FAMILY RELATIONSHIPS AND ALCOHOL USE FROM ADOLESCENCE TO EARLY ADULTHOOD

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BY

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DEDICATION

For my Family,

Each and every one of you had a special place in this journey. Thank you all for always believing in me, even when I didn't. The road to PhD could not have been accomplished without each one of your unique abilities to get me here.

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Abstract

Rachel Falbo

FAMILY RELATIONSHIPS AND ALCOHOL USE

FROM ADOLESCENCE TO EARLY ADULTHOOD

December 2018

Previous research has explored sibling relationships, romantic relationships, parent-child relationships, and alcohol use in adolescence and early adulthood (Fleming, White, & Catalano, 2010; Rauer & Volling, 2007; Samek & Rueter, 2011). However, the research is miniscule when examining how these factors influence one another. This study examined adolescent family-of-origin relationships, as well as adolescent alcohol use, and its influence on early adulthood relationships and alcohol use, through the lens of Attachment Theory. This study used a subset of participants from the National Longitudinal Study of Adolescent to Adult Health (ADD Health) (Harris & Udry, 2008) (N = 764). The results suggest that relationships and behaviors endure over time. Adolescents' perceived closeness with both mother and father had a positive influence on perceived closeness with mother and father in early adulthood and alcohol use in adolescence had a positive influence on alcohol use in early adulthood. Furthermore, closeness with mother in adolescence had a negative influence on partner relationship quality in early adulthood. Additionally, alcohol use in adolescence had a positive influence on closeness with mother and father in early adulthood. Implications for clinicians, families, and researchers are discussed.

TABLE OF CONTENTS

Page

LIST OF TABLES

LIST OF FIGURES

Figure Page

CHAPTER I

INTRODUCTION

Human connectedness is important to one's survival. The more separation from others, the higher the association with interpersonal problems, depression (Cacioppo, Hawkley, & Thisted, 2010; Cacioppo, Hughes, Waite, Hawkley, & Thisted, 2006), poor sleep (Cacioppo et al., 2002), cognitive impairment (Shankar, Hamer, McMunn, & Steptoe, 2013), and dementia (Kuiper et al., 2015). However, the quality of those relationships is just as important. Having a relationship alone does not guarantee that it is beneficial for one's physical or mental health (Beach, Katz, Kim, & Brody, 2003; Burman & Margolin, 1992; Whisman & Baucom, 2012; Williams, 2003; Kiecolt-Glaser & Newton, 2001). Previous research has indicated that people's relationships with those that they deem close, are their most important source of personal happiness (Myers & Diener, 1995; Ryff, 1989).

Additionally, the quality of relationships can influence how one processes and handles various problems in their life. Attachment Theory has been discussed throughout the literature concerning many aspects of internalizing and externalizing problems, including, emotional disturbance (Overbeek, Volleybergh, Engels, & Meeus, 2003), anxiety (Cooper, Shaver, & Collins, 1998; Pedersen, 1994; Vivona, 2000), depression (Cole-Detke & Kobak, 1996; Kobak, Sudler, & Gamble, 1991; Pedersen, 1994; Vivona,

2000), delinquency (Allen, Moore, Kuperminc, & Bell, 1998; Allen, Hauser, & Borman-Spurrell, 1996; Pedersen, 1994), and use of hard drugs (Allen et al., 1996).

Previous literature has explored the influence of close relationships throughout the lifespan and what it does for individual well-being (Gurung, Sarason, & Sarason, 2001). Additionally, previous literature has explored how the quality of relationships influences risky behavior and whether individuals engage in these activities (Wallander, Schmitt, & Koot, 2001). However, these concepts of relational closeness throughout the lifespan and risky behaviors throughout the lifespan have not been explored together. The current study built on the current literature by exploring how all of these relationships and behaviors impact one another from adolescence to early adulthood.

Purpose of the Study

The purpose of this study is to examine adolescent family-of-origin relationships, as well as adolescent alcohol use, and its influence on early adulthood relationships and alcohol use. Specifically, this study examined the influence on early adulthood romantic relationship quality, parental closeness, and alcohol use. This was accomplished using data from the National Longitudinal Study of Adolescent to Adult Health (ADD Health) (Harris & Udry, 2008).

Rationale of the Study

Previous research has explored sibling relationships, romantic relationships, parent-child relationships, and alcohol use in adolescence and early adulthood (Fleming, White, & Catalano, 2010; Rauer & Volling, 2007; Samek & Rueter, 2011). However, the

research is miniscule when examining how these factors influence one another. This research lessens this gap by examining the quality and closeness of these relationships, as well as their influence on behaviors in adulthood.

Research Questions

This study examined adolescent family-of-origin relationships, as well as adolescent alcohol use, and its influence on early adulthood relationships and alcohol use. The following research questions were examined:

1. In what ways are adolescent sibling relationships associated with adult partner relationship quality, adult parental closeness, and adult alcohol use?

    1a. In what ways are adolescent sibling relationships associated with adult partner relationship quality, adult closeness with father, and adult alcohol use?

    1b. In what ways are adolescent sibling relationships associated with adult partner relationship quality, adult closeness with mother, and adult alcohol use?

2. In what ways are adolescent parental closeness associated with adult partner relationship quality, adult parental closeness and adult alcohol use?

    2a. In what ways are adolescent closeness with father associated with adult partner relationship quality, adult closeness with father and alcohol use?

    2b. In what ways are adolescent closeness with father associated with adult partner relationship quality, adult closeness with mother and adult alcohol use?

2c. In what ways are adolescent closeness with mother associated with adult partner relationship quality, adult closeness with father and adult alcohol use?

2d. In what ways are adolescent closeness with mother associated with adult partner relationship quality, adult closeness with mother and adult alcohol use?

3. In what ways are adolescent alcohol use associated with adult partner relationship quality, adult parental closeness, and adult alcohol use?

3a. In what ways are adolescent alcohol use associated with adult partner relationship quality, adult closeness with mother, and adult alcohol use?

3b. In what ways are adolescent alcohol use associated with adult partner relationship quality, adult closeness with father, and adult alcohol use?

CHAPTER II

REVIEW OF LITERATURE

This chapter discusses attachment theory and its relationship to the current study. Existing literature will also be examined and how it relates to the current study. Previous literature discussing adolescent sibling relationships, adolescence and early adulthood alcohol use, early adulthood romantic relationships, as well as parent-child relationships from adolescence to early adulthood will be reviewed.

Attachment Theory

John Bowlby developed attachment theory, which discusses how emotional bonds endure through time and across the lifespan (Ainsworth, 1973; Bowlby, 1969). Primarily, people form an attachment with those that they are closest to, or a secure base, often a primary caregiver, and those relationships create specific bonds that endure over time or an attachment style. This study will not specifically explore attachment styles, but will explore the tenets of Attachment Theory that focuses on the importance of close and intimate relationships for the expansion of trust and security in close relationships (Collins & Feeney, 2004). Early attachment theory primarily focuses on parent-child relationships. However, throughout the years, researchers have included the siblings influence on overall attachment and relationship to the family system (Troll & Smith, 1976). The quality and closeness of relationships is said to be so profound that it is considered to be a key marker of mental health and a major feature of effective

personality development (Bowlby, 1988; Epstein, 1994). This study built on this awareness of relationships enduring over time and the influence of close relationships, by examining participant's identified closeness with their family of origin relationships (sibling, mother, and father) and how that relationship endures from adolescence to early adulthood.

In the 1980's, attachment theory was used to extend to adult relationships, specifically romantic partner relationships and how those can be influenced by parent-child attachment. One can have an adult attachment different from parent-child attachment. However, early relationships do influence one's attachment in early adulthood (Hazan & Shaver, 1987). This study also built on this knowledge by not only examining how family-of-origin relationships endure over time, but also how the quality of early adulthood romantic relationships is influenced by adolescent relationships. This study examined how early adolescent relationship closeness with their family-of-origin influences early adulthood romantic relationship quality.

Furthermore, Bowlby (1973) also discussed attachment and its influence on risky behaviors. Those whose emotional needs have not been consistently met are at risk for adverse experiences. Furthermore, previous Attachment Theory has explored how attachment styles influence how individuals externalize behavior, including hard drug use (Allen et al., 1996). Again, this study built on this knowledge, by studying the influence adolescent and early adulthood identified closeness influences alcohol use behaviors in adolescence and early adulthood.

Attachment theory states that early caregiving experiences influence adaptation throughout the lifespan "from the cradle to the grave" (Bowlby, 1969, p. 208). One of the primary assumptions of Attachment Theory is that in order to regulate feelings of safety and security throughout their life, individuals will regulate closeness and proximity with those they feel an attachment and that this safety and security will continue through time (Collins & Feeney, 2004). Previous research indicates that relationships and behaviors in adolescence are predictors for later relationships and behaviors and they remain constant throughout the lifespan (Donovan & Jessor, 1985). Early parent-child relationships stay consistent throughout the lifespan in two key areas; control-conflict and emotional closeness (Aquilino, 1997). In addition, alcohol consumption during adolescence is a predictor for alcohol consumption throughout the lifespan (Englund, Egeland, Oliva, & Collins, 2008). Therefore, relationships and behaviors tend to endure over time.

Sibling Relationships and Romantic Relationships

Previous research has indicated that siblings' relationships are a predictor for romantic relationship quality (Doughty, McHale & Feinberg, 2015; Rauer & Volling, 2007). Sibling intimacy is a positive predictor for relative power in the romantic relationship, whereas sibling conflict is a negative predictor for intimacy in the romantic relationship. Sibling control is a positive predictor for romantic intimacy and relative power (Doughty et al., 2015). Interestingly, one's perception of their sibling's relationship with their parent has also been examined in relationship to early romantic relationships. Those who reported receiving equal affection from their parents, as

compared to other sibling pairs, reported less romantic distress (Rauer & Volling, 2007). The current study expanded on the previous literature, by examining how closeness with one's sibling in adolescence influences early adulthood romantic relationship quality. Previous research has examined sibling closeness throughout the lifespan and how it influences overall well-being and quality of life (Connidis & Campbell, 1995), but this study specifically examined its influence on the quality of the romantic relationship.

Sibling Relationships and Alcohol Use

Previous research has examined the sibling relationship in many arenas, including; peer relationships (Kramer & Bank, 2005), intelligence (McHale, Updegraff, & Whiteman, 2012), risky behaviors (McHale, Bissell, & Kim, 2009) and alcohol use (East & Khoo, 2005; Samek & Rueter, 2011). What we have learned is that the sibling relationship, especially the older sibling, has an influence on younger sibling behaviors (Samek & Rueter, 2011). The sibling relationship works as a social modeling component that actively shapes and reinforces behaviors (Patterson, Dishion, & Bank, 1984).

Just having a sibling relationship alone does not indicate whether there is a relationship with alcohol use. However, the closeness of the actual relationship does have an influence. The perceived emotional and behavioral closeness in the sibling relationship, the lower the likelihood of substance abuse (Samek & Reuter, 2011). Similarly, older sibling's alcohol use was an indicator for younger sibling's alcohol use (East & Khoo, 2005). Therefore, if older siblings drink, their younger sibling is more likely to exhibit those same behaviors.

Not only does the research indicate that the sibling relationship has an influence on current alcohol use, siblings also influence each other's alcohol use in the future (Trim, Leuthe & Chassin, 2006). However, the extent of the influence that siblings have on future alcohol use behavior is dependent on gender, family conflict, and siblings' similarity in age. The current study expanded on the current literature by examining sibling closeness and alcohol use in the future.

Sibling Relationships and Parent-Child Relationships

No previous literature has examined the sibling relationship and its influence on parental closeness in early adulthood. However, previous literature has indicated that both the sibling relationship and parent-child relationship are of importance (Floyd & Parks, 1995; Troll & Fingerman, 1996). The current study examined this important relationship, and more specifically, how these two relationships influence each other in the future.

The sibling relationship has been researched throughout previous literature. From an attachment perspective, sibling relationships can serve as a secure base when a parent is unable to do so. Some siblings even turn to each other for support during parental marital conflict (Jenkins, 1992). The parent-child relationship attachment serves as a model for children's interaction with siblings (Volling, 2001; Volling & Belsky, 1992). Previous literature has extensively covered attachment and relationships during the same moments in time, but again, there is no literature examining how the sibling relationship

in adolescence influences parental closeness in early adulthood. This study examined this relationship.

Alcohol Use and Romantic Relationships

Previous research has examined the influence that romantic relationships have on alcohol use throughout the lifespan. The quality of the relationship influences the use of alcohol and what types of relationships are more likely to drink more frequently. Those who were married, cohabiting, or in a non-cohabiting dating relationship are associated with less heavy drinking and marijuana use, as compared to those not in a dating relationship (Fleming, White, & Catalano, 2010; Larson & Sweeten, 2012). Breakups have also been an influence on alcohol use behaviors. In both male and female adolescents, there is an increase in substance use associated with the effect of a breakup (Larson & Sweeten, 2012).

Alcohol and its influence on relationships throughout the lifespan has been extensively researched. In response to relationship difficulties, women are found to drink more than men (Levitt & Cooper, 2010), and men drink three times the amount that women do (Ely, Hardy, Longford & Wadsworth, 1999). However, no research has examined the influence that alcohol use in adolescence has on early adulthood romantic relationships. The current literature tends to focus on alcohol use and what its influence is on current relationships.

Alcohol Use and Parent-Child Relationships

Bowlby (1973) and his work with Attachment Theory discusses how closeness with one's parents in early childhood influences adolescents' likelihood to engage in risky behaviors. Previous literature has examined substance abuse and parent-child relationships. However, this research tends to focus on how parent-child relationships influence current substance abuse. Family structure and parental closeness have an influence on substance abuse. Adolescents in single-parent families report a higher level of substance abuse. In addition, parental closeness is a protective factor for adolescent substance abuse, particularly for girls (Kuntsche & Silbereisen, 2004). Not only does parental closeness indicate a relationship, but also specific parents have an influence. Adolescents who identify as emotionally close to their fathers, are less likely to participate in drinking behaviors that would lead them to become drunk (Habib, Santoro, Kremer, Toumbourou, Leslie, & Williams, 2010). Additionally, adolescents' emotional closeness to their opposite sex parent works as a protective factor for alcohol use (Kelly et al., 2011).

Previous literature has indicated that there is a relationship between alcohol use and parent-child relationships. However, there is no research examining the influence alcohol use in adolescence has on parental closeness in early adulthood or the relationship parental closeness in adolescence has on alcohol use in early adulthood. This study examined these relationships and adds to the existing literature.

Parent-Child Relationships and Romantic Relationships

Previous research has examined parent-child relationships and its influence on romantic relationships in the future. Participant's relationships with their parent has an influence on distress in romantic relationships (Rauer & Volling, 2007), sexual attraction, connectedness and anxious love (Seiffge-Krenke, Overbeek & Vermulst, 2010). More specifically, those who report feeling differential parental affection indicated greater romantic relationship distress in early adulthood (Rauer & Volling, 2007). Not only does parental closeness influence early romantic relationships, but also specific parents have an influence. Earlier close mother-adolescent relationships were connected to sexual attraction and connectedness in the young adult's romantic relationships. Whereas the distant father-child adolescent relationship was linked to the child's later anxious love in the romantic relationship (Seiffge-Krenke et al., 2010). The current study expanded on previous literature by examining the influence that the closeness of adolescent parent-child relationships, both mother and father, have on early adulthood romantic relationship quality.

Current Study

This study examined adolescent family-of-origin relationships, as well as adolescent alcohol use, and its influence on early adulthood relationships and alcohol use. Specifically, this study examined the influence on early adulthood romantic relationship quality, parental closeness, and alcohol use (see Figure 1). The following research questions were examined:

1. In what ways are adolescent sibling relationships associated with adult partner relationship quality, adult parental closeness, and adult alcohol use?

    1a. In what ways are adolescent sibling relationships associated with adult partner relationship quality, adult closeness with father, and adult alcohol use?

    1b. In what ways are adolescent sibling relationships associated with adult partner relationship quality, adult closeness with mother, and adult alcohol use?

2. In what ways are adolescent parental closeness associated with adult partner relationship quality, adult parental closeness and adult alcohol use?

    2a. In what ways are adolescent closeness with father associated with adult partner relationship quality, adult closeness with father and alcohol use?

    2b. In what ways are adolescent closeness with father associated with adult partner relationship quality, adult closeness with mother and adult alcohol use?

    2c. In what ways are adolescent closeness with mother associated with adult partner relationship quality, adult closeness with father and adult alcohol use?

    2d. In what ways are adolescent closeness with mother associated with adult partner relationship quality, adult closeness with mother and adult alcohol use?

3. In what ways are adolescent alcohol use associated with adult partner relationship quality, adult parental closeness, and adult alcohol use?

    3a. In what ways are adolescent alcohol use associated with adult partner relationship quality, adult closeness with mother, and adult alcohol use?

3b. In what ways are adolescent alcohol use associated with adult partner relationship quality, adult closeness with father, and adult alcohol use?

The results of this study will make important contributions to the existing literature. First, it will be the first longitudinal study to examine all of these variables through the lens of attachment theory. Specifically, this study examined the adolescent family-of-origin relationships and alcohol use, and its influence on adult partner relationships, adult parental closeness, and adult alcohol use. This also controlled for age, gender, race, and income in adulthood. Secondly, this research will aid clinicians and educators by helping them understand the influence of various family relationships throughout adolescence and early adulthood. Therapists and educators will be able to examine the quality and closeness of relationships when working with those who are coming in for family or couple's counseling and/or alcohol use issues. This research will be able to better help those understand what influence adolescent relationships and behavior have on adult relationships and behaviors.

CHAPTER III

METHODOLOGY

Sample

The current study used a subset from the National Longitudinal Study of Adolescent to Adult Health (ADD Health) (Harris & Udry, 2008). ADD Health is an ongoing longitudinal study that is funded by seventeen agencies, as mandated by the U.S. Congress, to gather data on adolescent health. Currently four waves exist for this data set, with the fifth wave expected to be finalized in 2018. This research included a subset from Waves II and IV.

Wave II was collected from April 1996 to August 1996, with 15,000 of the same adolescent participants from Wave I, using home interviews. The same general questions were used from Wave I, but also included additions regarding sun exposure and more comprehensive nutritional questions. Information gathered included characteristics of demographics and social information, occupation and education of parents, self-esteem, health status, household structure, expectations for the future, friendships, risk factors, and school-year extracurricular activities. All students were also eligible for the in-home interviews. Information gathered included nutrition, peer networks, health status, health-facility utilization, family composition and dynamics, employment experience, decision-making processes, educational aspirations and expectations, substance use, criminal activities, and romantic and sexual partnerships (Harris & Udry, 2008).

Wave IV was collected from 2008 to 2009. Participants were ages 24-32, at the time. Information was gathered through the use of survey questions and was administered to participants from Wave I. Information collected included social, economic, psychological and health circumstances, educational transitions, eating habits and nutrition, economic status and financial resources and strains, sleep quality and sleep patterns, medication and illnesses, emotional content and quality of current or most recent romantic/cohabiting/marriage relationships, physical activities, and maltreatment by caregivers during childhood. Circumstances and dates of key life events were also included. Physical measurements and specimens were also collected at all four waves (Harris & Udry, 2008).

The current study used a subset of participants from Wave II and Wave IV who did not have a sibling in the study and identified as being in a "very" or "completely committed" relationship, either currently or in the past in Wave IV (N = 764).

Measures

Sibling Relationship Scale

The sibling relationship scale was measured using three items from Wave II. These items were chosen based on use in previous research (Slomkowski, Rende, Novak, Richardson, & Niaura, 2005). Participants were asked, using a 4-point Likert scale, "How much time do you spend with your sibling" and "How much time do you and your sibling spend with the same friend or group of friends" (1 = *a lot*, 2 = *some*, 3 = *a little*, 4 = *none*). Using a 4-point Likert scale, participants were asked "How often do you feel love

for your sibling" (1 = *very often*, 2 = *often*, 3 = *sometimes*, 4 = *seldom*, 5 = *never*). Items were combined using mean method. Cronbach's alpha indicated reliability at .60.

Alcohol Use

Alcohol use was measured using four items, as these items have been used in previous literature (Cleveland & Wiebe, 2003; Rende, Slomkowski, Lloyd-Richardson, & Niaura, 2005). Waves II and IV were used, taking the sum. One item used was a dichotomous variable, asking participants, "Have you had a drink of beer, wine, or liquor, not just a sip or a taste of someone else's drink, more than two or three times" (0 = *no*, 1 = *yes*). Two items used a 7-point Likert scale, asking participants two questions: "Over the past 12 months, on how many days did you drink five or more drinks in a row", and over the past 12 months, "how many days have you gotten drunk or 'very, very high' on alcohol" (1 = *everyday or almost every day*, 2 = *3 to 5 days a week*, 3 = *1 to 2 days a week*, 4 = *2 or 3 days a month*, 5 = *once a month or less*, 6 = *1 or 2 days*, 7 = *never*). The fourth item asked participants, "Think of all the times you have had a drink during the past 12 months. How many drinks did you usually have each time? A 'drink' is a glass of wine, a can of beer, a wine cooler, a shot glass of liquor, or a mixed drink." To aid with the wide range of responses for this last item (range=0-90), previous research had recoded this item (Cleveland & Wiebe, 2003; Rende, et al., 2005). If respondents reported no drinking for the last item, then they were coded as 0. Of respondents that reported drinking, almost 99% reported 20 or fewer drinks. Therefore, responses of 20 or more were coded as 20. To produce a scale of 0-6, responses were multiplied by .3, and

results were square rooted, to aid with skewness and kurtosis. All items were coded so that higher values indicated more drinking. Cronbach's alpha indicated reliability at .82 at Wave II and .78 at Wave IV.

Partner Relationship Quality

Partner relationship quality was assessed using seven items from Wave IV, using the mean. This scale was chosen based on use in previous literature (Maslow, Haydon, McRee, Ford, & Halpern, 2011). A subsample of the overall sample was used, who identified as being in a "very committed" or "completely committed" relationship. Using a 5-point Likert scale (1 = *strongly disagree*, 2 = *disagree*, 3 = *neither agree or disagree*, 4 = *agree*, 5 = *strongly agree*), respondents were asked how much they agreed or disagreed with the seven statements: "We (enjoy/enjoyed) doing even ordinary, day-to-day things together"; "I (am/was) satisfied with the way we handle our problems and disagreements"; "I (am/was) satisfied with the way we handle family finances"; "My partner (listens/listened) to me when I need someone to talk to"; "My partner (expresses/expressed) love and affection to me"; "I (am/was) satisfied with our sex life"; "I (trust/trusted) my partner to be faithful to me." Cronbach's alpha indicated reliability at .85.

Parental Closeness

Parental closeness was assessed using two items for each parent (mother and father) from Waves II and IV, using the mean. Each item was measured using a 5-point Likert scale, asking: "How close do you feel to your mom/dad" (1 = *not at all*, 2 = *very*

little, 3 = *somewhat*, 4 = *quite a bit*, 5 = *very much*); and "You are satisfied with the way your mother/father and you communicate with each other" (1 = *strongly agree*, 2 = *agree*, 3 = *neither agree or disagree*, 4 = *disagree*, 5 = *strongly disagree*); Items were reverse coded so that higher scores indicated greater parental closeness. Cronbach's alpha indicated reliability at .75 at Wave II and .72 at Wave IV.

Control Variables

Four control variables were assessed. First, participants were asked "what is your birth month and year" which was used to compute their age. Second, the participants' gender was identified by asking participants their gender. Third, participants were asked in the fourth wave, when they reached adulthood, about their income. This was measured by asking participants what their combined household income was, by using a 12-point Likert scale (1 = less than $5,000 to 12 = $150,000 or more) to indicate household income. Fourth, participants were asked "what is your race" which was used to indicate race and was separated into four variables (White, Black, Indian, Asian, and Other).

Analysis Plan

To test the research questions, this study conductd a path analysis using MPlus. Missing data was handled using full information maximum likelihood (FIML). First assumptions were tested, which included parametric tests, non-zero variance, linearity, no multicollinearity, independence residuals, and homoscedasticity of relationships. Then, to examine skewness and kurtosis, Durbin Watson, tolerance and variance inflation factors were used to test for these. Once these assumptions were met, both SPSS and MPlus were

used to test the relationships between the variables sibling closeness, alcohol use, parental closeness (mother and father), and partner relationship quality.

CHAPTER IV

RESULTS

Preliminary Analyses

Preliminary analyses using IBM SPSS were conducted to assess assumptions. Missingness was assessed using full information maximum likelihood (FIML) as skewness and kurtosis indicated normal range for most variables (see Table 1). Bryne (2012) indicated the acceptable ranges for skewness as being less than 2 and kurtosis being less than 7. All variables were within this range, except for race (Native American skewness = 4.95, Native American kurtosis = 22.54, Asian skewness = 4.59, Asian kurtosis = 19.08, Other skewness = 3.51, Other kurtosis = 10.34). Therefore, this should be considered when interpreting results.

Next, correlation analyses were conducted to assess for multicollinearity. Kline (2010) stated that multicollinearity, among predictor variables, at .80 or above are considered problematic. The results of the correlation analysis indicated significant relationships between the independent and dependent variables and no issues of multicollinearity (see Table 2). All correlations were in acceptable ranges.

Participants' sibling closeness at Wave II was negatively correlated with closeness at Wave II for both mother (r = -.17, p < .01) and father (r = -.13, p < .01) and at Wave IV for both mother (r = -.12, p < .01) and father (r = -.10, p < .05). There was no significant correlation between sibling closeness at Wave II and alcohol use at Wave II (r

= -.03, p = n.s.), alcohol use at Wave IV (r = .03, p = n.s.), or partner relationship quality at Wave IV (r = .06, p = n.s.).

Alcohol use at Wave II had both positive and negative correlations. There was a significantly positive correlation between alcohol use at Wave II and alcohol use at Wave IV (r = .17, p < .01). Alcohol use at Wave II had differing associations between parental closeness at different waves and between different parents. Alcohol use at Wave II was negatively significantly correlated with closeness with mother at Wave II (r = -.09, p < .05) and was positively significantly correlated with closeness with father at Wave IV (r = .09, p < .05). Alcohol use at Wave II was not significantly correlated with other parental closeness variables.

Closeness with both mother and father and across both Waves was significantly positively correlated. Closeness with mother at Wave II was significantly positively correlated with closeness with mother at Wave IV (r = .78, p < .01). In addition, closeness with father at Wave II was significantly positively correlated with closeness with father at Wave IV (r = .83, p < .01). Closeness with mother at Wave II was positively correlated with closeness with father at Wave II (r = .32, p < .01) and closeness with father at Wave IV (r = .23, p < .01). In addition, closeness with father at Wave II was positively correlated with closeness with mother at Wave IV (r = .24, p < .01). Finally, closeness with mother at Wave IV was positively correlated with closeness with father at Wave IV (r = .29, p < .01). In other words, parental closeness with both mother

and father between Waves II and Waves IV were found to be significantly positively correlated.

Partner relationship quality at Wave IV had both positive and negative correlations. Partner relationship quality at Wave IV had a negatively significant correlation with parental closeness at Wave II with both mother (r = -.09, p < .05) and father (r = -.11, p < .01), and at Wave IV with both mother (r = -.08, p < .05) and father (r = -.09, p < .05). Though there was no significant correlation with alcohol use at Wave II and partner relationship quality at Wave IV (r = .04, p = n.s.), there was a significantly positive correlation between partner relationship quality at Wave IV and alcohol use at Wave IV (r = .09, p < .05). As previously stated, the assumption of no multicollinearity was met, with the exception of one correlation out of range, which should be considered when interpreting results.

Model Results

To test the research questions, sibling closeness, alcohol use and parental closeness (mother and father) were regressed onto the outcome variables; relationship quality, alcohol use and parental closeness (see Figure 1). There were four control variables (age, gender, income, race) that were also regressed onto all outcome variables (see Figure 2). Missingness was assessed using FIML.

Model fit is considered adequate, when chi-square is nonsignificant, comparative fit index (CFI) is close to 1, Tucker-Lewis Index (TLI) is close to 1, root mean square error of approximation (RMSEA) is close to zero, and standardized root mean square

residual (SRMR) is below .10 (Hu & Bentler, 1999; Bryne, 2012). The model fit the data adequately ($\chi^2(0) = .00$, $p < .05$; CFI = 1.00; TLI = 1.00; RMSEA = .00 (C.I. .00 - .00); SRMR = .00). Moreover, the model accounted for 6% of the explained variance in partner relationship quality, 14% in alcohol use, 65% in closeness with mother, and 81% in closeness with father.

Research Question 1

Research Question One assessed the association between adolescent sibling relationships at Wave II with adult partner relationship quality at Wave IV, adult parental closeness with mother and father at Wave IV, and adult alcohol use at Wave IV. The association between adolescent sibling relationships at Wave II and adult partner relationship quality at Wave IV indicated a nonsignificant relationship ($\beta = .00$, p = n.s.). The associations between adolescent sibling relationships at Wave II and adult parental closeness with mother at Wave IV ($\beta = .02$, p = n.s.), and father at Wave IV ($\beta = .00$, p = n.s.) also indicated nonsignificant relationships. Finally, the association between adolescent sibling relationships at Wave II and adult alcohol use at Wave IV also indicated a nonsignificant relationship ($\beta = -.01$, p = n.s.). In other words, when controlling for adolescent alcohol use at Wave II, parental closeness with both mother and father at Wave II, age, gender, income, and race, there was no significant link between adolescent sibling relationships and adult partner relationship quality, parental closeness with mother and father, and adult alcohol use. Therefore, research question one was not supported by the model.

Research Question 2

Results partially supported Research Question Two, which assessed the links between adolescent parental closeness with mother and father at Wave II and adult partner relationship quality at Wave IV, adult parental closeness with mother and father at Wave IV, and adult alcohol use at Wave IV. Participants' closeness with their father during adolescence had a significant positive relationship with participants' closeness with their father during early adulthood (β = .90, p < .001). In other words, as closeness with father during adolescence increases one standard deviation, closeness in early adulthood increases by .90 standard deviations, while controlling for adolescent alcohol use, adolescent sibling relationships, closeness with mother, partner relationship quality, age, gender, income, and race. However, there was not a significant relationship with closeness with father in adolescence at Wave II and partner relationship quality at Wave IV (β = -.02, p = n.s.), or alcohol use during adulthood at Wave IV (β = .04, p = n.s.), or closeness with mother during adulthood at Wave IV (β = -.04, $p > p$ = n.s.), also when controlling for age, gender, income, race, adolescent sibling relationships at Wave II, and closeness with mother during adolescence at Wave II.

Opposite results were found for mothers, where adolescents reported closeness with their mother at Wave II, had a negative relationship on partner relationship quality in early adulthood (β = -.09, p < .05). Therefore, as closeness with their mother at adolescence increased by one standard deviation, the quality of their partner relationship in early adulthood decreased by .09 standard deviations, while controlling for adolescent

sibling relationships, parental closeness in early adulthood, father closeness in adolescence, alcohol use in adolescence and early adulthood, age, gender, income, and race. Furthermore, participants' closeness with their mother in early adulthood had a significant positive relationship with their closeness with mother during adolescence (β = .82, $p < .001$). Thus, as closeness with their mother during adolescence increased by one standard deviation, their closeness with mother in early adulthood increased by .82 standard deviations, while controlling for closeness with father in adolescence and early adulthood, alcohol use in adolescence and early adulthood, sibling relationship in adolescence, partner relationship quality in early adulthood, age, gender, income, and race. However, there was not a significant relationship with adolescent closeness with mother and alcohol use in adulthood (β = .04, p = n.s.), or closeness with father in early adulthood (β = -.03, p = n.s.), when controlling for the same factors. Therefore, the model supported parts of Research Question Two.

Research Question 3

Results partially supported Research Question Three, which assessed the links between adolescent alcohol use at Wave II and adult partner relationship quality at Wave IV, adult parental closeness with mother and father at Wave IV, and adult alcohol use at Wave IV. The association between adolescents' alcohol use at Wave II had a significant positive relationship with their alcohol use in adulthood at Wave IV (β = .17, $p < .001$). Therefore, as adolescent alcohol use at Wave II increased by one standard deviation, adult alcohol use at Wave IV increased by .17 standard deviations, when controlling for

parental closeness with mother and father at Waves II and IV, partner relationship quality at Wave IV, sibling closeness at Wave II, age, gender, income, and race. Furthermore, participants' closeness with their mother in early adulthood at Wave IV had a significantly positive relationship with their alcohol use during adolescence at Wave II (β = .05, $p < .05$). In other words, as alcohol use during adolescence at Wave II increased by one standard deviation, their closeness with their mother during adulthood at Wave IV increased by .05 standard deviations, when controlling for alcohol use in early adulthood at Wave IV, closeness with father at Waves II and IV, partner relationship quality at Wave IV, alcohol use in early adulthood at Wave IV, closeness with mother in adolescence at Wave II, sibling closeness in adolescence at Wave II, age, gender, income, and race.

Finally, participants' closeness with their father in early adulthood at Wave IV also had a significantly positive relationship with alcohol use during adolescence at Wave II (β = .04, $p < .05$). Thus, as participants' alcohol use in adolescence at Wave II increased by one standard deviation, their closeness with their father in early adulthood at Wave IV increased by .04 standard deviations, when controlling for alcohol use in early adulthood at Wave IV, parental closeness with father in adolescence at Wave II, closeness with mother at Waves II and IV, partner relationship quality at Wave IV, sibling closeness at Wave II, age, gender, income, and race. However, participants' alcohol use in adolescence at Wave II did not show a significant relationship with partner

relationship quality at Wave IV (β = .03, p = n.s.) when controlling for all other factors. Therefore, the model supported parts of Research Question Three.

Control Variables

Some control variables were significantly associated with the outcome variables. Age was not associated with partner relationship quality at Wave IV (β = .00, p = n.s.), alcohol use at Wave IV (β = -.05, p = n.s.), closeness with mother at Wave IV (β = -.04, p = n.s.), or closeness with father at Wave IV (β = -.00, p = n.s.). Therefore, the model did not support age. Gender was significantly associated with some outcome variables. Gender was associated with alcohol use in early adulthood at Wave IV (β = -.26, p < .001), participants' closeness with mother at Wave IV (β = .05, p < .05) and closeness with father at Wave IV (β = .05, p < .01). However, gender was not significantly associated with partner relationship quality at Wave IV (β = .04, p = n.s.). Therefore, gender was partially supported by the model.

Income was significantly negatively associated with some outcome variables. Income was associated with partner relationship quality in early adulthood at Wave IV (β = -.18, p < .001) and alcohol use in early adulthood at Wave IV (β = -.11, p < .01). However, there was no association with income and closeness with mother at Wave IV (β = .03, p = n.s.) and closeness with father at Wave IV (β = .03, p = n.s.). Therefore, income was partially supported by the model. Finally, race was significantly associated with some of the outcome variables. Race was significantly associated with partner relationship quality at Wave IV (Caucasian β = -.17, p < .05; Other β = -.13, p < .01) and

alcohol use in early adulthood at Wave IV (African Americans β = -.13, p < .05). However, race was not associated with closeness with mother in early adulthood at Wave IV (Black β = -.05, p = n.s.; White β = -.05, p = n.s.; Indian β = -.01, p = n.s.; Asian β = -.02, p = n.s.; Other β = -.02, p = n.s.), and closeness with father in early adulthood at Wave IV (Black β = -.02, p = n.s.; White β = .00, p = n.s.; Indian β = -.01, p = n.s.; Asian β = .00, p = n.s.; Other β = -.02, p = n.s.). Therefore, race was partially supported by the model. Overall, some control variables were significantly associated with the outcome variables.

CHAPTER V

DISCUSSION

The current study examined the associations between sibling relationships at adolescence, partner relationship quality in early adulthood, alcohol use at adolescence and early adulthood, and parental closeness with both mother and father at adolescence and adulthood, while controlling for age, gender, income, and race. A path analysis was tested, using structural equation modeling with 764 participants from all around the United States. A subset from Waves II and IV of the National Longitudinal Study of ADD HEALTH (Harris & Udry, 2008) was used. This subset included participants who did not have a sibling in the study and identified as being in a "very" or "completely committed" relationship, either currently or in the past, in Wave IV. To examine the research questions, sibling closeness, alcohol use and parental closeness (mother and father) were regressed onto the outcome variables relationship quality, alcohol use and parental closeness (mother and father). This study controlled for age, gender, income, and race.

Research Question 1

Research Question One assessed the association between adolescent sibling relationships at Wave II, with adult partner relationship quality at Wave IV, adult parental closeness with mother and father at Wave IV, and adult alcohol use at Wave IV. All results were found to be nonsignificant. Past research has shown that sibling

relationships, especially older sibling relationships, have an influence on younger sibling behaviors and work as a social model (Samek & Rueter, 2011). Adolescents observe and repeat behaviors of their siblings, specifically drug and alcohol use, when they identify being in a warm and close relationship (Ary, Tildesley, Hops, & Andrews, 1993; Rowe & Gulley, 1992). This aligns with Attachment Theory, which focuses intimate relationships through trust and security (Collins & Feeney, 2004). Previous literature has found that sibling relationships influence alcohol use into emerging adulthood (Trim, Leuthe, & Chassin, 2006). More specifically, older siblings were found to influence younger sibling's alcohol use, while younger siblings were only found to influence older sibling's alcohol use if they were close in age and shared a peer group. The current study did not find significant results when controlling for age, gender, income, race, and parental closeness at adolescence and early adulthood, partner relationship quality in early adulthood, and alcohol use in early adulthood. However, this study could be taken further, by controlling for age differences between siblings, gender dyads, and sibling's alcohol use. It would also be interesting to examine whether parental closeness works as a protective factor.

Previous research has explored sibling relationships and romantic relationships in adolescence, stating that sibling relationship conflict, control, and intimacy influence power dynamics in the adult romantic relationship (Doughty et al., 2015). This study examined sibling closeness and its influence on partner relationship quality in early adulthood. This was found to be nonsignificant, when controlling for parental closeness

at adolescence and early adulthood, alcohol use at adolescence and early adulthood, age, gender, income, and race. The current study did not control for type of relationship (different sex, same sex) or age of onset of relationship, which could be a reason for nonsignificant results. As previously stated, age differences between siblings or gender dyads were also not controlled, which could all be contributing factors to the nonsignificant findings.

Closeness with one's parents has long been explored in the literature and has been found to be a critical component of human existence (Floyd & Parks, 1995) and that the relationship endures over time (Troll & Fingerman, 1996). The sibling relationship, during adolescence, has also been explored and found to be an important relationship. Research has indicated that the adolescent sibling relationship is a more important source and a reliable alliance than a best same-sex friend (Lempers & Clark-Lempers, 1992). No research has been done on what influence the sibling relationship, during adolescence, has on participant's parental closeness in early adulthood. However, this study did examine that relationship. Results were not found to be significant when controlling for parental closeness during adolescence, alcohol use during adolescence and early adulthood, partner relationship quality at early adulthood, age, gender, income, and race. More research needs to be done in this area to see what, if any, relationship influences this outcome. There were a great deal of variables controlled in this study, as they have found to be a significant influence in previous literature. The reason for nonsignificant

results could be that the control variables are more important or that there are other variables not discussed that are significant to this relationship.

Research Question 2

Results partially supported research question two, which assessed the links between adolescent parental closeness with mother and father at Wave II and adult partner relationship quality at Wave IV, adult parental closeness with mother and father at Wave IV, and adult alcohol use at Wave IV. Previous literature has indicated that the parent-child relationship tends to endure over time (Troll & Fingerman, 1996). This study confirmed previous findings. Closeness with both mother and father at Wave II had a positive significant relationship with closeness with both mother and father at Wave IV when controlling for alcohol use at adolescence and early adulthood, partner relationship quality in early adulthood, sibling closeness, age, gender, income, and race. In other words, as closeness with mother increased at adolescence so did closeness with mother in early adulthood. The same results were found for closeness with father.

Interestingly, participant's closeness with mother at Wave II had a negative relationship on partner relationship quality in early adulthood. In other words, as participant's closeness with mother in adolescence increased, the quality of their partner relationship in early adulthood decreased. Previous research has found that earlier close mother-adolescent relationships resulted in more connection and sexual attraction in young adult romantic relationship (Seiffge-Krenke et al., 2010). However, this study did not support this finding when controlling for closeness with parents at early adulthood,

alcohol use in adolescence and early adulthood, sibling closeness, age, gender, income, and race. However, previous research has found that differential parenting has an influence on early romantic relationship distress (Rauer & Volling, 2007). Though this study did not examine differential parenting, it does bring up the question of what could account for these differences. According to adult attachment theory, the nature, quality, and closeness of adult relationships are influenced by child-caretaker relationships (Collins & Read, 1990). This study examined partner relationship quality, and not connection, sexual attraction, or distress. This study also examined parental closeness, and not differential parenting or parental quality. Therefore, this could be a contributing factor to differing results. More research needs to be done in this area, as this study adds to the existing literature, but still leaves many questions unanswered. It would be interesting to further examine this dataset and see how each participant viewed his or her parental relationships differently. Controlling for whether both parents were involved in each participant's adolescence and early adulthood years. Additionally, asking about differences between participants who identify a close relationship with their mother, but not their father, and the influence on early romantic relationship quality. These questions were not addressed in this study and could be a point of further examination.

It is known that the parent-child relationship during adolescence is a significant relationship for participant outcomes (Habib et al., 2010; Kelly et al., 2011; Kuntsche & Silbereisen, 2004). The relationship itself, more specifically the emotional closeness of the relationship, can serve as a protective factor against risky behaviors. Participants who

report a close relationship with their opposite sex parent are less likely to engage in alcohol abuse behaviors in adolescence (Habib et al., 2010). However, this study took the research a step further by examining the influence parental closeness in adolescence has on early adulthood alcohol use when controlling for parental closeness in early adulthood, alcohol use in adolescence, partner relationship quality in early adulthood, sibling closeness, age, gender, income, and race. This study did not find a relationship between these two variables. Alcohol use in adolescence did have a significantly positive relationship with alcohol use in early adulthood, which will be discussed in research question 3. Therefore, the results indicated that as participant's drinking in adolescence increases, so does their drinking in early adulthood. Also, as one's closeness with their parents increase in adolescence so does their closeness in early adulthood. However, there is no association between parental closeness in adolescence and alcohol use in early adulthood. This is interesting, because what accounts for these differences? Further research needs to be done in this area.

Research Question 3

Results partially supported research question three, which assessed the links between adolescent alcohol use at Wave II and adult partner relationship quality at Wave IV, adult parental closeness with mother and father at Wave IV, and adult alcohol use at Wave IV.

As previously mentioned, previous literature has examined the influence parental closeness has on adolescence alcohol use (Habib et al., 2010; Kelly et al., 2011; Kuntsche

& Silbereisen, 2004). However, there is no research on the influence adolescent alcohol use has on parental closeness in early adulthood. Interestingly, this study found that as one's alcohol use in adolescence increased, so did participant's closeness with their mother and father in early adulthood. Research Question Two found that parental closeness in adolescence did not influence alcohol use in early adulthood. Therefore, it is interesting that an inverse relationship was found. Again, what accounts for these differences needs to be explored further, as parental closeness in adolescence, alcohol use in early adulthood, sibling closeness, partner relationship quality in early adulthood, age, gender, income, and race were all controlled for.

It is generally known that alcohol consumption during adolescence is a predictor for alcohol consumption throughout the lifespan (Englund et al., 2008). This study confirmed previous findings. As participant's alcohol use increased in adolescence, so did participant's alcohol use in early adulthood, when controlling for parental closeness in adolescence and early adulthood, sibling closeness, and partner relationship quality in early adulthood, age, gender, income, and race.

Alcohol use can influence many different elements and relationships in one's life. During adolescence and early adulthood, alcohol use can lead to dissolution of relationships (Larson & Sweeten, 2012). The type of romantic relationships can also influence participant's amount of alcohol consumption. For those who are in a married, cohabiting, or non-cohabiting dating relationship, there is an association with less heavy drinking and marijuana use, as compared to those not in a dating relationship (Fleming,

White, & Catalano, 2010). However, no research has been done on the influence that alcohol consumption, during adolescence, has on partner relationship quality at early adulthood. This study did not find a relationship, when controlling for parental closeness at adolescence and early adulthood, partner relationship quality at early adulthood, alcohol use in early adulthood, age, gender, income, and race.

Control Variables

There were some interesting findings from the control variables. Age was not significantly associated with any outcome variables. Though this study did focus on very specific age groups (adolescence and early adulthood), it would be interesting to focus more on age in future research and its implications for the outcome variables. For example, the age differences between siblings, as we know, influences sibling relationships. Siblings that are closer in age promote relationships that resemble friendships (Furman & Buhrmester, 1985).

Gender did have a significant association between some of the outcome variables. Gender was not significantly associated with partner relationship quality. However, gender was associated with all other outcome variables. Consistent with previous literature, that men drink more than women, (Wilsnack, Wilsnack, Kristjanson, Vogeltanz-Holm & Gmel, 2009) gender was associated with alcohol use in early adulthood. In other words, women drank less than men. Also, consistent with previous literature, women tend to develop closer relationships, (Riggio, 2000) women were closer to both their mother and father in early adulthood as compared to men.

Remarkably, income had a negative association with some outcome variables. In other words, as participant's income increased, their relationship quality with their partner and their alcohol use in early adulthood decreased. Money has long been known to be a high point of stress. Previous research has discussed the relationship between stress and alcohol consumption (Aldridge-Gerry et al., 2011) and relationship marital conflict (Papp, Cummings, & Goeke-Morey, 2009). Therefore, it could be considered that as income increases, money stressors may be less of an issue, leading to less alcohol consumption. However, this study's results would also infer that as income becomes less of a stressor, that the quality of the partner relationship lessens. Yet, some research has found that higher levels of materialism are associated with less marriage satisfaction, (LeBaron, Allsop, Hill, Willoughby & Britt-Lutter, 2017) which could account for the results in this study. There was no relationship between income and parental closeness with either mother or father. This makes sense, as one tends to break off from their family-of-origin and start a family with their romantic partner in early adulthood (Goldscheider & Goldscheider, 1989). So, one could infer that income in early adulthood would not have a relationship with parental relationships and would instead influence romantic partner relationships.

Finally, race did have some associations with the outcome variables. Those who identified as Caucasian or Other were negatively associated with partner relationship quality, meaning they were less satisfied with their relationships. There are many reasons for less satisfaction in a marriage, including income, (Papp et al., 2009) conflict,

(Gottman & Krokoff, 1989) or illness (Boylstein & Hayes, 2012). Therefore, results should not be interpreted as race as the only factor. Those identified as African American reported less drinking in early adulthood. This is also consistent with previous literature when comparing Caucasian, African American and Native American, African American's report drinking the least (NIAAA, 2002). Race was not a significant factor when considering closeness with mother and father in early adulthood. This could be due to many factors, such as culture. More research needs to be done in this area, as the majority of studies in existence are based on Caucasian middle-class families. There would be great benefit to expanding this research, and others, and considering cultural differences.

Limitations

There were several limitations to the current study. First, there were broad definitions for the variables. For example, parental closeness was measured by asking participants how close they felt to each of their parents, and how satisfied they are with the way they communicate with their parents. There are many other ways to measure closeness, and closeness has been defined in many different ways in other research. Having a set way to define these variables would be beneficial to future research. Secondly, the data was limited, as this study used the public version of the dataset. A private version is available, which has more information on participants and relationships. Therefore, the public version used in this study did limit information on participants. For example, this study could not identify sibling's age, gender, or number

of participant's siblings. Finally, though there were many variables explored and controlled for there was a great deal that was not controlled, including gender dyads between siblings, age differences, behaviors of participant's siblings and parents or peers. The peer relationship, especially in adolescence, is one that in terms of intimacy, self-disclosure, and trust is a relationship that adolescence spends more time (Brown & Larson, 2009). Therefore, not examining the peer relationship in this study is a major limitation.

Implications and Future Research

The results of this study have important implications for clinicians, families, and researchers. Clinicians can utilize this research to aide families in navigating the many intricacies of relationships, including appropriate closeness, versus cutoffs or enmeshment. More specifically, clinicians can help families, who have issues with alcohol use, and use the information identified in this research in their treatment planning and overall care with individuals and their families. For example, the current study found that alcohol use in adolescence has an influence on relationships and behaviors in adulthood. This information is key for family therapists working with this age range, as this is a pivotal time in a child's develop. A clinician can work with families on developing healthy, close relationships, to aid with relationships in the future.

The current study also has implications for future researchers. Though the current study was longitudinal and examined many variables, there was a great deal that was not covered, that could be duplicated to enhance results. First, future researchers could

continue this work and examine these variables in other snapshots in time. For example, it would be interesting to see how, or if the results change throughout the lifespan, or if they stay consistent. The study could be continued through middle age and geriatric populations. Secondly, future researchers could examine participants' other relationships, including peers, grandparents, step family members, etc., and how this may influence or change the results. Finally, researchers could address the limitations discussed in this study, including the broad definitions for variables, and controlling for more variables to aid with more explained variance. Refining this may influence future research in this area and add to the existing literature.

Conclusion

Some research has been conducted on the current area of study, but little to none has explored how all of the variables interact with one another. Even more, no research has been conducted examining the variables influence from adolescence to early adulthood in many areas. The current study examined the association between sibling relationships at adolescence, partner relationship quality in early adulthood, alcohol use at adolescence and early adulthood, and parental closeness with both mother and father at adolescence and adulthood, while controlling for age, gender, income, and race. This study used the lens of Attachment Theory, specifically close relationships in one's family-of-origin in adolescence and early adulthood.

Through the use of structural equation modeling, I examined how in adolescence sibling closeness, alcohol use, and parental closeness with both mother and father

influenced early adulthood partner relationship quality, alcohol use, and parental closeness with mother and father. Overall, there were some significant results, and large effects found. The results suggest that throughout the lifespan, relationships prosper. Participants who had a high level of closeness with their parents in adolescence also reported a high level of closeness in early adulthood for both parents. The same was true for alcohol use. However, as participants reported a high level of closeness with their mother in adolescence the quality of their partner relationship in early adulthood decreased. There were some interesting findings within the control variables. Age was not a significant factor within the study. However, gender, race, and income had significant associations. Overall, there was a high percentage of variance explained by the model. The model accounted for 6% of the explained variance in partner relationship quality, 14% in alcohol use, 65% in closeness with mother, and 81% in closeness with father.

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Appendix A – Tables

Table 1

Participant Reports for Independent, Dependent, and Control Variables: Descriptive Statistics (N = 764)

Variables	*M*	*SD*	Skewness	*Kurtosis*	Range	α
Sibling Closeness (Wave 2)	6.84	2.26	.23	-.39	1-13	.60
Alcohol Use (Wave 2)	1.70	1.50	1.56	1.88	.3-6	.82
Mom Closeness (Wave 2)	4.53	.98	-.68	2.72	1-7	.71
Dad Closeness (Wave 2)	4.53	1.42	-.12	.28	1-8	.76
Partner Rel. Quality (Wave 4)	1.93	.82	1.11	1.21	1-5	.85
Alcohol Use (Wave 4)	1.13	.90	2.20	5.90	.3-5.4	.78
Mom Closeness (Wave 4)	4.46	.79	-1.69	2.67	1-5	.76
Dad Closeness (Wave 4)	4.11	1.01	-1.14	.66	1-5	.77
Control Variables						
Age	16.01	1.50	.05	-.54	11-21	
Sex	1.52	.50	-.07	-2.00	1-2	
Income	8.00	2.67	-.87	.20	1-12	
Race						
White	.67	.47	-.69	-1.53	0-1	
Black	.25	.43	1.16	-.66	0-1	
Indian	.04	.19	4.95	22.54	0-1	
Asian	.04	.20	4.59	19.08	0-1	
Other	.07	.25	3.51	10.34	0-1	

Table 2

Correlations among Independent and Dependent Study Variables (N = 764)

Variables	1	2	3	4	5	6	7	8
1. Sibling Closeness (Wave 2)	-							
2. Alcohol Use (Wave 2)	-.03	-						
3. Mom Closeness (Wave 2)	**-.17****	**-.09***	-					
4. Dad Closeness (Wave 2)	**-.13****	.04	**.32****	-				
5. Partner Relationship Quality ('	.06	.04	**-.14****	**-.11****	-			
6. Alcohol Use (Wave 4)	.03	**.17****	.01	.08	**.09***	-		
7. Mom Closeness (Wave 4)	**-.12****	-.05	**.78****	**.24****	**-.08***	-.00	-	
8. Dad Closeness (Wave 4)	**-.10***	**.09***	**.23****	**.83****	**-.09***	.03	**.29****	-

*$p < .05$. **$p < .01$. ***$p < .001$ (two-tailed)

Table 3

Unstandardized, Standardized, and Significance Levels from Structural Equation Model (N = 764)

Endogenous Variable *Exogenous Variable*	*b*	*S.E.*	*β*
Partner Relationship Quality Wave 4			
Sibling Closeness Wave 2	.00	.04	.00
Alcohol Use Wave 2	.02	.04	.03
Mom Closeness Wave 2	-.11	.04	**-.09***
Dad Closeness Wave 2	-.02	.04	-.02
Age	.00	.04	.00
Sex	-.08	.04	-.04
Income	-.41	.04	**-.18*****
White	-.11	.07	**-.17***
Black	-.21	.06	-.04
Indian	-.18	.04	-.04
Asian	-.01	.04	-.04
Other	-.48	.05	**-.13****
Alcohol Use Wave 4			
Sibling Closeness Wave 2	-.00	.04	-.01
Alcohol Use Wave 2	.11	.04	**.17*****
Mom Closeness Wave 2	.05	.04	.04
Dad Closeness Wave 2	.04	.04	.04
Age	-.04	.04	-.05
Sex	-.53	.04	**-.26*****
Income	-.04	.04	**-.11****
White	-.26	.07	-.11
Black	-.38	.07	**-.13***
Indian	.21	.04	.04
Asian	-.41	.05	-.08
Other	-.19	.05	-.05

(Continued)

Endogenous Variable *Exogenous Variable*	*b*	*S.E.*	*β*
Mom Closeness Wave 4			
Sibling Closeness Wave 2	.01	.02	.02
Alcohol Use Wave 2	.03	.02	**.05***
Mom Closeness Wave 2	1.06	.02	**.82*****
Dad Closeness Wave 2	-.03	.02	-.04
Age	-.03	.02	-.04
Sex	.11	.02	**.05***
Income	.01	.02	.03
White	-.12	.04	-.05
Black	-.15	.04	-.05
Indian	-.05	.02	-.01
Asian	-.09	.03	-.02
Other	-.06	.03	-.02
Dad Closeness Wave 4			
Sibling Closeness Wave 2	.00	.02	.00
Alcohol Use Wave 2	.02	.02	**.04***
Mom Closeness Wave 2	-.11	.02	-.03
Dad Closeness Wave 2	-.02	.01	**.90*****
Age	.00	.02	-.00
Sex	-.08	.02	**.05****
Income	-.07	.02	.03
White	-.41	.04	.00
Black	-.12	.03	-.02
Indian	-.21	.02	-.01
Asian	-.18	.02	.00
Other	-.48	.02	-.02

Note: Model Fit Indices are $\chi^2(0) = .00$, $p < .05$; CFI = 1.00; TLI = 1.00; RMSEA = .00 (C.I. .00- .00); SRMR = .00.

*$p < .05$. **$p < .01$. ***$p < .001$ (two-tailed).

Appendix B - Figures

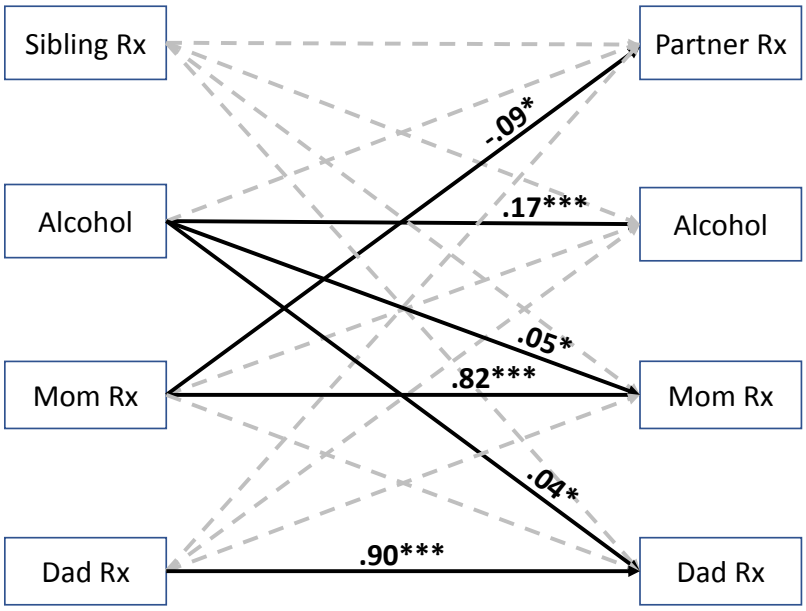

Figure 1. Results for Structural Equation Model (N =764). Model Fit Indices are $\chi^2(0)$ = .00, p <.05; CFI = .1.00; TLI = 1.00; RMSEA = .00 (C.I. .00- .00); SRMR = .00.
*p < .05. **p < .01. ***p < .001 (two-tailed).

Control Variables

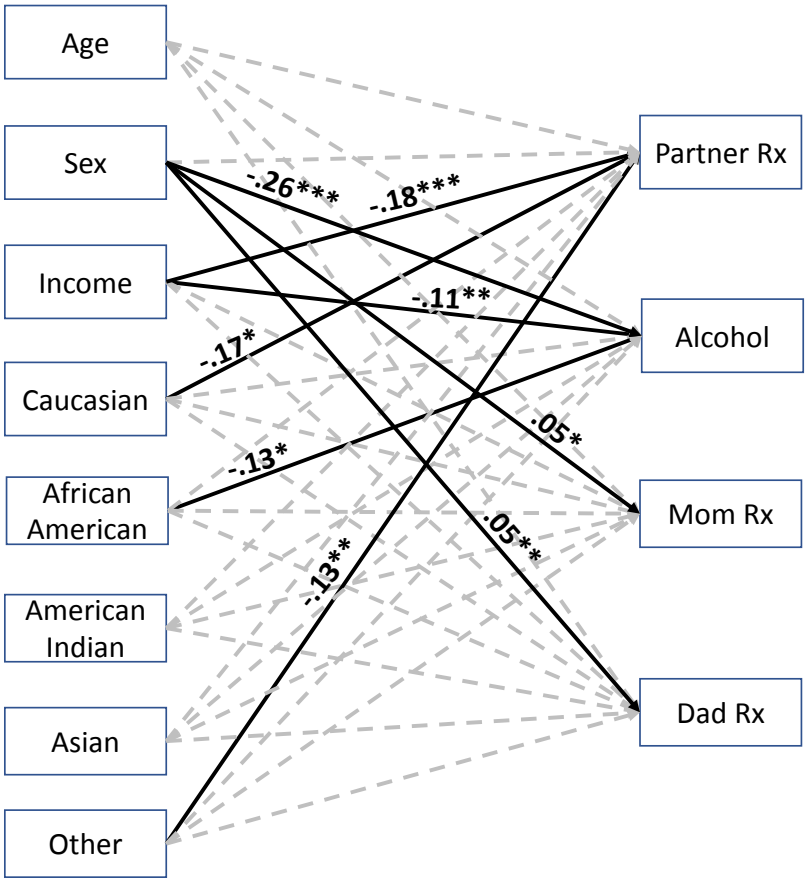

Figure 2. Results for Structural Equation Model Control Variables.