling. Young adults prefer to ask their friends for advice rather than their siblings (Pulakos, 1989). Compared to sibling relationships, the voluntary nature of friendships promotes positive relationships. Pulakos (1989) found that young adults were more likely to discuss their future goals, health, relationships, politics, current events, and important decisions within their peer relationships than they were to discuss these topics with their siblings. Furthermore, time spent on extracurricular and leisure activities increased with peers compared to siblings, with the only exception of interactions during holidays.

Studies of young adults' friendships explored some of the same qualities and benefits than those uncovered in studies on children's friendships. Stimulating companionships, help, intimacy, reliable alliance, self-validation, and emotional security are all functions that have been found to benefit adults who have formed friendships (Mendelson & Abound, 1999). These factors help people find emotional and physical security with one another based on personal perception. Mendelson and Abound (1999) examined adults' feelings towards their friends and found that women reported more positive feelings and satisfactory friendships than did men. Furthermore, the study found that friendships that had been established for a longer time were rated as more positive than friendships that were newly formed (Mendelson & Abound, 1999).

Another study explored whether young adults' personality characteristics affect conflict and closeness in their friendships (Berry, Willingham, & Thayer, 2000). The "Big Five" personality characteristics were considered, i.e., extraversion, neuroticism, agreeableness,

conscientiousness, and openness to experience. The researchers explored whether people who became friends had similar personality characteristics along these 5 dimensions. Their results showed that the development of friendships was independent of personality differences (Berry et al., 2000). However, positive affect and positive personality traits were more likely to increase the quality of friendships whereas negative affect and negative personality traits predicted greater conflict and irritation between friends (Berry et al., 2000).

In another study, Rose (1984) identified patterns of changes in friendships of young adults and found that five main factors were involved in changing friendships. Specifically, Rose found that physical separation, making new friends, dislike towards something that the person does, dating, and marriage can lead to the termination of an adult's friendship. Rose also found that all of these factors resulted in a decrease in the amount of time and effort spent with the friend, which eventually prompted the friendship to end (Rose, 1984).

Young adulthood is a developmental period in which people are exploring their independence from their families. College is a unique setting for forming friendships after many young adults have left the familial safety of home for an extended amount of time and have created a "new home" of their own. College is an important time to develop positive peer relationship though it is not clear what factors contribute to the quality and endurance of college friendships. The development of friendships in college may be influenced by similar factors than the ones that were influential in childhood. For children, many friendships are formed based on proximity such as being in the same classroom, sports teams, clubs, living on the same street or building, etc. Although young adults have greater independence than do children, proximity such as being roommates, living in the same building, attending the same classes, and sharing the

same extracurricular activities also play important roles in the formation of young adults' friendships (Brooks, 2007; Rose, 1984).

There is some evidence that physical proximity is an important contributing factor in adults' friendship formation and friendship endurance, just like it is during childhood. Physical separation from old friends at home and the formation of new friendships in college may lead to decreases in the amount of time and effort college students spend on maintaining old friendships which may in turn lead to terminating these friendships that were formed prior to college. One study examined this hypothesis by studying friendships in adolescents and young adults enrolled in higher education in England (Brooks, 2007). Students were asked to compare the quality of friendships they had created in high school to friendships they had newly created in college in order to determine which friendship provided more support to students. The results of the study demonstrated that friendships formed in college were closer and more mature than friendships formed during childhood and adolescence. Brooks (2007) compared students' emotional closeness towards their friends from home with their closeness towards their college friends. Students stated that they did not lose closeness with friends from home but rather developed greater emotional closeness with college friends that was not present in their high school friendships. In college, the level of emotional dependency on their family decreases which increases the emotional dependency with friends in college. One student described his friendships from home as "surface relationships" (p. 696) whereas friendships in college were deeper (Brooks, 2007). New social influences resulting from exposure to peers with different religious belief, economic statuses, and political views encouraged meaningful conversations and created a sense of closeness with new friends (Brooks, 2007). The close proximity with peers in college, such as daily living in residence halls, also had a major impact on the formation of

college friendships combined with the amount of time students spend with one another and emotional dependency they developed with one another. On the other hand, young adults can also form friendships through the internet, social media, and are likely to start and continue friendships with others regardless of geographical location (Brooks, 2007).

Pulakos (1989) agrees that friendships play an important role in young adults' lives. Young adults are more likely to talk with friends their own age about politics, important decisions, significant others, money, and health than they are to talk to family members. Participants within this study stated that they experienced more positive feelings and felt that the friendship was reciprocated (Pulakos, 1989). However, while most young adults felt closer to their friends than to their siblings, some gender differences were found: Females reported more positive affect and felt their friendships were more intimate, emotionally close, and important compared to males. Yet, regardless of gender, most young adults viewed their peer friendships as crucial and important factors in their lives (Brooks, 2007; Brumbaugh, 2017; Pulakos, 1989).

In summary, the quality of friendships in young adults is influenced by physical and emotional dependency, the duration of their friendships, gender, and physical separation versus physical proximity from friends. Emotional attachment, physical security, and perception of the friendship affect whether young adults develop and maintain friendships throughout adulthood. One factor that has not yet received much attention in current studies but is likely to influence young adults' friendships involves the quality of their sibling relationships. The next section explores existing evidence for such a link between sibling and friendship relationships

Links between Sibling and Friendship Relationships

The influence of sibling and peer relationships is important for individuals' self-esteem and positive socialization throughout their life time (Bedford, 1996; Cicirelli, 1985; Hartup &

Stevens, 1997 as cited in Sherman, Lansford, & Volling, 2006). Several studies have reported that the quality of sibling relationships influences friendship relationships in children and adults. The warmth, conflict, or rivalry experienced in sibling relationships can affect the type of peer relationships and friendships individuals develop (Smorti et al., 2018; Brumbaugh, 2017).

Most of the research on the links between sibling and friendship relationships focused on childhood rather than on relationships in adulthood. For example, Smorti and Ponti (2018) compared eight to eleven-year-olds with and without siblings to determine whether the presence of siblings affect children's prosocial behaviors. Using the Sibling Relationship Inventory (SRI) developed by Stocker and McHale (1992), they examined whether children's warmth, conflict, and rivalry with siblings affected their prosocial behaviors. The researchers classified the quality of siblings' relationships as positive when there was warmth between siblings that involved "support, closeness, intimacy, and companionship" (p. 2415), whereas the presence of conflict and rivalry were considered signs of negative sibling relationship quality. Siblings who reported high levels of affection also reported low levels of conflict and these children had higher levels of prosocial behaviors compared to children with highly conflictual sibling relationships. Surprisingly, when comparing prosocial behaviors among children with and without siblings, Smorti and Ponti (2018) did not find any significant differences in their prosocial behaviors, supportive interactions, and conflictual interactions in peer relationships.

Stocker and Dunn (1990) also examined whether the temperament of children, between the ages of seven to eight years influenced the associations between sibling relationships, friendship and peer relationships. Stocker and Dunn measured sibling relationships with respect to conflict, cooperation, control, and competition on a scale from one (no aggression) to five (intense verbal aggression, physical aggression, frequency criticism of others' actions). The

child's temperament was based on sociability, emotionality, activity, attention-span-persistence, reaction to food, and soothability. Peer relationships were measured by "prosocial behavior, intimacy, loyalty, conflict, and similarity" (p. 231) and rated by the children, their parents, and their teachers. Children were given a Children's Friendship Interview while parents were given a Maternal Interview about Children's Friendships. Surprisingly, findings indicated that children who were rated by their parents as competitive or controlling with their siblings were also rated as having *more positive* friendships. Another counterintuitive finding in this study was that children who were rated to have a hostile sibling relationship were rated *high on friendship closeness*. On the other hand, children rated as high in their sociability with their siblings were rated as high in closeness and low in hostility in their friendships and tended to have more positive friendships. While there were many significant correlations between children's sibling relationships and their peer friendships, no distinct patterns of connections between sibling relationships and friendships were found. The findings of this study suggest that the relationship between sibling and peer relationships may be more complex and that perhaps other factors such as how children selected their friends or similarity in their personalities may have influenced these relationships. In addition, the quality of children's sibling and friendship relationships in this study were only assessed via self- and other report, and not by observation of children's interactions with peers and friends, which may have biased the results.

Updegraff and Obeidallah (2001) found that the level of involvement and intimacy an older sibling has with the younger sibling is linked to the level of involvement and intimacy with friends in adulthood. Updegraff and Obeidallah (2001) also found that sibling and friendship relationship qualities were interrelated and discerned three distinct patterns of interrelationships, which they coined differentiated, incongruent, and congruent. A congruent pattern was

characterized by low intimacy and involvement in both sibling and peer relationships while a differentiated pattern involved high sibling intimacy and involvement and high intimacy but low levels of involvement with friends. Incongruent relationships were categorized by high levels of intimacy and involvement with friends but not with siblings.

Another study also reported that siblings' temperaments played a role in their peer relationships; specifically, siblings with easier temperaments, i.e. those who demonstrated high degrees of sociability and few emotional difficulties, were found to have more positive relationships with their peers (McCoy et al, 2002).

Even for adolescents who spend increasingly more time in social settings outside of the family, consistent contact with their siblings still found to affect their friendships. Tseung and Schott (2004) examined parent-child and sibling relationships in middle to late adolescence to determine how they affect non-familial friendships. Using the "Sibling Relationship Inventory" survey by Stacker and McHale (1992) and the "Sibling Relationship Questionnaire" by Boer (1997), researchers were able to determine the quality of sibling relationships and link it to the quality of siblings' friendships. Warmth and affection were measured with respect to the level of caregiving, nurturance, and intimacy the child perceived with their sibling and observation of parental treatment (Tseung & Schott, 2004). Researchers hypothesized that the amount of attention from parents affects sibling relationships and then impacts adolescents' peer friendships. These factors were measured through self-ratings and interviews of adolescents. Tseung and Schott (2004) found a significant positive association between sibling warmth and affection and children's friendship relationships, though sibling affection did not influence the intimacy of their peer friendships. The researchers also discovered that affection between

siblings was especially influential in peer friendships because affection occurs in most relationships, regardless of the affiliation between people (Tseung & Schott, 2004).

Kramer and Kowal (2005) found that rivalry and competition in sibling relationships were strong predictors of adolescent friendships. Sibling relationships with high negativity such as rivalry can lead to antisocial and delinquent behaviors. This demonstrates the importance of promoting positive sibling relationships due to the impact on future peer friendships (Kramer & Kowal, 2005).

The development of friendships in young adulthood is uniquely different from sibling relationships because friendships are formed outside of families and based on individualized choices such as being on a sports team, extra-curricular activities, etc. Brumbaugh claims that feelings in nonromantic friendship of single adults can be equivalent to feelings developed in romantic relationships (Brumbaugh, 2017). The level of “support, trust, and intimacy” (p.536) experienced in a romantic relationship can also be experienced in close friendships that single, young adults have with non-romantic partners. Similar to findings of links between sibling and friendship relations focused on childhood and adolescence, in adulthood, the quality of a sibling relationship may also determine the quality of non-romantic friendships.

Attachments between adult siblings, especially sisters and twins, remain important. Adult siblings who are closer in age have more shared experiences, therefore assisting in more secure attachments (Ainsworth, 1991, as cited in Brumbaugh, 2017). The influence of sibling relationships in single adults is especially important because these adults may lack other attachment figures close to their age such as a romantic partner. There is some evidence that attachment security with siblings during childhood influences adults’ friendship experiences. Brumbaugh’s (2017) study of single adults’ sibling relationships and friendships focused on

attachment security in adults' relationships and found that adults who were more anxious in their attachments with siblings also tended to be more anxious in their attachments with friends (Brumbaugh, 2017). In addition, attachment avoidance experienced with siblings continued in adults' attachment avoidance they experienced in relationships with friends.

In summary, past research has predominantly focused on links between sibling relationship quality and friendships in children rather than in young adults. Furthermore, studies have reported some inconsistent finding regarding the links between sibling relationships and peer friendships. While most studies found that high levels of conflict in children's sibling relationships are associated with similarly high conflict in their friendship relationships, especially for females who also experienced low warmth in their sibling relationship, greater hostility in sibling relationships was also associated with greater closeness in children's friendships. In adulthood, attachment security with siblings, closeness in age with siblings, and satisfaction within the sibling relationship have been shown to play important roles in the quality of their non-romantic friendships.

The Present Study

The present study is aimed at further exploring the links between young adults' sibling and friendship relationship qualities. Specifically, the following questions were addressed:

1. Is the quality of young adults' sibling relationships associated with young adults' friendship relationship quality? A related question asked whether sibling relationship quality is associated with young adults' selection of friendships they had formed in and continue to keep from high school, and with the number of new friendships they have formed in college.

2. Do young adults who grew up with siblings differ from those who grew up without siblings in their selection and quality of new friendships developed in college?
3. Do young adults with more secure attachment orientations have higher quality sibling and friendship relationships?
4. Do young adults who are higher in extraversion, agreeableness, and openness and lower in neuroticism have higher quality sibling and friendship relationships?
5. Which friendship characteristics determine young adults' selection of their best friends (personality characteristics, relationship length, geographical proximity)?

Based on past research, though mostly with children rather than adults, the quality of young adults' sibling relationships was hypothesized to influence the quality of new friendships in college as well as their continuation of friendships which predated the transition to college. In addition, young adults who grew up without siblings were expected to differ in their quality of friendships compared to young adults who grew up with siblings. Young adults' attachment security and personality characteristics were both hypothesized to influence their relationships with siblings and with friends; young adults with more secure attachment orientations and more positive personality characteristics were expected to have more harmonious relationships with siblings and friends. Lastly, college students' selections of best friends were expected to be influenced by their proximity, personality characteristics, and duration of friendship; young adults were expected to report that their best friend was located in close proximity.

Methods

Participants

A sample of 59 male ($n = 10$) and female ($n = 45$; 4 participants preferred not to answer the question about their gender) undergraduate students were recruited from different courses at a small liberal arts college. Participants' mean age was 19.2 years ($SD = 3.67$, range 18 to 29 years). Almost all participants were currently living on campus (91.5%). With respect to class standing, 30.5 % of participants were Freshman, 16.9% were Sophomores, 32.2% were Juniors, and 16.9% were Seniors. Most participants came from intact families with two biological, married parents (83.1%), with a small subset having experienced parental divorce (16.9%). Most participants had at least 1 sibling (91.5%), with a range of 1 to 8 siblings ($M = 1.83$). Siblings' ages ranged from 6 to 42 years. Participants shared the same home with 0 to 3 biological siblings ($M = 1.42$), and with 0 to 4 ($M = 0.31$) half- siblings with whom they had only one parent in common. Participants grew up with up to 5 step siblings ($M = 0.30$). In order to be eligible for this study, participants needed to have at least one non-romantic current friend.

Procedure

Undergraduate psychology majors attending classes with a research requirement were recruited using the college-wide SONA system website- these participants received course credit for their participation. In addition, other participants were recruited by word-of-mouth. In order to participate in the study, participants needed to have at least one platonic (non-romantic) friendship. Groups of participants containing up to 3 students at a time were assessed simultaneously in the Psychology Lab. First, participants were presented with consent forms and informed about the procedures used in the study. After they had an opportunity to read over the consent form and were able to ask questions, participants were asked to sign the consent form

and provided with a copy for their records. Then, participants were given set of questionnaires that took between 30-60 minutes to complete. Upon submitting their completed questionnaires, participants received a debriefing form and were asked if they had any questions about the study.

Measures

Demographic Questionnaire. Participants were asked to complete a demographic questionnaire to provide information about their family of origin, siblings, and their non-romantic friendship relationships. The demographic questionnaire was specifically designed for this study and asked participants to list the gender and ages of all of their siblings from oldest to the youngest and to indicate for each sibling if he or she shared both or one of their biological parents or if they were not biologically related to the participant. In addition, several questions focused on newly formed non-romantic friendships in college and on old relationships participants had formed prior to the transition to college. For each of these relationships, participants were asked about the length of the friendships, the proximity and gender of their friends, and how they met their friends, such as being roommates, classmates, etc. Participants were also asked whether they had a best friend and what criteria were most important to them in selecting this person as their best friend. Finally, participants were asked to indicate if and how many of their close high school friendships they maintained contact with since moving to college versus terminated contact.

Sibling Relationship Quality (SRQ, Furman & Buhrmester, 1985). The quality of young adults' sibling relationship quality was assessed with the Sibling Relationship Quality (SRQ) questionnaire. Originally, the SRQ was designed to assess adolescent sibling relationships. The SRQ contains forty-eight items rated on a 5-point Likert scale and ranging from *1 = hardly at all* to *5 = extremely much*. The SRQ contains questions like, "How much do

you and your sibling do nice things for each other?” and “How much do you and your sibling try to do things better than each other?” There are sixteen subscales each of which includes three items. The summary scores are derived by averaging three items within each subscale: *Prosocial* (1, 17, 33), *maternal partiality* (2, 18, 34), *nurturance of siblings* (3, 19, 35), *nurturance by siblings* (4, 20, 36), *dominance of sibling* (5, 21, 37), *dominance by sibling* (6, 22, 38), *paternal partiality* (7, 23, 39), *affection* (8, 24, 40), *companionship* (9, 25, 41), *antagonism* (10, 26, 42), *similarity* (11, 27, 43), *intimacy* (12, 28, 44), *competition* (13, 29, 45), *admiration of sibling* (14, 30, 46), *admiration by sibling* (15, 31, 47), and *quarreling* (16, 32, 48) (Furman & Buhrmester, 1985).

Social Provision Questionnaire (SPQ, Cutrona & Russell, 1987). This self-report questionnaire was used to assess both the positive quality of the participants’ current sibling relationship as well as the quality of their closest non-romantic friendship relationship. The SPQ was administered twice to each participant, once with respect to one of the participant’s siblings (Sibling SPQ), and a second time with respect to one of the participant’s non-romantic friends (Friend SPQ). The SPQ contains twenty-four questions and asks participants to rate qualities such as support and warmth in their relationships on a scale from 1 (strongly disagree) to 4 (strongly agree). Reliability and validity was found to be acceptable for the SPQ.

For the Sibling SPQ, six summary scores were calculated by summing selected raw scores items to reflect *Guidance, Reassurance of Worth, Social Integration, Attachment, Nurturance, Reliable Alliance*. The same six summary scores were also created for the Friendship SPQ. Each summary score included 4 items; specifically, the summary scores created were for *Guidance* (3 reversed, 12, 16, 19 reversed), *Worth* (6 reversed, 9 reversed, 13, 20) *Social Integration* (5, 8, 14 reversed, 22 reversed), *Attachment* (2 reversed, 11, 17, 21 reversed),

Nurturance (4, 7, 15 reversed, 24 reversed) and *Reliable Alliance* (1, 10 reversed, 18 reversed, 23) (Carbery & Buhrmester, 1998).

McGill Friendship Questionnaire-Respondent's Affection (MFQ-RA, Mendelson & Aboud, 1999). The McGill Friendship Questionnaire-Respondent's Affection (MFQ-RA) is a questionnaire with sixteen items that measures positive feelings for a friend as well as friendship satisfaction. The MFQ-RA predicts conflict and closeness in young adults ages 16-21 years. The participants were asked to rate a positive word such as helping, laughing, comforting, etc. on a 9-point scale ranging from *very much disagree* to *very much agree*. There are nine items that focus on positive feelings for a friend and seven items that are focused on friendship satisfaction (Mendelson & Aboud, 1999). The MFQ-RA was found to have high internal validity.

A total score was computed based on the mean of participants' scores across all sixteen items.

Relationship Scale Questionnaire (RSQ, Griffin & Bartholomew, 1991). Participants' attachment orientation was assessed via the Relationship Scale Questionnaire (RSQ), which measures individuals' attachment orientation along four dimensions: secure, dismissive, preoccupied, and fearful. The RSQ contains thirty items, each of which was rated on a 5-point-scale ranging from 1 = *not at all like me* to 5 = *very much like me*. Four summary scores were computed for each of the attachment dimensions on the RSQ by calculating the mean of representative items: *Secure* (items 3, 9 reversed, 10, 15, 28 reversed), *Dismissive* (items 2, 6, 19, 22, 26), *Preoccupied* (items 6 reversed, 8, 16, 25) and *Fearful* (items 1, 5, 12, 24).

50-Item International Personality Item Pool (IPIP, Goldberg, 1992). The International Personality Item Pool assess each participant's personality traits. This fifty-item

questionnaire focused on 5 personality dimensions, each of which was calculated by summing 10 items per dimension: *Extraversion*, *Agreeableness*, *Conscientiousness*, *Emotional Stability*, and *Openness*. Participants rated each item on a 5-point scale (1 = *very inaccurate* to 5 = *very accurate*). Items classified as + keyed items followed the original scoring (1 = *very inaccurate* to 5 = *very accurate*). Items classified as – keyed items were reverse coded (1 = *very accurate* to 5 = *very inaccurate*). Following the coding system specified by Buchanan et al. (2005), a summary score for each of the five personality dimensions was created by summing the respective 10 items for each dimension. *Extraversion* used summed items 1, 6, 11, 16, 21, 26, 31, 36, 41, and 46; *Agreeableness* used summed items 2, 7, 12, 17, 22, 27, 32, 37, 42, and 47; *Conscientiousness* used items 3, 8, 13, 18, 23, 28, 33, 38, 43, and 48; *Neuroticism* used items 4, 9, 14, 19, 24, 29, 34, 39, 44, and 49; and *Openness* used summed items for 5, 10, 15, 20, 25, 30, 35, 40, 45, and 50.

Results

Data Reduction

In order to reduce the vast number of summary scores obtained from questionnaires assessing participants' sibling relationship quality, composite variables from the SRQ and Sibling SPQ were standardized and two total scores for sibling relationship quality were computed by summing correlated measures from each questionnaire. One total score measured *Sibling Harmony* (SRQ) composites for prosocial, nurture by sibling, affection, similarity, intimacy, admiration by and of sibling, and warmth combined with Sibling SPQ scores for guidance, worth, integration, attachment, and reliability. A second total score measured *Sibling Conflict* (Sum of SRQ composites for antagonism, conflict, quarreling, power, competition, and rivalry). A third total score was computed for young adults' *Friendship Harmony* by summing

standardized composite scores for guidance, integration, and attachment on the Friend SPQ. These three total scores will be used in selected analyses described below.

Descriptive Results

The means, standard deviations, and ranges for all sibling and friendship relationship composite scores are presented in Table 1.

Given the focus on sibling and friendship relationship quality in this study, participants were asked about the frequency and nature of their contact with siblings and friends. All except 5 participants reported having at least one sibling. Participants in this study tended to have frequent contact with their siblings and it was clear that siblings played an important role in their lives. With respect to the frequency of contact with a sibling identified as emotionally closest since the transition to college, about a third of young adults reported talking with this sibling at least once per day (30.5%) and even more reported talking with their closest sibling once per week (45.8%). It is not surprising that only 3 participants (5.1%) reported to never talk with their sibling they identified as emotionally closest. The most frequent mode of communication with siblings was via text (62.7%), with 11.9% communicating in person with their closest sibling and 11.9% communicating via FaceTime. Hardly any siblings talked on the phone (3.4%). Since young adults were living away from home while at college, their frequency of fighting with their siblings was relatively low, with 23.7% reporting to never fight with their closest sibling, and 32.2% reporting fights about once per months. However, 10.2% reported fighting with their closest sibling at least once per day.

Numerous characteristics of friendship relationships from high school as well as college were also probed in this study. On average, young adults reported that they had 13.6 friends in high school ($SD = 14.6$, Range = 2 – 100) and that they continued contact with an average of 4.3

of those friends ($SD = 2.2$, Range = 1 – 11). Reasons they provided for not continuing friendships from high school ranged from differences in interests (23.7%), attending different colleges (83.1%), conflicting personality (27.1%), mutual drifting apart (83.1%), and loss of contact (62.7%) with their high school friends.

On average, participants reported that they made 6.04 friends in college ($SD = 3.3$, Range 0 – 15). Participants reported that their college friendships tended to start due to living in the same dorm (55.9%), being roommates (28.8%), meeting through mutual friends (52.5%), attending the same classes (22%), sports (22%), common interests or hobbies (45.8%), and being in the same clubs (18.6%). Characteristics young adults offered as important to them in their nonromantic friendships involved similarity in values (11.9%) and interests (8.5%), loyalty (16.9%), trustworthiness (28.8%), a sense of humor (5.1%), compassion (1.7%), being a good listener (1.7%), providing encouragement (1.7%), dependability (5.1%), being nonjudgmental (5.1%), and compatibility (6.8%).

All except one participant agreed that they had one best non-romantic friend at this moment and (98.3%) and reported that this best friend was commonly of the same gender as the participant (89.8%). Only about one third of young adults had met their best friend in college (32.2%). Many participants reported that their best friend was either very close by (i.e. in the same city as their college, 37%) or somewhat distant (1 to 3 hours away from them by car, 32.2%). Only a few young adults reported their best friend to be distant (8.5%) with respect to geographical proximity.

Associations Between Sibling Relationship Quality and Friendships

With respect to the first study question, findings indicated that certain aspects of young adults' sibling relationship quality were associated with their friendship quality. Pearson

correlations using the total scores for sibling relationship harmony and conflict and the total score for friendship harmony did not show any significant correlations. However, several of the specific qualities of the sibling and friendship relationships as rated by individual composite scores were correlated with one another. Specifically, relationship characteristics of *Worth* ($r=.34, p<.05$), *Integration* ($r=.35, p<.01$), and *Nurturance* ($r=.46, p<.001$) showed significant correlations between young adults' relationships with siblings and their relationships with nonromantic friends, and the correlation between sibling and friendship quality of *Guidance* approached significance ($r=.25, p=.07$). In addition, young adults who were higher on friendship relationship quality of *Guidance* were also higher on sibling relationship quality of *Attachment* ($r=.28, p<.05$).

Additional correlational analyses indicated that the quality of young adults' sibling relationships did not show any significant associations with the number of friends they continued to keep in contact with from high school or with the number of new friendships they formed in college. However, sibling relationship quality was positively correlated with the number of friends young adults had made while still in high school. Specifically, young adults who reported more prosocial behaviors in their relationships with siblings reported having more friendships while still in high school ($r=.36, p<.05$). In addition, the number of friends in high school was also positively correlated with intimacy in the sibling relationship, although this association did not quite reach significance ($r=.28, p = .058$).

Differences in College Friendships by Sibling Status

An independent t-test with young adults' sibling relationship status (siblings versus no siblings) indicated no significant differences in overall friendship harmony between those with ($M = .46$) and those without siblings ($M = -5.00$) ($t(57) = -4.13, p = .58, N.S.$). However, these

results need to be interpreted with caution since only 5 individuals (8.47%) out of the sample did not have siblings. Additional Pearson correlations were performed to determine whether the number of siblings young adults had in their families were associated with the quality of their adult friendships. Findings indicated a significant positive correlation between the number of siblings and young adults' friendship harmony; individuals who had more siblings experienced more harmonious adult friendships ($r = .35, p < .01$).

Associations Between Young Adults' Attachment Orientations and Sibling and Friendship Relationship Quality

With respect to the third study question, young adults' attachment security with nonromantic friends showed significant correlations with the quality of their sibling relationships as well as the quality of their friendship relationships. Using the total measures for relationship quality, young adults with *Secure* attachment orientations experienced significantly higher sibling harmony ($r = .39, p < .01$) and tended to experience less sibling conflict ($r = -.25, p = .07$) and more harmonious friendship relationships ($r = .25, p = .06$). In contrast, young adults with *Fearful* attachment orientations reported significantly lower sibling harmony ($r = -.30, p < .05$) and tended to report lower friendship harmony ($r = -.23, p = .08$). Young adults with *Preoccupied* attachment orientations reported significantly higher sibling harmony ($r = .40, p < .01$), but experienced also significantly higher sibling conflict ($r = .50, p < .001$).

Associations Between Young Adults' Personality Characteristics and Sibling and Friendship Relationship Quality

Pearson correlations indicated that young adults' personality characteristics were associated with the quality of their relationships both with siblings and with friends. Specifically, young adults who scored higher on the personality dimensions of *Extraversion* had significantly

more harmonious sibling relationships ($r=.35, p<.05$) and friendship relationships ($r=.35, p<.01$). Young adults who scored higher on *Agreeableness* reported significantly lower sibling conflict ($r=-.33, p<.05$), and their relationships with siblings ($r=.26, p = .06$) and friends ($r=.23, p = .08$) tended to be more harmonious. Finally, young adults who scored higher on the dimension of *Openness* reported greater friendship harmony ($r=.26, p<.05$) and tended to show greater harmony in their sibling relationships as well ($r=.25, p = .07$).

Characteristics for Selection of Best Friends

Young adults endorsed a number of characteristics as important in their selection of a best friend, including their best friend's personality (96.%), similar interests (98.3%), and their honesty (89.7%). Only a few best friends were selected because of their religious beliefs (17.2%), though for almost half of the young adults, convenience reportedly played a role in the selection of their best friend (46.6%).

Discussion

The purpose of this study was to examine associations between the quality of young adults' perceptions of their sibling relationships and the quality of their non-romantic friendships. As predicted, sibling relationship quality held some importance for young adults' friendships. Though the overall harmony young adults reported in their sibling relationships was not associated with the harmony in their friendships, specific qualities of their relationships were: Young adults who reported sibling relationship quality characterized by higher reassurance of worth, social integration, and nurturance experienced these same high qualities in their current non-romantic friendships. Sibling relationship quality as perceived by young adults in college was also associated with the number of friends they reported having while they were in high school; young adults who reported higher levels of prosocial behaviors and greater intimacy in

their sibling relationships reported that they had a greater number of friendships in high school. In line with previous research, this study also found that young adults' attachment security and personality characteristics played important roles in their sibling and non-romantic friendship relationships. As hypothesized, young adults with more secure attachment orientations who scored higher on the personality dimensions of extraversion, agreeableness and openness reported more harmonious sibling and friendship relationships, and those who were more secure and higher on agreeableness also reported lower sibling conflict. Young adults with more fearful attachment orientations reported less harmonious sibling and friendship relationships, while those with more preoccupied attachments reported more harmonious but also more conflictual sibling relationships.

Findings in this study regarding links between sibling and friendship relationships in young adult college students are consistent with some of the previous literature reporting similar links during childhood. Just like siblings encourage prosocial behaviors over the course of childhood while they live together in the same household, prosocial behaviors with siblings after young adults have transitioned out of their families and into college continue to foster harmony in young adults' friendship relationships. In other words, present findings suggest that harmonious sibling relationship qualities may increase prosocial behaviors and result in more harmonious friendship relationships during the early adulthood years. However, it is apparently not the number of friends young adults form during college, but rather the quality of their adult friendships which is linked to the quality of their sibling relationships. It makes theoretical sense that the quality of friendships provides more salient benefits to individuals than the sheer number of friends they have, though it is unclear why the number of friends young adults recalled from high school would be associated with their sibling relationship quality.

Not surprisingly, personality characteristics of extraversion, agreeableness, and openness to experiences were associated with young adults' social behaviors with friends and with siblings. Young adults with positive personality characteristics are more apt to reach out to peers and more willing to try new experiences thus allowing for more opportunities to develop and maintain friendships. Young adults who are more extraverted, agreeable, and open are more apt to spend time with their siblings and with their friends and more willing to compromise with others when conflicts arise, resulting in overall less conflictual and more harmonious relationships with peers and siblings. Results of the present study are consistent with those by previous researchers with respect to personality factors associated with sibling and friendship harmony of young adults. Berry (2000) reported that positive personality characteristics such as agreeableness, openness, and extraversion increased the quality of friendships whereas negative affect and negative personality traits predicted greater conflict and irritation between friends (Berry et al., 2000). Present findings are also consistent with those by Kramer and Kowal (2005) who found that adolescents' positive personality traits were correlated with the number of friends they made in high school.

This study also examined whether different attachment orientations were associated with the quality of young adults' sibling and friendship relationships. The present study's finding that greater harmony in sibling and friendship relationships was associated with greater attachment security extends previous findings reporting that children's attachment security predicted levels of conflict and warmth in young adults' friendships (Brumbaugh, 2017; Smorti et al., 2018; Tseung & Schott, 2005). Similar to childhood, young adults with secure attachments to others tend to value and enjoy the company of others, trust others, and feel comfortable to seek and rely on their help when they feel distressed. In addition, securely attached individuals feel more

comfortable in new situations and enjoy meeting new people who are regarded as potential friendship material. Individuals with secure attachments are also more empathic, experience more intimate close relationships, and engage in more prosocial behaviors compared to those that have fearful and preoccupied attachment orientation. During this phase in their life, young adults with secure attachment orientations are better at adapting to the changes in their family relationships after leaving for college, maintaining close sibling and parental relationships while beginning to form new friendships, compared to young adults with insecure attachments. Furthermore, individuals with secure attachments are more likely to trust people and work through problems in both sibling relationships and friendships compared to individuals with fearful or preoccupied attachment orientations. Present findings are consistent with those reported in previous literature showing that attachments to parents and siblings during childhood influence the level of conflict and control within sibling relationships (Volling et al., 1992).

While some predicted links between sibling and friendship relationships in young adulthood were found, others were not. First, contrary to expectations, sibling relationship quality was not associated with the number of friends young adults made in college nor with the number of friendships continued from high school. As already discussed, it seems likely that sibling relationship quality is less important for the quantity of friends than it is for the quality of those friendships. The three most prevalent reasons young adults in the present study provided for not continuing friendships from high school were mutual drifting, attending different colleges, and loss of contact with their high school friends. As young adults continue to explore new relationships and experiences in college, their interests and the amount of time available to invest in high school friendships change, especially with friends who are geographically distant. This increases the likelihood of high school friends losing contact and mutually drifting apart.

Brooks (2007) also reported that physical separation increased the possibility of mutually drifting apart of friends. However, present findings also suggested that for some young adults, physical distance between them and their friends was not as influential, which makes sense as availability of technology and social media allows young adults to easily connect with friends from high school who are not geographically near them. Overall, the most likely explanation for not finding associations between number of friends retained from high school and sibling relationship quality seemed to center on the new opportunities and friendships afforded by the college environment that caused young adults to invest their time and energy into college friendships, rather than continuing previous friendships from high school.

This study also did not find predicted differences in friendship quality depending on whether young adults did or did not have siblings. Based on the premise that sibling relationships help to teach children prosocial behaviors that then translate into helping them form more harmonious and closer peer relationships, we would have expected to see individuals who did not have the opportunity to practice social interactions with siblings to have less harmonious and more conflictual friendships. However, present findings did not support this notion and instead indicated that young adults without siblings had similarly harmonious friendships compared to young adults who grew up with siblings. This lack of finding is not entirely different from some of the previous research, though, as Smorti and Ponti (2018) also reported no differences in prosocial behaviors in middle childhood between children who did and children who did not have siblings. Furthermore, Bodditt-Zeher and Downey (2012) also found that young adults did not differ in their social behaviors depending on their sibling relationship status. On the other hand, Bobbitt-Zeher and Downey (2012) did report lower prosocial behaviors in kindergarten children without siblings compared to those with siblings; according to their results, children

without siblings were rated more poorly in terms of “self-control, interpersonal skills, and externalizing problem behaviors” than children with at least one sibling (pg. 1179). It is possible, that for young children, the presence or absence of a sibling is more influential for their prosocial skills because they cannot seek social interactions outside of the family on their own like older children, adolescents, and adults can. A young adult has had more exposure to social interactions outside of the family and therefore had more opportunities to develop prosocial skills and understand how to make friends. In addition, it is possible that the unique social environment of the college setting which affords daily, close proximity with others, numerous opportunities for socialization and formation of new friendships may have leveled out any differences in socialization experiences in their families of origin that only children versus children with siblings may have had.

It is also possible that it was merely the small number of participants in this study who did not have siblings, which accounted for the lack of differences in friendship quality found between them and their large number of peers who had siblings. Future studies with a greater number of adults who grew up as only children should confirm that absence of siblings in the family of origin really is irrelevant for adults’ friendship relationships.

While the absence of siblings did not appear to disadvantage young adults in their quality of friendships, having more siblings rather than fewer did seem to foster more harmonious friendships. Young adults who grew up with a larger number of siblings did appear to benefit from this practice of social interactions in their family that translated into greater competence in lowering conflict and forming more amicable friendships compared to individuals with fewer siblings.

Interestingly, the present study did not find any association between the number of friends made in high school and the number of friends made in college. It is difficult to compare the social settings in college versus the social scene during high school, but one of the obvious main differences is that many college students live on campus, which increases their opportunities for social interactions and forming new friendships. Previous research has found that young adults report stronger emotional connections with friends they met in college compared to friends they met in high school (Brooks, 2007), so it is possible that either the greater maturity of college students, or their unique experiences of having left their families, combined with the greater social opportunities all play a role in shaping the quality and number of friendships they form after their transition to college.

Though it is not clear whether young adults selected old friends from high school or newly made friends from college as their best friends in the present study, the characteristics they endorsed as important in their selection of best friends based on personality, similar interests, and honesty would not preclude high school friends as filling the role of adults' best friends. However, convenience played a role in the selection of their best friend for almost half of the young adults in the present study further supporting the notion that proximity does play a role in friendship formation in college students and perhaps suggesting that best friends were more likely to be selected from young adults' current college friendship group than from their previous high school relationships.

This present study contributed to the literature by focusing on the connections between siblings relationships and friendships in young adulthood. Young adulthood is a time when many individuals experience considerable changes within their lives and relationships, altering the support from their family and friends. Understanding the influence of sibling relationships on

peer friendships may help promote more positive parent and child relationships as well as sibling relationships, which will benefit young adults in all aspects of their lives during and after college.

Study Limitations

Several study limitations need to be acknowledged in the present study. First, results from the present study may not generalize to other young adults because the present sample was limited to college students attending a small liberal arts college with many students majoring in psychology. The sample was also homogeneous with respect to ethnicity (predominantly white), gender (predominantly female), SES (middle to upper class), and family structures consisting predominantly of intact rather than divorced or single-parent families. For these reasons, the results of the present study may not be applicable to all sibling relationships and friendships of young adults. Furthermore, the number of participants who did not have a sibling was very low. Therefore, while no significant differences in friendships were found based on sibling status, this sample was not representative of all adults without siblings. The sample size in the present study was also relatively small in general, and sibling and friendship quality were not directly observed. In the present study, young adults merely reported their perceptions of the quality of their sibling and friendship relationships, and it is possible that their perceptions of these relationships were biased.

Recommendations for Future Research

Future studies should further examine whether young adults who do not have siblings differ in their friendship relationships from those who have one or more siblings. Due to the sample size in the present study, and perhaps also due to the unique sample of predominantly white, middle class, and Catholic college students who participated in the present study, it is still

unclear what impact the absence of siblings has on adult friendships. Furthermore, it is also unclear whether the quality of sibling relationships is impacted by the number of siblings present in the family and whether factors such as attachment security, prosocial behaviors between siblings, and positive personality traits interact with the number of siblings in determining friendship quality. Another question that warrants further study is how prosocial behaviors and relationship quality with siblings and friends change after young adults leave college and enter yet another social environment with new opportunities and challenges. While the present study was able to inquire about relationships enduring from high school, the same question about the endurance of friendships formed with others in college could not be explored. Future longitudinal studies may therefore focus not only on the quality of current friendships in college, but also on the endurance of these friendships in relation to their quality after graduation from college.

Conclusion

Young adults' sibling relationship quality was linked to the quality of their non-romantic friendships, though associations were not quite as strong and numerous than anticipated based on prior research with children. Attachment security and personality traits both played important roles for harmony in sibling and peer relationships during adulthood. The present study contributed to a deeper understanding of young adults' sibling relationships and friendships, which may create awareness in young adults and their families of the important impact their sibling relationships continue to have on adult social functioning. Though friendships during this life phase have moved more into the center stage of many young adults' attention, findings in this study suggest that sibling relationships should not only be nurtured during childhood and

adolescence while siblings still reside in the same household, but that they should be fostered especially after siblings move out of their families' homes.

Friendships in young adulthood can influence individuals' feelings of self-worth and social acceptance and help them to adapt to new situations. However, there is no indication that the important role of friendships for young adults would preclude the continued significance of healthy relationships with their parents and siblings. Indeed, adaptively functioning young adults should be expected to have a network of social supports that consists of harmonious, close relationships with family members as well as with friends.

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Table 1: Descriptive Statistics for Sibling and Friendship Relationship Qualities and Personality

Variables	M	SD	Range
Personality (IPIP):			
Agreeableness	41.78	6.25	25-50
Neuroticism	31.14	6.84	20-40
Conscientiousness	36.48	6.75	19-49
Extraversion	31.93	10.00	12-49
Openness to Experiences	36.47	5.44	26-49
Sibling Relationship			
Sibling Relationship (SRQ):			
Prosocial	3.28	.78	1-5
Maternal Partial	3.04	.78	1-5
Paternal Partial	3.04	.77	1-5
Nurture of Sibling	2.92	.98	1-5
Nurture by Sibling	2.62	.84	1-4.67
Dominance of Sibling	2.92	.98	1-5
Dominance by Sibling	2.60	.84	1-4
Affection	4.25	.83	2-5
Companion	3.37	1.0	1-5
Antagonism	2.63	1.1	1-4.67
Similarity	3.20	1.07	1-5
Intimacy	3.03	1.07	1-5
Competition	3.37	1.0	1-5
Admiration of Sibling	4.08	.96	1.33-5
Admiration by Sibling	2.60	.84	1-4.67
Quarreling	2.58	1.06	1-5
Status/ Power	.52	1.83	-2.67-4.67
Rivalry	3.04	.56	1-5
Sibling Relationship Quality (SPQ):			
Guidance	13.07	3.03	5-16
Worth	13.22	2.20	7-16
Integration	12.44	6.18	4-15
Attachment	13.39	3.18	4-16
Nurture	11.19	2.93	5-16
Reliability	13.40	2.63	10-16
Nonromantic Friendships			
Nonromantic Friendship Satisfaction (MFQ)	3.57	.52	1.94-4.0
Nonromantic Friendship Quality (SPQ):			
Guidance	14.80	1.67	10-16
Worth	14.00	1.52	11-16
Integration	13.78	1.78	8-16
Attachment	14.46	1.74	5-16
Nurture	10.94	2.45	5-16
Reliability	14.41	1.40	11-16

Attachment to Friends (RSQ):			
Secure	3.12	.70	1.6-5.0
Dismissive	3.25	.60	2.0-4.6
Fearful	2.84	.09	1.0-4.8
Preoccupied	3.25	.60	2.0-4.8