HOW DOES EARLY DATING COUPLES' COMMUNICATION VIA TEXT MESSAGING ABOUT ALCOHOL INFLUENCE ALCOHOL USE AND ATTITUDES?: EXPLORING THE MODERATING ROLES OF RELATIONSHIP POWER AND SATISFACTION

by

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ABSTRACT

MEREDITH GRIFFIN HARRISON. How does early dating couples' communication via text messaging about alcohol influence alcohol use and attitudes?: Exploring the moderating roles of relationship power and satisfaction. (Under the direction of ERIKA MONTANARO, PhD)

Romantic relationships have an impact on both partners' health and well-being; however, much remains unknown regarding how health behaviors are shaped in the early stages of dating. The developmental time of emerging adulthood targets an age group where romantic relationships and alcohol use commonly intersect and may contribute to lifelong patterns of use. This study utilized novel research methodology of combining new couples' text messages during the early stages of dating (M_{length}=3.1 months, Range: .5 to 6 months) with survey data from emerging adult couples (Mage=19.4 years, SD=1.58, Range = 18-25). Advanced statistical methods (i.e., Actor Partner Interdependence Model) were used to examine how couples' text messages about alcohol early in their romantic relationships impacted each partner intra- and interpersonally in terms of alcohol use and attitudes. Additionally, using the moderated Actor-Partner Interdependence Model, this study examined how relationship factors (i.e., relationship power and relationship satisfaction) linked to health outcomes and engagement in risk behavior moderated these relationships. Results indicated that the proportion of alcohol-related text messages between partners was significantly positively correlated with alcohol use, but not attitudes, and in a dyadic context, text messages predicted one's own frequency of alcohol use but not their partners' use. Moderation analyses were underpowered due to a small sample size. These findings indicate that communication about alcohol via text messages may play an important role in frequency of alcohol use among early dating couples, particularly on one's own behavior. Research and clinical implications of this work are also discussed.

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CHAPTER 1: INTRODUCTION

Romantic Relationships and Health

Relationships have a widely documented effect on health in both humans and animals (Cohen et al., 2000; Holt-Lunstad et al., 2010; House et al., 1988; Pietromonaco & Collins, 2017; Uchino, 2009). Indeed, a meta-analysis of the literature found that humans with stronger social relationships had a 50% increased likelihood of survival, suggesting that weak social relationships should be considered a health risk factor similar to alcohol consumption, smoking, and physical activity (Holt-Lunstad et al., 2010). Scholars and layman have a number of related but separate definitions of relationships; however, the Interdependence Theory's definition of relationships is one of the most influential in relationship science (Finkel et al., 2017). The Interdependence Theory characterizes a relationship as the interconnection of partners through exchanges of relational behaviors such as informal talk, managing conflict, spending time together, and verbal affection, among many others (Kelley, 1983). While humans have a variety of relationships (e.g., friends, romantic partners, parent-child, etc.) those that are considered close play a particularly influential role in physical and mental health outcomes (Jackson, 2006; Kiecolt-Glaser et al., 2010; Pietromonaco & Collins, 2017; Sarason et al., 1997). Close relationships, defined as enduring over time and involving strong, frequent, and diverse interconnections, are particularly important in regards to an individual's health because they involve frequent, microlevel interactions that allow opportunity for partners to influence each other's health outcomes (Kelly, 1983; Kelley & Thibaut, 1978). Through these exchanges, close relationships influence a variety of health outcomes including mental (e.g., depression, loneliness, perceived stress, Kawachi & Berkman, 2001) and physical health (inflammation, somatic symptoms, etc.; Kiecolt-Glaser et al., 2010; Stadler et al., 2012). In particular, romantic

relationships are among the most important and widely documented close relationships in a person's life in terms of health and well-being (Loving & Slatcher, 2013; Robles et al., 2014). This is likely due to increased experiences of social connection and support, which are linked to greater physical and mental health via a host of intrapersonal mechanisms (e.g., coping, immune functioning, substance use, emotional coregulation, etc.; Pietromonaco & Collins, 2017; Robles & Kiecolt-Glaser, 2003; Uchino, 2009). As such, understanding the factors influencing romantic relationships and engagement in health behaviors is critical to promoting health and well-being of an individual in the relationship context.

The term "health behaviors" broadly encompasses a range of actions people take that influence health, disability, and mortality either to promote health or prevent illness (e.g., physical activity, healthy diet, medication adherence, etc.) or to contribute to worsening health status (e.g., risky drinking, excessive weight gain, risky sex, etc.; Umberson et al., 2010). Interactions in relationships can lead to engagement in both positive (e.g.., emotional support, joint physical activity, healthy diet, etc.) and negative (e.g., disengagement with physical activity, substance use, etc.) health behaviors (Fletcher et al., 2011; Desrosiers et al., 2015; Meyler et al., 2007; Umberson et al., 2007). Over time, these may contribute to the longevity of their relationship (or lack thereof) and each partner's overall health status (Pietromonaco & Collins, 2017; Wilson, 2002). The literature suggests that those with strong (i.e., satisfying) romantic relationships tend to experience better health outcomes than their counterparts (Braithwaite & Hold-Lunstad, 2017; Schoenborn, 2004). Specifically, among married adults, when spouses improve health behavior, their partners are likely to improve theirs also (Falba & Sindelar, 2008). Furthermore, such effects covary beyond selection effects and persist, even when controlling for other variables, such as age, health status, race, and income (Braithwaite &

Hold-Lunstad, 2017; Falba & Sindelar, 2008). As such, similarity in health within couples, also termed health concordance, is common in both mental and physical health domains (Meyler et al., 2007). Therefore, finding ways to promote positive health behaviors and decrease negative health behaviors in romantic relationships is a key focus of health psychology research and intervention.

While the majority of research investigating the health benefits of romantic relationships has been primarily done with long-term, well-established couples, the same associations are found across age groups, even in relatively healthy young adults. Young adults who are married have higher levels of well-being than those who remain single, and both men and women reap physical and mental health benefits from the marriage (Horwitz et al., 1996). For example, married and engaged young adults (22-26) report lower frequency of drunkenness than peers who are not in a romantic relationship (Uecker, 2012) and women, but not men, who are married in young adulthood report fewer alcohol problems (Horwitz et al., 1996). Additionally, young adults who are married, cohabitating, and/or dating engage in less heavy drinking and marijuana use than their single counterparts (Fleming et al., 2010). These patterns also hold true for health behaviors such as healthy eating and physical activity (Markey et al., 2007). As such, couples who are in a romantic relationship during young adulthood reap health benefits, particularly for health behaviors relevant to that age group.

Though marriage has widely been used as the basis for the link between romantic relationships and health, similar results have also been found in premarital dating relationships. For example, college students in committed romantic relationships experience fewer mental health problems, such as depression (Simon & Barrett, 2010; Whitton et al., 2013), and are less likely to be overweight than their single peers (Braithwaite et al., 2010). Furthermore, romantic

relationships also play an important role in the engagement in risk behavior, which is particularly salient for adolescents and emerging adults. For example, college students in committed dating relationships are less likely to engage in problematic alcohol use (Whitton et al., 2013), and this is particularly true for women (Simon & Barrett, 2010). Conversely, if one romantic partner smokes and is perceived to be approving of smoking behavior, this predicts the other partner's likelihood of smoking tobacco during the first year of college (Etcheverry, & Agnew, 2008). This romantic partner influence was stronger than friends' behaviors and perceived attitudes about smoking (Etcheverry, & Agnew, 2008). Additionally, college students in committed dating relationships tend to decrease consistent condom use after the first month of dating (Civic, 2000), though this is also likely influenced by relationship factors such as commitment, relational threats, intimacy, and conflict (Manlove et al., 2014; Umphrey & Sherblom, 2007). These associations highlight that the connection between romantic relationships and health is present in premarital dating relationships as well as marriages.

Overall, this health concordance is found across couples, for better or for worse (Monden, 2007). While many couples experience concordance in positive health behaviors, this similarity also extends to unhealthy behaviors. Romantic partners tend to be similar in both physical and mental health status, with increasing similarity over the first 5 years of marriage (Butterworth & Rodgers, 2005; Meyler et al., 2007). For example, young married couples tend to have higher intracouple concordance in smoking and excessive drinking compared to older age groups (Jeong & Cho, 2018). Additionally, most couples are concordant in their alcohol consumption and frequency, with discordance in alcohol use related to lower happiness in their relationships (Meiklejohn et al., 2012). Similarly, substance use does not necessarily decrease from prior levels when entering a new romantic relationship, and cigarette smoking has been found to

increase when transitioning from single to being in a romantic relationship among 18 to 20-year olds (Fleming et al., 2010). This suggests that partners may be willing to sacrifice their health, or at least engage in unhealthy behaviors in order to benefit their relationship, such as increased feelings of happiness. As such, understanding how and why couples become concordant in their physical and mental health is a key factor to promoting health among romantic couples.

Relationship Satisfaction and Health

Romantic relationship health benefits tend to follow satisfying romantic relationships, with less satisfying relationships contributing to negative health outcomes compared to both satisfied married counterparts and single counterparts (Holt-Lunstad et al., 2008). Relationship satisfaction is defined as the degree to which one is content and happy with the relationship, and is often operationalized as self-reported satisfaction with the relationship (Robles et al., 2014). Low relationship satisfaction is a risk factor for both actual and perceived health concerns, such as mortality and cardiovascular reactivity, with effects similar to other health behaviors, such as diet (Robles et al., 2014). Additionally, unsatisfying romantic relationships, such as those characterized by negative emotional responding (i.e., anger, stonewalling, etc.) to partners, have long-term consequences, such as health concerns (cardiovascular and musculoskeletal symptoms) at 20-year follow up (Haase et al., 2016). Therefore, finding ways to decrease negative health behaviors early on in relationships and target relevant relationship factors (i.e., satisfaction) can help contribute to both short term and long-term health outcomes.

While the influence of both marital and non-marital romantic relationships on health and well-being is well established, it remains uncertain how these influences are shaped early on in relationships. Much of the prior work on relationships and health has focused on long term, established romantic couples (>6 months of dating) and does not examine how such associations

are developed and maintained in the early stages of a relationships. While romantic relationships involve integration, or merging, between partners in terms of cognitive, affective, motivational, and behavioral domains, it takes time for these mergers to occur and this likely takes place through everyday interactions (Finkel et al., 2017). Couples discuss and develop norms surrounding beliefs, risk behavior, and health behaviors, early on in relationships which may then be maintained over time. For example, emerging adult dating couples tend to discontinue condom use early on in relationships (e.g., a sharp decline after 9 coital events or 21 days; He et al., 2016; Fortenberry et al., 2002). Additionally, there are distinct physiological changes in the early stages of a romantic relationship (<6 months) compared to single and long-term relationship counterparts (Marazziti & Canale, 2004; Weisman et al., 2015), which indicates that even short-term romantic relationships can impact biological processes such as hormonal changes. This underscores the importance of understanding and intervening in the very beginning stages of a relationship in order to reduce engagement in potentially risky behaviors as well as understanding how partners move from independent to increasingly interdependent units. Though romantic relationships can and do begin at almost any age, emerging adulthood is a particularly important time for the development of relationships as well as engagement in risk behavior that can have both short- and long- term repercussions for health and well-being. Therefore, expanding our understanding of how risk behaviors and attitudes are influenced by partners early in the dating relationship is essential to designing interventions that promote healthy behaviors in young romantic couples.

Romantic Relationships and Health in Emerging Adulthood

Emerging adulthood is an important developmental period between the ages of 18-25, which is characterized by identity exploration, instability, self-focus, ambiguity, and a sense of

possibilities (Arnett, 2000; 2006). A key task of this time between adolescence and young adulthood is exploration of the self in the domains of love, work, and worldview (Arnett, 2000). For many, this developmental stage coincides with moving out of the home, attending college, and increasing freedom from living with their parents (Arnett, 2000). Though not all emerging adults are college students, the majority of undergraduates are emerging adults. As such, college campuses are often a target for emerging adult research and intervention (Arnett, 2016).

Current emerging adults are delaying many traditional markers of adulthood, such as marriage, childbirth, and entering the workforce, in favor of higher education and short-term, trial relationships (Shulman & Connolly, 2013). For example, age at first marriage is pushed to later than in years past (29.8 for men and 27.8 for women in 2018 compared to 26.1 for men and 23.9 for women in 1990; US Census Bureau, 2018). Though these developmental milestones are pushed back, most emerging adults still endorse a long-term, committed monogamous relationship as their goal, with up to 90% intending to get married (Arnett, 2014; Schulman & Connolly, 2013). From a developmental perspective, romantic relationships become more exclusive and lasting, and they involve increasing emotional and sexual intimacy from adolescence into emerging and young adulthood (Meier & Allen, 2009). At the same time, romantic relationships become increasingly important to individuals' overall health and well-being. In fact, romantic partners have been found to influence each others' engagement in risk behavior, independently from their friends' engagement in risk behavior in this age group (Haynie et al., 2005). This is important given the influence that romantic relationship partners have on individual behavior during this developmental stage (Furman & Simon, 2006). Therefore, romantic relationships in emerging adulthood, whether they develop into long-term relationships and marriage or not, are a window into how people learn about their partners and

shape their attitudes and behaviors that ultimately influence their health outcomes in both the short and long term.

As emerging adults are developing more intimate romantic relationships, many are also participating in potentially detrimental health behaviors and outcomes. For some emerging adults, this time of exploration and uncertainty has been associated with increased mental health problems (Arnett et al., 2014; Blanco et al., 2008), such as depression and anxiety. Engagement in risk behaviors such as unprotected sex and reckless driving are also common in this age group (CDC, 2017). Substance use and abuse is also prevalent during this developmental stage (Arnett, 2005), including alcohol, marijuana, cigarette, and other drug use such as opioids, compared to older and younger age groups (SAMHSA, 2018; CDC, 2017). Furthermore, engagement in risk behavior is perceived as normative on college campuses, with most college students overestimating the degree to which their peers engage in, and approve of, substance use (Perkins, 2002). These changes highlight the importance of emerging adulthood as a transitional time with increased engagement in risk behavior compared to other age groups (Arnett, 2005; Fromme et al., 2008). As such, this study aims to explore risk behavior relevant to emerging adulthood within the context of new romantic relationships.

Risky Drinking in Emerging Adulthood

Because it is common, problematic drinking, particularly in the college setting, is a top health concern for this age group (NIAAA, 2018; Office of Disease Prevention and Health Promotion, 2016; Park et al., 2014; White & Jackson, 2004). Risky drinking or problem drinking is characterized as "nondependent drinking that results in adverse consequences for the drinker" (NIAAA, 2003b). This definition is much broader than DSM-V criteria for alcohol use disorder, and is more comprehensive in capturing emerging adults who may experience consequences

from drinking without meeting criteria for Severe Alcohol Use Disorder. In the college setting, this may be most appropriate in targeting the students experiencing alcohol-related consequences but are not appropriate for traditional alcohol treatment.

Drinking is prevalent on college campuses. Fifty-eight percent of college students ages 18-22 drank alcohol in the last month, compared to 48.2% in same age non-college peers (NIAAA 2018). Of those who drank, 2/3 of them had at least 1 drinking binge (i.e., 4 drinks for women, 5 drinks for men over 2 hours) and about 21% had five or more binges in the last month (NIAAA, 2018). Among college students, even non-binge drinkers identify alcohol-related problems (e.g., school interference, shame, arguments with others, sexual assault, etc.; NIAAA, 2018; White & Hingson, 2013). Additionally, problem drinking is associated with other risk behaviors such as unprotected sex, other substance use, and reckless driving (Beck et al., 2008; Miller et al., 2007; SAMHSA, 2018; Werner et al., 1995). Alcohol use typically peaks in the early 20s then tapers down in a process known as "maturing out" (Jackson & Sartor, 2016; Lee & Sher, 2018). Despite tapering out, heavy alcohol use during emerging adulthood is associated with longer term consequences such as future risk of an alcohol use disorder (NIAAA, 2018). Therefore, alcohol use is often considered a normative part of the college student experience (Reid & Carey, 2015), and targeting emerging adults during their peak use is imperative to preventing short-term and potentially long-term consequences if their alcohol use does not decrease as they age.

Drinking on college campuses has been characterized as, "an organizing principle of university life" (Supski et al., 2017, p. 228), and risky drinking often occurs in social situations (Cashin et al., 1998; Christiansen et al., 2002; O'Hare, 1990; Wechsler et al., 1995). Drinking in the social context is a way for emerging adults to expand their social relationships, including

friendships and romantic partnerships (Grant et al., 2013; Nezlek et al., 1994; Rosenquist et al., 2010). Members of social groups such as Greek organizations (i.e., fraternities and sororities) are more likely to use alcohol than their non-Greek peers, and drinking has been characterized as an embedded part of the Greek-life culture (Scott-Sheldon et al., 2008). The social nature of drinking is further highlighted through alcohol-related posts on social media. Alcohol-related content on Facebook and Instagram is more often posted by other people (e.g., someone else tags you in a picture with alcohol) and posts with alcohol in a social setting receive more likes than nonsocial alcohol posts (e.g., no people are visible; Hendriks et al., 2018). Interestingly, students who drink primarily in social settings experience fewer negative drinking consequences than those who drink heavily while alone (Christiansen et al., 2002) or those who endorse greater feelings of loneliness (Sadava & Thompson, 1986). However, drinking for social facilitation is associated with drinking and driving as well as housing violations on college campuses (Beck et al., 2008). Overall, social drinking is encouraged and reinforced in college social settings in spite of potential negative consequences. Those who drink because they feel more socially connected, rather than disconnected, may experience some benefits from this social activity. Taken together, alcohol use is embedded in the social life of many college students and is associated with both positive and negative consequences.

Likewise, drinking in the context of romantic relationships in college can have both positive and negative consequences for romantic couples. College dating couples report positive effects on intimacy and fewer perceived negative partner behaviors (e.g., ignoring, criticism, etc.) when they drink together, compared to couples who drink apart or do not drink at all (Levitt & Cooper, 2010). Many of the identified negative consequences from alcohol use are interpersonal in nature, such as intimate partner violence, marital conflict, infidelity, jealousy,

and divorce (Lorenz & Ullman, 2016; NIAAA, 2003b; Shorey et al., 2011). Heavy, frequent drinking in young romantic relationships (18-26) was associated with more alcohol use and alcohol-related consequences and relationship problems, such as lower satisfaction with the relationship (Rodriguez et al., 2013; Wiersma & Fischer, 2014). Furthermore, romantic partners' binge drinking positively predicts both their own and their partner's engagement in binge drinking at 30-day follow up (Mushquash et al., 2013). While these associations are found in both men and women, some gender differences also emerge in the literature. For example, women are more likely to drink in response to relationship difficulties and low feelings of intimacy (Levitt & Cooper, 2010), and use both direct (e.g., telling, reminding, threatening) and indirect (e.g., model behavior, change the environment such as watering down alcohol at home, criticizing partner's habits) social control measures to influence their partners' health behavior, particularly when their partner drinks more and the woman has healthier habits than their spouse (Umberson et al., 2018). Overall, partners are more likely to want to change their partners' drinking habits if their partner is a man, regardless of sexual orientation (Umberson et al., 2018). Therefore, gender differences, or gender socialization, may be important to consider in regard to risky drinking and romantic relationships.

Relationship Power and Risk Behavior

One explanation for these gender differences in relationships are power imbalances between partners. Relationship power is defined as "the amount of resistance on the part of one individual that can be potentially overcome by another" (Pulerwitz et al., 2000, p. 640). This definition comes from the interpersonally oriented Social Exchange Theory (Emerson, 1972, 1981), which emphasizes that power is based on factors each partner holds in relation to the other, such as dependence, valued resources (e.g., economic and emotional), and perceived

alternatives to the relationship. Furthermore, relationship power is often operationalized in relationships as decision-making dominance, the ability to act against one's partner's wishes, and the ability to control one's partner's actions (Pulerwitz et al., 2000). For example, if Cho has more power in her relationship with Cedric, she will have more control over the types of parties they go to, how late they stay out, and she may feel less dependent on her relationship with Cedric.

Research suggests that gender-based power imbalances may account for gender differences in the ability to engage in safer sex practices (Campbell et al., 2009). In the HIV prevention literature, women with lower relationship power are more likely to experience dating violence, STIs, and they have lower condom-negotiation power (Buelna et al., 2008; Pulerwitz et al., 2002). Conversely, women with high levels of relationship power are 5 times more likely to report consistent condom use than those with lower power (Pulerwitz et al., 2002). Additionally, college women with low relationship power who engage in heavy drinking are at increased sexual risk (Scott-Sheldon et al., 2010). This combination of low relationship power and heavy drinking is particularly problematic in terms of risk behavior, because this would decrease the person's ability to act against their partners' wishes when pressured to engage in a risk behavior such as unprotected sex and reckless driving. Recent work has begun to examine the role of relationship power in alcohol use, showing that among young married couples, high relationship power for one partner is predictive of their partners' alcohol use, but not for low relationship power (Cornelius et al., 2016). These studies suggest that relationship power may be a better indicator of differences between men and women's alcohol use and engagement in risk behavior than simple gender differences. Therefore, this study will focus on relationship power as a

potential moderator of the link between romantic relationships and health outcomes rather than gender differences alone.

Overall, drinking is common in young romantic relationships and is associated with both positive and negative intra- and interpersonal outcomes. It is likely that emerging adult couples discuss alcohol, particularly as they initiate and develop their relationships. Among college romantic partners, a greater number of binge drinking episodes is associated with a less positive tone, more disagreements in general, disagreements about drinking, and increased talks about drinking overall (Fischer et al., 2005). As such, communication about drinking in the dating relationship may be linked to partners' engagement in alcohol use, with those discussing alcohol more being more likely to use alcohol. In the longer term, young married couples (19-29) have the highest rates of excessive drinking and of interpersonal similarity in excessive drinking, and frequent drinking in young romantic relationships is associated with higher divorce rates at 6-year follow-up (Wiersma & Fischer, 2014). Therefore, risky drinking among emerging adult couples leads to both short- and long-term consequences, and finding ways to intervene with couples early on may prevent detrimental personal and relationship outcomes.

Text Messaging in Romantic Relationships

Though it is clear that romantic relationships are linked to couples' engagement in risky drinking, relationships do not start off as close. Instead, romantic relationships tend to develop over time, and everyday interactions provide much of the context for how relationships change and evolve (Finkel et al., 2017). Relationships become increasingly intimate as partners reveal personal information and feelings to each other (Reis & Shaver, 1988). This is supported through the relational regulation theory (Lakey & Orehek, 2011) which posits that perceptions of social support develop through everyday conversations and shared activities with partners, rather than

through major life events. During this time, couples are likely to be communicating about a variety of topics as they get to know each other, including about potentially sensitive areas (e.g., condom negotiation, etc. Greene & Faulkner, 2005; Widman, Nesi, et al., 2014; Widman, Noar, et al., 2014), and close relationships have been found to influence health on a daily basis (Stadler et al., 2012). Additionally, in the early stages of dating, couples that end up as short-term/casual relationships and long-term relationships are virtually indistinguishable (Eastwick et al., 2018). Therefore, examining interactions between couples in the early stages of dating (i.e., initiation and development stages, less than 6 months) can provide information about how couples transition from independent to interdependent systems that influence each others' engagement in health behaviors.

Technology has changed rapidly over the past several decades, which has greatly influenced relationship formation. Many new couples meet online (Pew, 2016) and spend considerable time communicating over text messages, social media, or the phone, sometimes even before meeting in person (Finkel et al., 2012). Many young people are using these technologies as an important tool for relationship (social, romantic, etc.) formation and maintenance, as mobile phones allow couples to be in virtually constant contact with each other (Birnholtz et al., 2012; Ruppel, 2015). Indeed, most young people expect daily contact with their significant other and the quantity of communication with a partner is associated with higher marital satisfaction, especially among women (Lenhart et al., 2015; Rehman & Holtzworth-Munroe, 2007). Current emerging adults are referred to as "digital natives" because they have grown up using digital technology (Prensky, 2001). This technology varies from the pervasive use of cell phones, which virtually all members of this age group own (96%, Pew, 2019), to advances in software such as texting, social media, and video calling. As such, contemporary

emerging adults carry around a digital record of their interactions with others, and new couples likely have several of their first conversations with each other stored in their pocket. In particular, text messaging allows partners to share text, emojis, picture, video, and audio content and is stored in phones, often for months or years. Examining text messages between couples that track back to the early weeks of dating should offer a window into how emerging adults communicate about a variety of topics.

A recent review of the literature on mobile phones and romantic relationships highlights that mobile phones are "powerful tools" for relationship formation, development, and maintenance and behavior (Juhasz & Bradford, 2016, p.717). Text messaging has been described as constant, private, and a tool to assert autonomy and maintain feelings of connection with romantic partners in one qualitative study (Pettigrew, 2009). The importance of text messaging and other digital technologies for couple communication is supported by the Communicative Interdependence Perspective of Close Relationships (Caughlin & Sharabi, 2013). This perspective highlights how relational closeness is associated with both face-to-face and technology-mediated communication (TMC). Typically, couples rely more on TMC in the early stages of a relationship, when surface-level contact is more common (Levinger, 1977; Sharabi & Dykstra-Devette, 2019). Transitioning from primarily TMC to face-to-face has been characterized as a "big jump" for a relationship, and its success bodes well for the relationship, although that transition is potentially awkward or intimidating (Caughlin & Sharabi, 2013). This is supported with previous studies that found that text messaging between college student couples was negatively related to relationship length, suggesting that the longer partners are in relationships, the less they use text messaging to communicate with their partner (Jin & Peña, 2010). Therefore, in order to understand how couples' attitudes and behaviors change as they

become more interdependent in their relationship, targeting text message communication early in the relationship may provide a real-time record of how these discussions take place.

Text messaging has been applied to examine discussions of risky sexual behavior and substance use among emerging adult friend groups (Minniear et al., 2017; Pizzicato, 2016). College students are more likely to disclose information about risk behavior when they expect their relational partner will be more confirming and supportive of the risk behavior (Aldeis & Afifi, 2013). College students' responses to friends' disclosures of risk behavior align more with their own privately held positive (i.e., approving) or negative (i.e., disapproving) beliefs of such risk behaviors when they communicate via lean media (i.e., text messaging) compared to rich media (i.e., face-to-face, calling, etc.; Minniear et al., 2017). Positive and negative information is communicated through both verbal (e.g., agreement/disagreement with partner, affect terms, verbosity of responses) and nonverbal (e.g., punctuation) cues via text message content (Hancock et al., 2007). Prior work on emerging adults suggests that males who communicate more about alcohol use with their male peers via text messages tended to have greater problematic alcohol use and positive attitudes towards alcohol use (Pizzicato, 2016). However, this relationship between text message content and alcohol attitudes and behaviors has not been extended to dating partners, leaving a gap in the literature.

The Present Study

The current study seeks to combine these ideas to further understanding of how romantic couples' text message content about alcohol early in their relationships is related to their alcohol attitudes and alcohol use. While text messaging has been used to examine some risk behavior (alcohol use, risky sex; Minniear et al., 2017; Pizzicato, 2016) in the literature, no studies have

directly examined text messages about alcohol use among newly formed emerging adult romantic couples.

Aim 1: Examining Couple's Text Message Content and Alcohol Use

As such, the first aim of this study is to assess the prevalence and type of early couple communication about alcohol use. We will operationalize this with a number count of how many times each person used an alcohol related word(s) in their text conversations. Consistent with the communicative interdependence perspective of close relationships (Caughlin & Sharabi, 2013) and findings that couples likely communicate about potentially sensitive behaviors early on in the relationship, we will examine this in the first few months of dating (<6 months).

RQ1: How often do early dating couples communicate about alcohol via text messages?

H1: Most early dating couples will have communicated at least once about alcohol via text message in the first 6 months of dating.

Furthermore, if couples are texting about alcohol use, it is important to understand the nature of the responses (e.g., positive vs. negative content about alcohol), given the literature that college students are more likely to express their privately held positive or negative beliefs about risk behavior via lean media (Minniear et al., 2017). It is possible that individuals may have both approving and disapproving conversations about alcohol via text messaging with their partner, depending on context. For example, they may encourage attending a party together that will involve drinking, but express remorse about binge drinking the following day if they experience a hangover. As such, the second research question will explore the valence of responses from each partner. We aim to expand these findings into the context of early romantic relationships (<6 months) and examine the content of the text messages (i.e., positive vs. negative messages). Additionally, consistent with prior literature (Fischer et al., 2005), we expect that couples who

have more conversations regarding alcohol overall, regardless of the valence of the text messages, will use alcohol more than couples that do not discuss alcohol.

RQ2: What portion of early couple communication about alcohol via text messages endorses positive vs. negative alcohol content?

H2: There will be a positive relationship between the number of text messages about alcohol (both positive or negative text content) and alcohol use.

Aim 2: Exploring the Relationship Between Actor-Partner Text Message Communication, Alcohol Use, and Alcohol Attitudes

The second aim of this study is to understand the relationship between couples' text message content about alcohol and individual alcohol attitudes and behavior. We expect college students to have both positive and negative expectancies, associations, and consequences with alcohol use (Grant et al., 2013; Nezlek et al., 1994; Rosenquist et al., 2010; Werner et al., 1995), and we expect them to have both approving and disapproving communication about alcohol. As such, I will operationalize positive text message content about alcohol (e.g., "I want to get drunk") as distinct from negative text message content about alcohol (e.g., "getting drunk is dangerous"). I expect text message content about alcohol to be positively associated with alcohol use and attitudes such that individuals who communicate with their partner more about positive alcohol-related messages will have greater alcohol use and greater positive self-reported alcohol attitudes as well as higher partner alcohol use and positive alcohol attitudes. Similarly, the same pattern is expected for their partner's positive-alcohol related text message content. For example, if they tell their partner they enjoy drinking and spending time with them at parties where they drink, this would positively predict both their own positive alcohol use and attitudes, as well as their partners. Second, the opposite pattern is expected to emerge for negative alcohol-related text

message content. If one expresses dislike for drinking and does not like to go out with their partner, they will likely have more negative attitudes about alcohol and lower alcohol use.

RQ3: Does communication between partners about alcohol via text messaging predict individual alcohol use and alcohol attitudes?

These associations will be examined using the Actor-Partner Interdependence Model (APIM; Kashy & Kenny, 1999; Kenny, 1996a; Kenny et al., 2006). The APIM allows the examination of actor (within self) and partner (crossover to partner) effects and is recommended in the domain of close relationships (Campbell & Kashy, 2002; Kenny et al., 2006). Therefore, the model and hypotheses are worded to reflect the participant as the "actor" and their dating partner as "partner" in order to distinguish each member of the dyad in the models (see Figures 1A and 1B, and Table 1 for a full list of Aim 2 hypotheses).

H3: Actors will have a positive relationship between their text message content and their own (actor effect) and their partners' (partner effect) alcohol use and attitudes towards alcohol, and vice versa for partners.

Aim 3: Exploring Moderating Relationship Factors Between Text Message Content and Alcohol Attitudes and Behaviors

The third aim of this study is to explore interpersonal factors that moderate the relationship between text message content and alcohol attitudes and behaviors. In addition to couples' direct influence over each others' alcohol attitudes and use, the dyadic nature of communication, behavior, and attitudes about alcohol in romantic couples warrants investigation into how relationship factors may influence these associations. As reviewed above, relationship power and relationship satisfaction are associated with health and risk behavior in romantic couples (Buelna et al., 2008; Campbell et al., 2009; Cornelius et al., 2016; Holt-Lunstad et al.,

2008; Pulerwitz et al., 2002; Robles et al., 2014; Rodriguez et al., 2013; Scott-Sheldon et al., 2010; Wiersma & Fischer, 2014).

Relationship power is a key factor in romantic relationships and in influencing partner's outcomes within the relationship. These power dynamics are likely to have an influence on alcohol attitudes and behavior, particularly those high in power having a stronger influence over those with lower power (Cornelius et al., 2016). As such, partners' perceived relationship power likely moderates the relationships between actor communication about alcohol and alcohol use and attitudes (partner effects), but not within the actor (actor effect). Specifically, if partners are high in relationship power, the actor's text responses should have less influence over their partner's beliefs and behaviors than when partners are low in relationship power. However, partners' relationship power would be unlikely to influence the direct relationship between actors' text message content and actors' attitudes and use. Therefore, the person with higher reported power in the relationship will exert greater influence over their partners' outcomes than the person with lower power. I expect these associations to hold true in both positive- and negative-valenced alcohol-related text messages (see Figures 2A-2B, and Table 2 for a full list of Aim 3 hypotheses).

RQ4: Does relationship power moderate the relationship between romantic partner's alcohol-related text message content and alcohol use and attitudes?

H4: The person with higher relationship power will have a stronger partner effect between alcohol-related text message content and alcohol use and alcohol attitudes than the person with lower relationship power.

Additionally, relationship satisfaction should also influence the relationship between text message content and alcohol use and attitudes. Relationship satisfaction is linked to differential

health outcomes, with those in higher satisfaction relationships experiencing greater engagement in protective health behaviors and those lower in relationship satisfaction more likely to engage in risk behavior, specifically alcohol misuse (Rodriguez et al., 2013). We expect greater endorsement of relationship satisfaction to be related to stronger relationships between text message content and alcohol behaviors and attitudes, such that individuals who are more satisfied in their relationships become more similar to their partners' alcohol use and beliefs, for better or for worse (Butterworth & Rodgers, 2005; Meiklejohn et al., 2012; Meyler et al., 2007). Thus, a moderating effect of high relationship satisfaction is expected. However, individuals may also be more likely to use alcohol as a coping mechanism for low relationship satisfaction (Owens et al., 2013). Therefore, regardless of positive or negative valence of the text message content, we expect individuals with lower relationship satisfaction to report greater alcohol use and hold more positive alcohol attitudes, resulting in a moderating effect between alcohol-related text message content and greater alcohol use and positive alcohol attitudes (see Figures 3A & 3B, and Table 2 for a full list of Aim 3 hypotheses).

RQ5: Does relationship satisfaction moderate the relationship between romantic partner's alcohol-related text message content and alcohol use and attitudes?

H5: High relationship satisfaction will have a positive moderating effect between text message content and alcohol use and attitudes, while low relationship satisfaction will be associated with greater alcohol use and attitudes regardless of valence of text message content.

Summary of The Present Study

Overall, this study will examine couple's text message content about alcohol in the early stages of dating and how this contributes to their attitudes and behaviors regarding alcohol. Examining the couple's text messages has strong ecological validity, compared to asking

participants to remember what conversations they have had regarding alcohol with their partners. Additionally, including the interpersonally focused moderators of relationship power and relationship satisfaction will help tease apart how relationship factors may promote or minimize engagement in alcohol use among emerging adult couples. Findings from this study may be used to further develop theoretical foundations for research on everyday interpersonal interactions via text message and engagement in risk behavior among early dating couples. Furthermore, this study has significant potential to inform future interventions targeting risky drinking and healthy relationships among emerging adults, which supports the broader goal of promoting health across the lifespan.

CHAPTER 2: METHOD

Participants and Procedure

The hypotheses were analyzed using data from the study: Technology and Relationships Among Young Adults. This study was conducted by the Health Behavior Change Lab at The University of North Carolina at Charlotte under the direction of Dr. Erika Montanaro. This study was developed to assess how young people use text messages in their romantic and sexual interactions, psychological mechanisms associated with sexting, and correlates of sexting, sexual behavior, and risk taking. As part of the primary investigation, couples were asked to provide their text messages with their partner over the first 6 months of dating as well as complete a host of self-report measures about their relationship (e.g., quality, power, closeness, etc. as well as their own health behaviors (e.g., sexual risk taking, current substance use, attitudes about substance use, etc.). For the purposes of this research project, only the relevant measures to the current investigation are presented.

Participants

This project used the full sample of participants from the primary study. Eligibility for the primary study were as follows: (1) heterosexual couples, (2) females: 18-25 years old; males: at least 18 years old at the time of the study, (3) both members of the couple report being in a romantic relationship with each other for a maximum of 6 months, (4) report sexual activity within the relationship in the past 6 months, (5) speak English, and (6) one member of the couple owns an iPhone. The requirement of at least one member to own an iPhone was due to software limitations for obtaining the text message content between partners. Participants were not limited to UNC Charlotte students, although most participants were, given the locations in which participants were recruited (flyers, SONA System pool, etc.).

A total of *N*=31 couples (62 participants) were recruited for this study. One couple was excluded for not meeting inclusion criteria (e.g., reporting that they were dating less than 6 months but text messages revealed they had been dating more than 2 years). A second couple was excluded for being a significant outlier on text messages (e.g., alcohol-related text messages). Analyses including this outlier are included in Appendix B to demonstrate how this changed the overall effects. This left a final sample of *n*=29 couples (*N*=58 participants) which were included in the following analyses.

Participants were all emerging adults (*M*=19.4 years, *SD*=1.58, Range = 18-25) and the sample was evenly split male (50%) and female (49%)[1]. Participants were racially and ethnically diverse; 56.9% of participants identified as White (*N*=33), 20.7% identified as Black/African American (*N*=12), 6.9% identified as Latinx/Hispanic (*N*=4), 6.9% identified as Asian (*N*=4), 6.9% identified as biracial or multiracial (*N*=4), and 1.7% identified as American Indian or Alaska native (*N*=1). The racial breakdown was consistent with representation at UNC Charlotte (College Data, 2019). The sample predominantly consisted of college students. Most participants were currently in college, with 49.1% completing some college or a 2-year degree (*N*=28) and 49.1% recently graduated high school (*N*=28), while one held a Bachelor's degree (1.8%).

On average, couples had been dating 3.1 months (*SD*=1.76; Range= 0.5-6 months) and most couples were not cohabitating (84.5% were not, *N*=49) while 15.5% of couples reported cohabitating (*N*=9). Most couples were not in a long-distance relationship (89.7%, *N*=52), 3 couples were in a long-distance relationship (10.3%, *N*=6). Though all couples were in a heterosexual relationship, there was some diversity in sexual orientation. 75.9% (*N*=44)

[1] One participant who endorsed female as sex at birth did not report their current gender identity, thus resulting in the 50% male, 49% female statistic for gender identity.

identified as exclusively heterosexual/straight, 13.8% (*N*=8) identified as mostly heterosexual/straight, 8.6% (*N*=5) identified as equally heterosexual/straight and homosexual/gay/lesbian, 1.7% (*N*=1) identified as pansexual. Most couples described their relationship as exclusively dating/monogamous (85.8%), however, 13.8% *(N*=8) reported they are casually dating (non-monogamous romantic relationship), *N*=1 reported they were in a sexual, non-romantic relationship, and *N*=1 reported they are "in a sexual romantic and mostly monogamous but we include other people occasionally relationship."

Original Procedure

Participants were recruited via the UNC Charlotte Sona-System, flyers, UNC Charlotte email recruitment, and announcements in large undergraduate courses. Interested participants emailed the Health Behavior Change Lab at UNCC and then both members of the couple were screened for eligibility over the phone by an undergraduate research assistant. If eligible, couples were scheduled for an in-person lab session in Colvard. At the start of the in-person lab session, research staff explained the project in detail and ensured participant comprehension (e.g., consent quiz). Having the couples attend jointly helped ensure that both members of the couple consent to their text messages being downloaded. If one person did not consent, the couple was thanked for their time and not enrolled in the study.

During the lab session, all text messages sent and received in the preceding six months between the couple were downloaded to a secure file. These text messages included any words or emojis sent or received during that time. No pictures or videos sent or received through text message were collected. The Ecamm Phoneview computer program was only compatible with Mac and iPhone platforms and facilitated backing up iPhone data. This program allows iPhone text messages, contacts, photos, music, and apps to be saved to a Mac computer. For the

purposes of this study, only the text messages between the couple participating were obtained. One participant from the couple was asked to attach their iPhone to a USB cord hooked up to the computer. Once attached, the program displayed all iPhone messages and participants were asked which messages are between them and their partner only. Participants were also reminded that they could delete any individual messages in the selected text exchange they did not want study staff to see. Only text messages exchanged between the couple 6 months prior to the date of participation were saved. All text messages were saved in an Excel file in order to prevent the downloading of any pictures included in the text message exchanges. Excel files were then uploaded to a secure UNCC Google Drive folder. As a company, the Ecamm Phoneview software used was never in possession of the text messages, it only helped to facilitate the exchange of data between the iPhone and lab-owned Mac computer.

Participants also completed several self-report measures online via Qualtrics during the lab session. Self-report measures for this dissertation include alcohol use, alcohol attitudes, relationship power, relationship satisfaction, and demographics. The total time of the lab session was approximately 70 minutes. Once completed, each participant received either a $20 Amazon gift card or 3 hours of SONA credit as compensation for participation in this study.

Adjusted Procedure Due to Covid-19

Due to the global pandemic of severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2; Covid-19) that resulted in halting in-person recruitment procedures in early 2020, data collection after the onset of this pandemic was entirely remote. This required an additional inclusion criterion of at least one member of the couple to have both a Mac and iPhone, so that they can download their own text messages. Though the type of data remained the same, couples met virtually with research assistants (RAs) to complete informed consent, download text

messages, and receive the survey information. Once informed consent was complete, the RAs instructed one member of the couple on how to download PhoneView on their own Mac, and upload their text messages. Once uploaded, these texts were shared with the researcher via a secure Google Drive folder, and then transferred to the lab folder. Additionally, both partners were given the option to delete specific text messages prior to the file being moved to the secure lab folder. Then participants completed the survey online at home, and were compensated via an Amazon eGift Card that was emailed to them or via SONA credit, whichever they preferred. Thus, the procedure changed to an entirely virtual format during the pandemic, though the content of the data collected was the same.

Measures

Text Message Content

On average, individuals exchanged 5,347 total words over a period of just over 3 months to their partner (*M*=5347.02, *SD*=2217.335, Range= 438-7148 words) in this dataset. In order to extract alcohol-related content from the couple's text messages, the Linguistic Inquiry & Word Count (LIWC2015; Pennebaker et al., 2015) software was used. This software was developed to read text and count words in psychologically relevant domains such as emotionality, social relationships, thinking styles, and individual differences in order to detect meaning (Tausczik & Pennebaker, 2010). LIWC includes built-in dictionaries to assess text input (e.g., text messages, blogs, Tweets, articles, etc.) in domains such as affect terms, social terms, and personal concerns (Pennebaker et al., 2015). For example, in a text message exchange comprised of 50 words there might be 6 positively-valenced words and 3 words related to risk/prevention focus. This would be converted into 12% positively-valenced words and 6% risk behavior words. The LIWC software has been found to have adequate corrected internal reliability and strong external

validity (Pennebaker et al., 2015). Additionally, LIWC has been used to examine positive and negative emotional communication in text messages between friends and romantic partners (Brody & Peña, 2015). While there are other strategies of coding text, such as content analysis through human coders (Krippendorff, 2004), these can be problematic because even with extensive training, judges often have poor agreement in most dimensions when evaluating deeply personal stories, and are extremely slow and expensive (Tausczik & Pennebaker, 2010). As such, a computerized text analysis program was more efficient and allowed researchers to examine an identified group of partner responses in a quick and systematic manner.

In addition to the built-in dictionaries that have been developed and refined over the past few decades, LIWC2015 allows users to create their own dictionaries by identifying target constructs and words that identify those constructs (Pennebaker et al., 2015). This allows users flexibility to adapt the LIWC software to their specific needs. For the purposes of this study, a custom LIWC dictionary targeting alcohol content in couples text messages was developed. First, common keywords and phrases associated with alcohol use (e.g., liquor, alcohol, drunk, shots, etc.) were identified by manually reading a subset of participant's text messages. Five of the 29 text message exchanges were coded in full by two independent coders (e.g., a graduate student and an undergraduate RA). Next, all keywords and phrases in the text message datasets were combined into a total list of alcohol related words and phrases, resulting in a final LIWC dictionary of 123 unique alcohol-related words and phrases in total (see Figure 4).

Next, coders used the same 5 text exchanges between partners to identify the valence of each text message (e.g., positive, negative, or ambiguous). In this case, words were coded as ambiguous if they were not clearly positive or negative in the context of the sentence. However, throughout coding, some words/phrases were used in different contexts (e.g., "drink" was rated

at positive, negative, and ambiguous at different points) and thus did not only fall into one category. After all words were coded for valence, keywords and phrases were coded into 7 potential categories: positive, positive/ambiguous, ambiguous, positive/ambiguous/negative, negative/ambiguous, and negative. Interrater reliability was high between coders (Kappa=.95, $p<.001$). In order to simplify these categories for analyses, positive and positive/ambiguous were coded as positive, negative and negative/ambiguous were coded as negative, and ambiguous and positive/ambiguous/negative were coded as ambivalent (e.g., the words may elicit conflicting meanings; Wang, 2008). Figure 4 demonstrates the categories each word/phrase was coded into. Once the coding was completed, a final LIWC dictionary was added to the software and analysis of text messages for all 58 participants was conducted, resulting in proportions of the individual's overall text messages that were alcohol specific and broken down by valence. Text messages were examined by individual person not at the dyad level.

In order to meaningfully interpret these proportions, clearly valenced scores were combined into a single, continuous variable to use for analyses. Consistent with prior literature the domains of emotions (Diener & Emmons, 1984), health (Cohen & Pressman, 2006) and communication (Brody & Peña, 2015), positive and negative affectivity represent two distinct constructs; however, in the context of partner communication, expressing positive and negative information is related to each other in the ongoing communication between partners (Hancock et al., 2007). Specifically, both verbal (e.g., agreement/disagreement with partner, affect terms, verbosity of responses) and nonverbal (e.g., punctuation) text cues allow texters to express and assess positive and negative information with each other, and the relative amount of agreement to disagreement with their partner is important (Hancock et al., 2007). As such, examining positive and negative text message content separately may introduce bias and artificially inflate

results by separating these out as independent effects. Additionally, the developers of LIWC were careful to note that taking into account the context of each word is extremely important when interpreting their software, though their software does not account for context on its own (Pennebaker et al., 2015). Therefore, in order to capture the text message content existing on a continuum, a difference score was calculated for each participant, with the total amount of negative text message content subtracted from positive text message content. Higher scores indicated a greater amount of overall positive text message content about alcohol, and lower scores indicated more negative text message content about alcohol. Some participants had scores at or close to zero, which indicated little to no text message content.[2] Additionally, words coded as ambiguous were excluded from these calculations as their valence was unclear.

Alcohol Use

Alcohol use was measured with three items adapted from the Youth Risk Behavior Survey (YRBS; CDC, 2017). Best practices recommend a minimum of 3 questions to understand alcohol use patters, measuring alcohol use as frequency of drinking episodes, quantity of drinks per episode, and frequency of binge-episodes over a specified time frame (NIAAA, 2003a; Nugawela et al., 2016; Sobell & Sobell, 1995). Participants were asked how many days they had at least one drink of alcohol and on how many occasions they had a binge episode (5 or more drinks for men, 4 or more drinks for women over a 2-hour period) in the past 30 days. Participants rated their responses with the options 0 (0 days), 1 (1 or 2 days), 2 (3 to 5 days), 3 (6 to 9 days), 4 (10 to 19 days) and 5 (20 to 29 days) and 6 (All 30 days). Using a 30-day time window for primarily underage participants was more appropriate than a typical 12-month time frame among adults (NIAAA, 2003a). However, for quantity of alcohol use there was only an

[2] While it is possible for scores close to 0 to indicate an equal amount of positive and negative text message content, that was not the case in this sample and is discussed further in the Results and Discussion sections.

item with the 12-month timeframe. Therefore, to assess quantity participants were asked "how many drinks did you have on a typical day when you were drinking in the past year?". Participants rated their responses with the options 0 (None, I do not drink), 1 (1 or 2), 2 (3 or 4), 3 (5 or 6), 4 (7 to 9), 5 (10 or more).

Alcohol Attitudes

Alcohol attitudes were assessed with 4 items modeled after the Theory of Reasoned Action (Ajzen & Fishbein, 1980). This model posits that attitudes are salient information and beliefs that lead to engaging in a specific behaviors. As such, participants were asked to rate the extent to which alcohol is 1) unpleasant-pleasant, 2) fun-boring, 3) bad-good, and 4) wise-foolish on a scale from 1 to 7. Items 2 and 4 were reverse scored, such that all items have higher scores indicating greater positive attitudes about alcohol. Items were averaged to indicate an overall score of alcohol attitudes. This scale had good reliability (α = .84).

Relationship Power

Relationship power was measured using the 8-item decision making dominance subscale of the Sexual Relationship Power Scale (SRPS; Pulerwitz et al., 2000). Sample items include "Who usually has more say about what you do together?", "Who usually has more say about when you talk about serious things?", and "In general, who do you think has more power in your relationship?" Participants were asked to categorize each response into 1 (your partner), 2 (both of you equally), or 3 (you). Responses were averaged, with higher numbers indicating greater perceived personal power in the relationship. Overall the SRPS has strong validity and reliability in the literature (McMahon et al., 2015). The decision-making dominance subscale has been

used as a measure of relationship power in the literature among young couples, though reliability for the decision-making dominance subscale has been somewhat low (α = .44-.52; Cornelius et al., 2016; Kershaw et al., & 2013), particularly among young samples (McMahon et al., 2015). Reliability in this sample was low (α =.28).

Relationship Satisfaction

Relationship satisfaction was measured through the Perceived Relationship Quality Components (PROC) Inventory (Fletcher et al., 2000). The PROC is an 18-item measure and consists of 6 interrelated subscales: Relationship Satisfaction, Commitment, Intimacy, Trust, Passion, & Love. The Relationship Satisfaction subscale was used for the purposes of this study. This subscale consisted of three items: "How satisfied are you with your relationship?", "How content are you with your relationship?", and "How happy are you with your relationship?". Participants endorsed the degree to which they agree with each statement using a Likert scale from 1 (not at all) to 7 (extremely). Responses were averaged, and higher scores indicated greater relationship satisfaction. Previous studies have found strong reliability for the PROC among dating and married couples, α = .90-.92 for men, α = .89-.94 for women (Campbell et al.; 2005; Kachadourian et al., 2004) and for the Relationship Satisfaction subscale alone (α = .91; Smith et al., 2008). Reliability was high in this sample (α = .95).

Demographics

Participants were asked to report their age, gender identity, level of education, length of relationship, and race/ethnicity. See Appendix A for a full list of demographics and study variables.

CHAPTER 3: ANALYTIC STRATEGY

Preliminary descriptive analyses of the data were conducted. This included the estimation of covariance between dyads as well as means, correlations, and identification of outliers. One outlier was identified and removed from the dataset. Then, descriptive statistics for all study variables were conducted with the final dataset (n = 29 dyads). Because the present study focused on romantic couples, the individuals were nested within dyads and individual scores were not fully independent from each other. Pairwise intraclass correlations (ICC) were calculated to determine the degree of nonindependence, or similarity, between dyad members (Griffin & Gonzalez, 1995). Thus, if dyad members perfectly agreed with each other (e.g., Actor1=2, Partner1=2; Actor2=4, Partner2=4) the ICC would be equal to 1. Pairwise intraclass correlations were selected because they are a maximum likelihood estimate (e.g., estimating parameters such that the observed data is the most probable in the statistical model) of the intraclass correlation, and therefore, represent the most probable outcome under the assumed statistical model (Griffin & Gonzalez, 1995). Intraclass correlations revealed agreement between dyads on several variables (Range of ICCs: r_p= -.02 to .71, See Table 2), particularly text messages, and therefore, control for nonindependence of the data was necessary. Additionally, scores were presumed as non-independent due to the low number of dyads (n<35) though there was not sufficient power to test for consequential nonindependence (Kenny et al., 2002). All preliminary analyses were conducted in IBM SPSS for Mac.OS, Version 27.

I then conducted analyses in 3 phases aligned with the primary aims of this study. In Phase 1, I examined descriptive statistics and zero-order correlations among text message content, alcohol use, and alcohol attitudes. To analyze what proportion of early couple communication about alcohol via text messages endorsed positive vs. negatively-valenced

alcohol content, the proportion of both positive alcohol texts and negative alcohol texts relative to the total alcohol-related text message content was calculated using the categories generated from a custom LIWC dictionary (Figure 4). Additionally, words coded as ambivalent (e.g., the words may elicit conflicting meanings; Wang, 2008) were also included as these also make up the total alcohol words proportion. Then, the proportion of the valence of the alcohol related words was calculated (i.e., proportion of positive alcohol words – proportion of negative alcohol words) for each participant. Therefore, higher scores indicated a higher proportion of positively-valenced alcohol words in the participant's text messages. Phase 1 analyses were conducted in IBM SPSS for Mac.OS, Version 27.

In Phase 2, I conducted a series of Actor Partner Interdependence Models to examine actor and partner effects between text message content and alcohol use and attitudes. The Actor-Partner Interdependence Model allows for control for nonindependence and thus was selected to examine Aim 2 hypotheses (Kenny et al., 2006). Regression analyses were conducted using Multilevel Modeling (MLM) in the Actor-Partner Interdependence Model (APIM) in SPSS (Lederman, 2019; Kenny et al., 2006). Though only heterosexual couples were included in this study and theoretically could be treated as distinguishable, due to a small sample size ($n < 50$ dyads) all partners were treated as indistinguishable for analyses (Lederman, 2019; Kenny et al., 2006). As a result, actor and partner effects were constrained to equality due to indistinguishability. Therefore, only one actor effect and one partner effect were calculated for each model, rather than allowing for an unrestricted model in the distinguishable case with four total actor and partner effects tested (see Figure 5). Alpha was set at .05 for testing and 95% confidence intervals (CI) were obtained for each model. A pairwise data structure of the dataset was used to conduct analyses (Kenny et al., 2006; Ledermann, & Kenny, 2017). All predictor

variables were grand mean centered. For each model, pseudo-R^2 was calculated using the formula provided in Kenny and colleagues (2006) in order to determine the amount of variance in alcohol use and alcohol attitudes explained by the actor and partner effects. In this case, pseudo R-squared (i.e., $R^2=1-[(s_{dd} + s_e^2)/(s_{dd}'+s_e^2')]$) represents the ratio of the dyad variance and error variance of the restricted and unrestricted models, and can be interpreted as "the proportion of variance explained by the two predictor variables and their interaction" (Kenny et al., 2006, p.95). Finally, the parameter *k* (k_p = AE/PE; Kenny & Ledermann, 2010) was calculated in order to detect dyadic patterns (e.g., couple or contrast effects). Without the parameter *k*, it is possible that dyadic patterns (e.g., couple effects or contrast effects) may be misinterpreted as actor or partner effects (Fitzpatrick et al., 2016). The Monte Carlo method was used for bootstrapping for CI for *k*, to determine if CI includes 1, 0, or -1 to determine the type of effect. Phase 2 analyses were conducted using IBM SPSS for Mac.OS, Version 27, and the *k* parameter and standardized coefficients were calculated using David Kenny's APIM_MM shiny application in R (Kenny, 2018). No differences in the effects were observed using SPSS or Kenny's APIM_MM as analysis software.

In Phase 3, exploratory analyses were conducted to tentatively examine how relationship power and relationship satisfaction moderated outcomes. Because this dataset had a small sample size (*n*=29 dyads), the APIM structural equation modeling moderation models are grossly underpowered. Therefore, results should be cautiously interpreted. As such, I treated these data as pilot data to guide future directions. The data were restructured into a dyadic dataset and analyses were conducted using Kenny's Actor Partner Interdependence Moderation Model (APIMoM) with Structural Equation Modeling for indistinguishable dyads shiny application using R (Kenny, 2018). To examine how relationship power and relationship satisfaction

moderated outcomes, APIM moderation models were conducted (Garcia et al., 2015). Both relationship power and relationship satisfaction were considered mixed dyadic variables in these analyses, as these scores may vary both within and between dyads (Garcia et al., 2015; Kenny et al., 2006). As such, there were two possible scores of this moderator within the dyad, specifically an actor moderator (the actor's own score on the moderator) and a partner moderator (the partner's score on the moderator). Additionally, simple slopes were also obtained via David Kenny's APIMoM shiny application in R (Kenny, 2018) to examine potential patterns in the data warranting further investigation.

CHAPTER 4: RESULTS

Intercorrelations and Descriptive Statistics

Descriptive statistics for study variables can be found in Table 1. Overall, participants on average engaged in a moderate amount of drinking roughly 2 days in the past month, 2-3 drinks per sitting within the past year, and 1 binge episode per month. Additionally, participants viewed drinking as slightly more positive than neutral on average (M=4.20, SD=1.35, Range: 1-7).

Intercorrelations for all study variables can be found in Table 2. Alcohol attitudes were significantly positively correlated with alcohol quantity (r=.56, p<.001), frequency (r=.48, p<.001), and binges (r=.52, p<.001). Alcohol-related text messages were significantly positively correlated with frequency of alcohol use (r=.43, p<.001) and binge episodes (r=.29, p<.05), but not alcohol quantity (r=.07, p=.625) or alcohol attitudes (r=.20, p=.13). Overall, this indicates that, in the current sample, alcohol attitudes were related to alcohol use but not text message content about alcohol use. Also of note, binge episodes over the past month and frequency of alcohol use over the past month were highly positively correlated (r=.82, p<.001), This was expected given that binge episodes are accounted for under total frequency of use over the past month, however conceptually these items have important distinctions. The high overlap suggests that many of the instances of alcohol consumption over the last month were also binge drinking episodes for this sample.

To examine the extent to which participants' scores were similar to their partners, pairwise intraclass correlation coefficients were calculated (Griffin & Gonzalez, 1995). Intraclass correlation coefficients can be interpreted as the proportion of variance explained by the dyad in this sample. For example, 24% of the variance in frequency of alcohol use over the past 30 days and 26% of attitudes about alcohol were accounted for by the actor-partner dyads in this sample.

As seen in Table 2, alcohol quantity over the past year produced an intraclass correlation (ICC) close to zero, suggesting dyadic independence on this variable in this sample. Alcohol frequency (r_p=.24) and attitudes (r_p=.26) had small to moderate ICCs, while binge drinking (r_p=.40), relationship satisfaction (r_p=.63), and the difference in positive and negative alcohol words (r_p=.60) had moderate to large effect sizes between couples. To test the significance of the ICCs, 95% confidence intervals were calculated by utilizing the Fisher's *z* transformation. These results yielded few statistically significant ICCs (see Table 3). However, this sample was too small to reach consequential non-independence, thus these tests of significance should be interpreted with caution (Kenny et al., 2002).

Aim 1 Results: Examining Couple's Text Message Content and Alcohol Use

To explore the first research question (RQ1: how often do early dating couples communicate about alcohol via text messages), and analyze Hypothesis 1 (H1: most early dating couples will have communicated at least once about alcohol via text message in the first 6 months of dating), descriptive analyses were conducted for the alcohol-related text messages identified in LIWC. The overall proportion of alcohol-related texts relative to each participant's full set of text messages was calculated using the custom LIWC dictionary. On average 0.3% (*M*=0.30, *SD*=.28, Range= 0-1.36) of individual's text messages with their partner were related to alcohol. This translates to each individual on average mentioning alcohol-related words approximately 16 times via text (*SD*=15.14) during the first few months of dating, and combined meaning dyads have approximately 32 mentions of alcohol in their text messages on average. There were two individuals who had 0 alcohol related words in their text messages, however, their partners mentioned alcohol-related words. Thus, on the dyadic level there was at least some mention of alcohol related words with all couples in our sample. Therefore, Hypothesis 1 was

supported that most early dating couples in this sample have communicated about alcohol at least once within the first six months of dating.

Next, I examined the second research question (RQ2: what portion of early couple communication about alcohol via text messages endorses positive vs. negative alcohol content). Descriptive statistics revealed that the text messages tended to be positively-valenced (*M*=.15%, *SD*=.17, Range=.00-.73) or ambivalent (*M*=.15%, *SD*=.15, Range=.00-.90) about alcohol, while fewer were negatively-valenced (*M*=.01%, *SD*=.02, Range=.00-.09). This translates to individuals sending approximately 8 positive words/phrases, 8 ambivalent words/phrases, and 1 negative word/phrase about alcohol on average to their partner within the first few months of dating. Overall, couples most often used positively-valenced or ambivalent alcohol related words whereas very few were negatively-valenced.

To analyze hypothesis two (H2: there will be a positive relationship between the number of text messages about alcohol and alcohol use), bivariate correlations between the total number of alcohol related text messages and individual alcohol use variables (e.g., frequency, quantity, and binges) were conducted in SPSS. The total number of alcohol related words were significantly positively correlated with frequency of use over the past 30 days (r=.45, p<.001) and binge episodes within the past 30 days (r=.41, p=.002), however they were not significantly correlated with typical quantity of use over the past year (r=.13, p=.34). Therefore, Hypothesis 2 was partially supported because there was a significant positive correlation with frequency and binge drinking episodes over the last 30 days but not quantity of alcohol consumed over the past year.

Aim 2 Results: Exploring the Relationship Between Actor-Partner Text Message Communication, Alcohol Use, and Alcohol Attitudes

In the second phase of analyses, a series of Actor-Partner Interdependence Models using Multilevel Modeling were used to assess research question 3 (RQ3: whether communication between partners about alcohol via text messaging predicts individual alcohol use and alcohol attitudes) and hypothesis 3 (H3: actors will have a positive relationship between their text message content and their own (actor effect) and their partner's (partner effect) alcohol use and attitudes towards alcohol). An example model of those tested in Aim 2 can be found in Model 5. Alcohol use (e.g., quantity, frequency, and binge episodes) and alcohol attitudes were entered as the outcomes and text message content was entered as the predictor in separate models. Generalized least squares analysis with correlated errors and maximum likelihood estimation were used to conduct APIM analyses due to nonindependence. All variables were grand mean centered.

First, I tested the relationship between text messages on frequency of alcohol use over the past 30 days. As seen in Table 5a, there was a significant actor effect of text messages on frequency of alcohol use over the past 30 days. As indicated by the estimated intercept, the predicted alcohol frequency over the past 30 days is 1.83 for actors and partners with an average amount of alcohol related text messages ($p<.001$). There was a statistically significant actor effect on frequency of alcohol use ($b=3.13$, $p<.05$). As such, for every one standard deviation increase in text message communication, alcohol frequency increased by 3.31 instances. No significant partner effect was found. This model accounted for 20.5% of the variance in alcohol use over the past 30 days.

Next, I tested the relationship between text messages on quantity of alcohol use over the past year. As seen in Table 5b, there was no significant effect of text messages on quantity of alcohol use over the past year. As indicated by the estimated intercept, the predicted alcohol quantity over the year is 1.88 (e.g., 1 to 2 drinks) for actors and partners with an average amount of alcohol related text messages ($p<.001$). No significant actor or partner effect was found. This model also resulted in a pseudo R^2 value that was negative, which indicates that the text messages about alcohol were essentially unrelated to quantity of alcohol over the past year. Thus, this model accounted for 0% of the variance in quantity of alcohol use over the past year.

Then, I tested the relationship between text messages on binge episodes over the past 30 days. As seen in Table 5c, there was no significant effect of text messages on binge episodes over the past 30 days. As indicated by the estimated intercept, the predicted number of binge episodes over the past 30 days was .78 for actors and partners with an average amount of alcohol related text messages ($p<.001$). No significant actor or partner effect was found. This model accounted for 6.3% of the variance in binge episodes over the past 30 days.

Finally, I tested the relationship between text messages on alcohol attitudes. As seen in Table 5d, there was no significant effect of text messages on alcohol attitudes. As indicated by the estimated intercept, the predicted alcohol attitudes was 3.90 for actors and partners with an average amount of alcohol related text messages ($p<.001$). No significant actor or partner effect was found. This model accounted for 2.5% of the variance in alcohol attitudes. Therefore, Hypotheses 3 was largely not supported, however, there was one actor effect of text messages on frequency of alcohol use.

Aim 3: Exploring Moderating Relationship Factors Between Text Message Content and Alcohol Attitudes and Behaviors

Given the small sample size (n<50 dyads), the third phase of analyses were conducted as exploratory analyses due to being under powered for structural equation modeling. Actor-Partner Interdependence Moderation Models were conducted using Kenny's (2018) APIMoM DyadR shiny application. The data were restructured into dyadic dataset format (e.g., one line of data represents one couple) in order to conduct these analyses. For a visual example of the moderated APIM models tested, see Figure 6.

Relationship Power

I examined research question 4 (RQ4: does relationship power moderate the relationship between romantic partner's alcohol-related text message content and alcohol use and attitudes) and hypothesis 4 (H4: The person with higher relationship power will have a stronger partner effect between alcohol-related text message content and alcohol use and alcohol attitudes than the person with lower relationship power). An independent samples t-test was conducted with gender as the grouping variable in order to determine if there were differences in relationship power between men and women. In this sample, women (M=2.07, SD=.21) endorsed significantly higher relationship power scores (t(46)=2.71, p=.044, 95% CI: .004;.236) than men (M=1.95, SD=.19), indicating that overall women held more power in their relationships than men in this sample. Results of the moderated APIM analyses with relationship power indicated poor fit across models for all dependent variables: frequency of use [$\chi^2(30) = 96.07$, $p < .001$; RMSEA = 0.28], quantity [$\chi^2(30) = 87.26$, $p < .001$); RMSEA = 0.26], binge episodes [χ^2 (30) = 108.49, $p < .001$; RMSEA = 0.30], and alcohol attitudes [χ^2 (30) = 88.56, $p < .001$; RMSEA = 0.26]. Poor reliability of the relationship power measure may be contributing to poor fitting

results, in addition to the low number of dyads. Full results for each model including interaction terms can be found in Table 6a. Additionally, no notable relationships between the hypothesized variables were found through examination of the simple slopes.

Relationship Satisfaction

I examined research question 5 (RQ5: Does relationship satisfaction moderate the relationship between romantic partner's alcohol-related text message content and alcohol use and attitudes?) and hypothesis 5 (H5: High relationship satisfaction will have a positive moderating effect between text message content and alcohol use and attitudes, while low relationship satisfaction will be associated with greater alcohol use and attitudes regardless of valence of text message content.). In order to determine if the moderator, relationship satisfaction, differed between men and women, an independent samples t-test was conducted with gender as the grouping variable. In this sample, women (M=6.06, SD=.99; Range: 1-7) did not endorse significantly higher relationship satisfaction scores (t(46)=.12, p=.908, 95% CI: -.680; .763) than men (M=6.01, SD=1.45). Results of the moderated APIM analyses with relationship satisfaction indicated poor fit across models for all dependent variables: frequency of use [$\chi^2(30) = 96.98$, $p < .001$; RMSEA = 0.28], quantity [$\chi^2(30) = 118.28$, $p < .001$); RMSEA = 0.32], binge episodes [$\chi^2 (30) = 111.49$, $p < .001$; RMSEA = 0.31], and alcohol attitudes [$\chi^2 (30) = 105.05$, $p < .001$; RMSEA = 0.29]. Full results for each model including interaction terms can be found in Table 6b. Additionally, no notable relationships between the hypothesized variables were found through examination of the simple slopes.

CHAPTER 5: DISCUSSION

Overview

Overall, the hypotheses of this study were partially supported. At the bivariate level, there were significant positive relationships between alcohol use and alcohol attitudes, and text messages and alcohol use, suggesting that discussions about alcohol take place between most emerging adults during the early stages of dating in this sample. However, there was little support for alcohol related text messages predicting dyads' alcohol use or attitudes. Furthermore, due to limitations related to a small sample size, examining the hypothesized moderating effects of relationship power and relationship satisfaction of text messages on alcohol use and attitudes was not statistically or practically meaningful, thus leaving room for additional studies to explore these relationships.

Aim 1: Examining Couple's Text Message Content and Alcohol Use

The results of the first aim support the hypothesis that couples begin discussing alcohol early on in their dating relationship and that most of the communication was either positively-valenced or ambivalent. In this sample at least one partner in the couple had mentioned alcohol words/phrases a minimum of one time. Couples averaged about 32 mentions of alcohol words/phrases between each couple (e.g., "you HAVE to drink for the football game, silly;" "I drank a bit too much last night…"). This underscores the commonality of discussing alcohol use with new partners and demonstrates that couples do discuss alcohol via text messages. This commonality supports that couples with various levels of engagement with alcohol use text messages to discuss this topic with their partner. This is particularly important for this study because it demonstrates that couples discuss a potential risk behavior (e.g., alcohol use) via text messages and therefore examining text messages may be a good way to naturally capture early

couple communication about risk behavior that does not introduce potential bias from an artificial lab setting (e.g., asking couples to remember a conversation they had about alcohol).

However, the portion of alcohol related words was low (.3%) relative to the broader text messages exchanged by partners. The low proportion may be explained by partners having relatively few discussions about alcohol as well as by the possibility that partners are likely communicating about alcohol via other platforms and face-to-face. For example, partners may discuss plans to meet up at a bar or tailgate via text messaging, then discuss alcohol-topics face-to-face while they are there. Furthermore, additional communication about alcohol may take place on other technological platforms, such as social media sites such as Facebook, Instagram, Twitter, and Snapchat. Use of social media sites are widely used among emerging adults age 18-24, with 76% using Instagram and 75% using Snapchat (Auxier & Anderson, 2021). Couples in this study endorsed feeling highly satisfied in their relationships and Media Multiplexity Theory posits that partners with closer ties utilize more media to communicate than those with weaker ties (Haythornthwaite, 2005). For example, Snapchat is used by about 75% of 18-24 year olds and may offer a way for partners to disclose information about alcohol use or attitudes without the potential risk of permanence of a text message (Auxier & Anderson, 2021; Velten & Arif, 2016). As such, Snapchat offers partners the ability to communicate information about alcohol use (e.g., sending a selfie while out drinking with friends) in a manner that will disappear after it is viewed. Snapchat users report the platform as playful, able to facilitate bonding, and primarily used by those in close relationships (Piwek & Joinson, 2016). Indeed, Snapchat has been found to play an important role in transitioning from the experimenting to the intensifying stage of romantic relationships development as well as relationship maintenance, which are the stages and transitions the couples in this sample are in (Velten & Arif, 2016). Considering this myriad

of both on and offline platforms where communication about alcohol use may take place contextualizes the relatively low amount of discussion about alcohol use we found in this sample. Future studies may benefit from capturing multi-platform and multimodality communication about alcohol among early dating couples to determine where and how such communication is taking place.

Next, I examined the valence of the text messages, in order to examine how dating partners talk about alcohol (e.g., positively or negatively). The total alcohol related text messages were calculated using LIWC and the difference of negatively-valenced alcohol texts were subtracted from the positively-valenced texts such that higher scores represented participants who had more positively-valenced communication about alcohol use with their partners. However, descriptive statistics revealed that the majority of alcohol related words were either positively-valenced or ambivalent, with a very small proportion being clearly negatively-valenced. This was somewhat surprising given that college students often express their privately held positive or negative beliefs about risk behavior via lean media (e.g., text messages), suggesting that negatively held beliefs would be more likely to be expressed via text messages rather than in person or via video chat (Minniear et al., 2017). However, we did not see such a relationship emerge, with very few instances of clearly negatively-valenced discussion about alcohol overall. Yet, this finding was consistent with prior literature that emerging adults tend to discuss risk behavior with others that they expect will agree with them, and many will use equivocal responses rather than disagreement (Bavelas et al., 1990; Minniear et al., 2017). This response of either agreeing or equivocating with their partner rather than outright disagreeing is consistent with the text messages in this sample. Though partners may not disclose their privately held attitudes, particularly disagreement, with their partner, this may be in service of

getting to know their partner without inviting potential disagreement or awkward situations early on (Minniear et al., 2017). Therefore, partners are likely to discuss alcohol use early on, however, they may not express negative beliefs/disagreement but rather rely on ambiguous/equivocating terms to express this if at all. This may provide space to get to know one's partner before expressing beliefs that may diverge from their partners or societal norms (e.g., perceived norm to drink on college campuses).

At the bivariate level, the key outcome variables of alcohol use (frequency, quantity, and binge drinking) and alcohol attitudes were significantly positively correlated as expected. However, alcohol attitudes and alcohol quantity were not significantly correlated to alcohol text messages as predicted. Measurement differences of the three alcohol use outcome variables may account for attitudes and alcohol quantity not being significantly associated. Though it remains a best practice to include all three factors (frequency, quantity, and episodes of heavy drinking) when studying alcohol use (NIAAA, 2003a), frequency of alcohol use and binge drinking episodes were measured over the past 30 days, while quantity of alcohol was measured over the past year. As such, the alcohol quantity measure was not limited to a time when the participant was dating their partner. This is a limitation in the conclusions that can be drawn about the impact of texting with a partner on alcohol quantity because the quantity measure is not limited to timeframe when the partner could possibly have an influence on the behavior. This issue is highlighted in these data in the lack of relationship between alcohol quantity and text messages unlike the alcohol related text messages significant positive associations with alcohol frequency and binge episodes, suggesting the change in timeframe was an important factor in the alcohol quantity measurement. Despite this, typical alcohol quantity was included in the measures for this study because quantity if an important factor in teasing apart the nuances of alcohol use in an

interpersonal context, particularly during emerging adulthood (Maggs et al., 2011; Pedersen & Pithey, 2018).

The lack of bivariate relationship between alcohol related text messages and alcohol attitudes was also surprising. Given that attitudes are a significant predictor of behavior (Ajzen et al., 2018) it seems unlikely that one's text message content about alcohol and their attitudes about alcohol would be unrelated, though it is possible. However, this discrepancy between attitudes and text messages may be explained by considering that there may have been other factors aside from attitudes driving text message responses. Ajzen & Fishbein (1977) posit that low or inconsistent relationships between attitudes and behaviors are likely due to poor correspondence between the action taken, target of the action, context, and time of both attitudes and behaviors. In other words, in the context of text messaging in the early stages of dating relationships, one's text message content about alcohol to their partner may have less to do with one's own attitudes about alcohol and more to do with other factors such as wanting to appear favorable with their partner through impression management (Sharp & Getz, 1996), adhering to social norms (Borsari & Carey, 2001), and building relationships with similar drinking partners (Fischer & Wiersma, 2012). For example, one participant stated "ok so this might be the alcohol talking but I like you a lot," highlighting an example where alcohol was mentioned in the context of relationship building without attitudes being an explicit focus of the conversation. Furthermore, adolescents' discussions about risk behavior online is often done in a manner that associates risk behavior with positive attributes (e.g., sociability or accomplishment) in order to present themselves in an attractive way to their peers (Loss et al., 2014). As such, discussions about alcohol early in the dating relationship may do little to change one's attitudes about

alcohol or their partner's attitudes because the primary goal is relationship development rather than attitude change.

Aim 2: Exploring the Relationship Between Actor-Partner Text Message Communication, Alcohol Use, and Alcohol Attitudes

The second phase of analyses explored the relationship between couples' alcohol related text messages, alcohol use, and alcohol attitudes and was largely not supported. There was one significant actor effect (e.g., person's effect on their own outcomes) of alcohol related text messages on frequency of alcohol use over the past 30 days, such that the more a person talked about alcohol use with their romantic partner, the higher their frequency of drinking over the past month. However, there was no such significant effect of alcohol related text messages on binges or quantity of alcohol. This suggests that when actors discuss alcohol more with their partner they may have increased instances of using alcohol, but this does not necessarily predict the amount in which they consume. For example, if an actor tells their partner "you will learn… I love my drinks… from wine to beer, I'm your girl" they may be more likely to have a higher frequency of drinking alcohol, but this did not predict the amount that they will consume during each instance.

Though the alcohol quantity measure was limited in this sample as previously discussed, binge episodes were also not significantly predicted by text messages supporting the notion that quantity is not influenced in the same way that frequency is. This relationship between one's text messages and one's own alcohol use may play an important role in establishing norms and getting to know partners during the early stages of dating. For example, if one texts their partner that they plan to drink at the upcoming football game and then they follow through on this, they are establishing norms in the relationship that they adhere to what they tell their partner they will

do. This further suggests that the relationship between text messages and alcohol use could be driven by a desire to connect and build relationships with your partner, rather than their attitudes about or intention to consume alcohol.

Interestingly, there was not a significant partner effect (e.g., person's effect on their partners outcome) for this relationship, such that one's discussion about alcohol use via text messages did not influence the frequency with which their partner drank. There are a few possible explanations for this lack of relationship. First, with a small sample, these analyses were only powered to detect a large effect ($r > .35$; Kenny et al., 2006; Ledermann, 2019), it is possible that a more subtle effect exists but was not detected in this sample. This would not be surprising given that the actor effect (e.g., the effect of a person's own text message on their own outcomes) is expected to be stronger than the partner effect (e.g., the effect of a person's own text messages on their partner's outcome) in this context. Future studies with a large sample (e.g., $N>485$) would likely be needed to detect more subtle effects in an ideally unconstrained APIM model (Ledermann, 2019).

Second, a handful of conversations about alcohol via text messages in the first 3.1 months of dating may not be enough time to influence their partner's behavior. Despite the aforementioned discussion that partners are likely communicating about alcohol in other ways, it is possible this is the only communication some couples have had on the subject in the beginning of their relationship. In line with media richness theory, couples are more likely to disclose their beliefs about risk behavior via lean media such as text messages rather than through richer types of media (e.g., video call, etc. Minniear et al., 2017). However, as lean types of media like text messages have become more enriched (e.g., quicker speed, sharing photos, images, etc.), text messaging may be perceived as a rich form of media (Ishii et al., 2019; Ishii et al., 2017). As

these ways of communicating become richer there may be fewer discussions about alcohol use or other risk behavior early on happening via technology-mediated communication. These relatively few conversations about alcohol (.3% of all text messages) may be unlikely to sway their partners alcohol use over the last month. It may take longer for strong norms within the relationship to develop (Sakaluk et al., 2020), and cohabitation may play an important role in influencing partner's alcohol consumption (Fleming et al., 2010; Horwitz & White, 1998). As such, future studies may compare couples at different points in their relationship for more information on when partner effects on alcohol use emerge.

Finally, a significant portion of this sample was under the legal drinking age of 21. Lack of access to alcohol, particularly during the onset of the Covid-19 pandemic for part of the sample, may have prohibited engagement in meeting up to drink with their partner or drinking with their friends (Ryerson et al., 2021). For example, couples may discuss alcohol via text messages, but if they do not have access to alcohol it is unlikely conversations with their partner will be driving the amount they drink, or lack thereof. As such, it would be important to replicate this study in couples who are all over 21 and theoretically all have equal access to alcohol to see if this shifts the impact on partner's frequency of alcohol use.

The actor effect was not replicated with attitudes about alcohol and there were no significant effects regarding text messages predicting attitudes. This may be due to a link between how one communicates with their partner about alcohol and their own use, but this does not change their personal beliefs about alcohol. For example, when entering a new relationship, a person may tell their partner that they enjoy drinking at parties or pregaming for a football game to seem desirable depending on the norms on campus. Then, they may follow through on those behaviors when in the situation because they have communicated that to their partner (and the

important relationship building factors of following through on their word), rather than based on their personally held attitudes about alcohol. Indeed, attitudes towards alcohol impact the intentions a person has about engaging in alcohol use (e.g., drinking alcohol is unpleasant therefore I intend not to drink; Collins & Carey, 2007; Dibello et al., 2018; Reid & Carey, 2015). However, intentions and behavior often do not align and are influenced by norms and self-efficacy in addition to attitudes (Sheeran & Webb, 2016; Sheeran et al., 2016). In the context of discussing alcohol with a new partner via text message, what they tell their partner about alcohol may not change their own attitudes towards alcohol (e.g., drinking alcohol is unpleasant) and it may not even be a reflection of their own attitudes about alcohol as previously discussed. While attitudes towards heavy drinking are stronger predictors of alcohol consumption than norms, descriptive norms and self-efficacy remain an important predictors of behavior change (Dibello et al., 2018; Sheeran et al., 2016; Reid & Aiken, 2011; Reid & Carey, 2015). However, perceived norms of drinking and self-efficacy associated with drinking were not included in this study, and the lack of data on these components limits the conclusions surrounding attitudes and health behavior decisions that can be drawn.

Aim 3: Exploring Moderating Relationship Factors Between Text Message Content and Alcohol Attitudes and Behaviors

The third phase of analyses aimed to explore the moderating role of relationship power and relationship satisfaction between text messages and alcohol attitudes and behavior. However, the moderated APIM analyses were underpowered due to a low sample size (N=29 couples) and resulted in models that were not significant or interpretable (Baron & Kenny, 1986; Garcia et al., 2015; Kenny et al., 2006; Kyriazos, 2018; Lane & Hennes, 2018; Wolf et al., 2013). I treated these data as exploratory and examined the simple slopes to look for trends, albeit tentative and

nonsignificant ones (Robinson et al., 2013). No notable relationships between the hypothesized variables were found through examination of the simple slopes. A discussion of descriptive statistics and bivariate findings of Aim 3 variables is below.

Couples in this study came in with high levels of relationship satisfaction on average (*M* =6.03, *SD*=1.23, Range: 1-7) and it is possible there was a ceiling effect on relationship satisfaction. In the context of newly dating couples who self-select to participate in a study about relationships, there may have been a bias towards more satisfied couples to volunteer to participate in this study (Starks et al., 2016). Furthermore, in the communicative interdependence perspective of close relationships (Caughlin & Sharabi, 2013), couples who communicated more face-to-face had higher relationship satisfaction scores than those who only communicated virtually. The high levels of relationship satisfaction in this sample may indicate that these couples are engaging in frequent face-to-face discussions that are not captured via text messages. However, most of the research in the literature focuses on marital satisfaction of long-term couples rather than measuring this in newly formed couples and their online interactions (Fincham & Beach, 2018). Fincham and Beach (2018) have proposed that relationship satisfaction is best captured in a multi-wave longitudinal approach in order to assess change in satisfaction over time rather than as a stand-alone rating. As such, it would be important to understand whether couples' level of relationship satisfaction is increasing, deceasing, or remaining steady during the first few months of dating, and how that change in relationship satisfaction is related to their alcohol use. Due to the cross-sectional nature of the survey in this study, this remains an important area for further investigation.

At the bivariate level, relationship satisfaction was only significantly negatively correlated with the number of binge drinking episodes. This is consistent with prior literature that

binge drinking is linked with couples disagreements about drinking and general disagreements/conflict in the relationship (Fischer et al., 2005). As such, individuals that are less satisfied in their romantic relationships are more likely to engage in binge drinking, in line with these findings. This relationship must also be considered the context of not finding a significant association between relationship satisfaction and frequency of alcohol use, despite a strong positive correlation between frequency and binge episodes (r=.82). This indicates there may be something unique about the experience of binge drinking episodes separate from frequency of drinking alcohol leading to lower feelings of satisfaction in the relationship. Likewise, there was not a relationship between satisfaction and alcohol quantity, though this is less surprising given that the alcohol quantity measure was not limited to a partner-specific timeframe (e.g., the last 30 days). Contrary to these findings, engagement in binge drinking has also been found among relatively satisfied couples who are physically with each other in daily life, suggesting that binge drinking may also play an important function during early relationship development for some couples (Blumenstock & Papp, 2021). Therefore, monitoring changes in relationship satisfaction as well as the context of drinking (e.g., with a partner or without a partner) across the early months of dating may be an important area for further research in understanding the precursors to binge drinking.

In regards to relationship power, at the bivariate level relationship power was not significantly correlated with any study variables. However, an interesting finding in this sample was that relationship power was significantly higher in female identified participants (M = 2.07, SD = .208) than in male identified participants (M = 1.95, SD = .191). The relationship power scale had poor reliability in this sample, thus, this finding should be interpreted with caution. Given the hypothesized relationship that relationship power will moderate the relationship

between text messages about alcohol and partner's alcohol use and attitudes, it is important to consider the role of women having more power on average may play in these outcomes. For example, potential gender differences in relationship power may play a role in alcohol outcomes, particularly since men tend to consume more alcohol, have more alcohol related injuries, and have higher rates of alcohol use disorders than women, though this gap is narrowing (Nolen-Hoeksema & Hilt, 2006; White, 2020). Future studies may further examine the role of gender differences x relationship power in alcohol use, for both health promotion and risky drinking. Alternatively, among studies aimed at sexuality research, in which the data for this study came from, women are more likely to volunteer for a face-to-face interview whereas men were more likely to volunteer for studies with more sexually explicit content (Gaither et al., 2003; Wiederman, 1999). As such, the original design of this study as an in-person lab study may have been more appealing to female participants, and those with greater relationship power may have been more successfully able to convince their partner to participate with them in person.

Limitations

One of the key limitations of this dataset was the small number of dyads included in the study. With such a small sample, all effects could potentially be spurious, and careful consideration of outliers was needed because a single couple could have been driving effects. The latter point is why one couple identified as an outlier was removed from analyses during the early stages of data analysis. However, the results of this study were either non-significant or in the hypothesized direction, suggesting that while spuriousness is possible, that is not the only explanation for the observed effects. Additionally, given this small sample size, it is not surprising that only one significant actor effect was detected. With a low number of dyads, it is unlikely to detect anything other than large effects in the APIM (Kenny et al., 2006; Ledermann,

2019). This may be a possible explanation for why only actor effects were observed, as partner effects in this context likely tend to be more subtle and need higher power to be detected in the data (Kenny et al., 2006). Furthermore, in Aim 2 the APIM was conducted using a restricted model with indistinguishable dyads, which constrained the total number of effects. While this was done in order to increase the likelihood of detecting an effect given the small sample, the richness of testing the full model was lost. Because the data were theoretically distinguishable (e.g., heterosexual dyads, distinguished by gender), it is possible that actor-partner effects based on gender were not detected in this restricted model. However, t-tests were conducted between men and women on key variables (see Table 1) and only relationship power was found to have a significant gender difference. At a descriptive statistics level, this suggests there are not significant gender differences overall in this sample on key variables.

Another consideration regarding the lack of partner effects surround the nature of early dating couples. While the purpose of this study was to examine how early dating couples (<6 months) become more similar in health behaviors (i.e., drinking alcohol) as they become more interdependent, it is possible that this timeframe (3.1 months) is not enough time for partner effects to form in regards to alcohol use. For example, social control measures to influence partners' drinking (e.g., asking partner not to drink, criticizing partner's habits) have been examined in the literature, yet these are often related to relationship difficulties, low feelings of intimacy, and low satisfaction in the relationship (Khaddouma et al., 2016; Levitt & Cooper, 2010; Umberson et al., 2018). The couples included in this sample were particularly satisfied in their relationships (M =6.03, SD=1.23, Range: 1-7) and may have not had enough time for significant relationship difficulties to build up to motivate them to influence their partner's behavior.

Longitudinal research among adolescents provides evidence to the notion that as individuals enter new romantic relationships, they become more similar to their romantic partners than their friends by 2-year follow-up (DeLay et al., 2016). However, this study did not take into account other potentially important relationships that may influence alcohol use (e.g., friends, parents, etc.), particularly in the early stages of dating when romantic partners may not be the most significant influence on alcohol use. For example, networks of close relationships (e.g., romantic partners, friends, parents, etc.) are important to understanding engagement in adolescent risk behavior, and romantic partners play a key role in engagement in risk behavior (Lonardo et al., 2009). Given that people tend to be attracted to romantic partners that engage in similar levels of drinking to themselves, it is possible that friend influences are still a major predictor of engagement in alcohol use at earlier stages of dating rather than partners (Fischer & Wiersma, 2012). Somewhat contradicting this point, within these networks, romantic partner support has been shown to buffer the effects on alcohol use outcomes, however, these associations were not seen in family or friend support (Jarnecke & South, 2014). The findings of the present study present study (i.e., the lack of partner effect of text messaging on alcohol use), combined with research supporting that by 2 years partners are more similar to romantic partners than friends (DeLay et al., 2016), suggests that future studies may longitudinally study the time period of at least 3 months of dating but less than two years to better understand when and for whom partner effects on alcohol use develop.

A few additional limitations emerged while using the LIWC platform for text message analysis. Although creating a custom LIWC dictionary to identify alcohol related words allowed us to better capture phrases unique to our participants and current slang, LIWC is also limited in being a simple word count software. While short phrases were also able to be captured in the

dictionary (e.g., “glass of wine,” “going out,” etc.), LIWC was unable to distinguish additional context clues in order to most accurately sort words as positive, negative, or ambiguous. As such, some of the ambiguous words may have been used positively or negatively in the sentence (ex: “drink” was used in both positive and negative contexts), however, it had to be treated as ambivalent because LIWC cannot distinguish which instances are positive vs. negative vs. ambiguous in the original texts. As such, commonly used alcohol related words that were used in multiple contexts (e.g., “alc,” “beer,” “intoxicated”) were treated as ambiguous and not included in the primary analyses. However, additional analyses were conducted with the ambiguous terms included and this did not significantly change outcomes. Future studies may consider human coding for all text messages in order to best capture the nuance in how words can be used in different contexts. This would take significant manpower and time, but would add in a richness to the text message data that LIWC was unable to account for (Bantum & Owen, 2009; Montanaro et al., In Prep; Weston et al., 2016; Ziemer & Korkmaz, 2017).

Covid-19 Considerations

The Covid-19 pandemic impacted this study in several important ways. First, data collection was significantly impacted, as all in-person data collection ceased during March 2020 due to state and national recommendations to remain at home except for essential activities. This study was then adapted to a fully virtual format and data collection resumed in Fall 2020 following updated approval from The University of North Carolina at Charlotte’s Institutional Review Board. Due to time constraints, data collection was closed in early 2021 with a total of 31 dyads, half of the original target of 60 dyads. Then, two couples were excluded due to outlier and not meeting inclusion criteria. This halt in data collection for 6 months resulted in low

sample sizes for Phase 1 and Phase 2 analyses and significantly limited the ability to conduct Phase 3 analyses.

It is also important to note how Covid-19 changed the psychosocial world for our target population. The college students included in this sample were asked to return home from campus, possibly spending time in quarantine due to exposure and decreasing the amount of social interaction and opportunities to spend time together in person, and increasing perceptions of loneliness (Dumas et al., 2020; Mohr et al., 2021). This may have also limited access to alcohol for students under 21 or returning to living conditions with different norms of alcohol use than the college campus (e.g., a parent's home; Graupensperger et al., 2021). However, some parents may have allowed students under 21 to drink at home for the first time during the pandemic (Maggs et al., 2021). Additionally, communication tools such as text messages are likely to have been increasingly important to new couples' relationships with the lack of access to gathering in person and safe face-to-face interactions, however, this study did not include ways to empirically test this in our sample.

Additionally, Covid-19 has been linked to changes in alcohol use patterns (Pollard et al., 2020; Schmits, & Glowacz, 2021). Specifically, while most people who consumed alcohol prior to the pandemic maintained steady alcohol consumption (49.1%), a quarter of adults endorsed drinking more than before the pandemic (26.4%) and a quarter endorsed drinking less than before the pandemic (24.5%; Schmits, & Glowacz, 2021). This may be due to social drinkers drinking less (e.g., less social interaction, less alcohol to alcohol with bars/restaurants closed) while those who drink to cope tended to drink more, particularly in the medium- to long-term (Mohr et al., 2021; Rehm et al., 2020). Indeed, alcohol sales in the US skyrocketed early in the pandemic (Pollard et al., 2020) and alcohol use during the pandemic increased for a significant

number of adults, particularly among those with pre-existing depression or anxiety (Tran et al., 2020). Alcohol use has particularly increased in the US among the 18-39 age demographic (Capasso et al., 2020). Importantly, in this sample there were no significant differences in outcomes between participants who completed the study prior to vs. after the onset of the Covid-19 pandemic. This was surprising given that the majority of the participants were under age 21 and would likely have less access to alcohol while quarantining at home. This lack of change may possibly be explained by relatively low levels of alcohol use in this sample at baseline (e.g., on average drinking 1-2 days per month with 1-2 drinks per instance).

Additionally, based on the recent research into the impact of Covid-19 on adult alcohol use, there should also be a subset of our participants who increased their alcohol use in response to the pandemic, however, this effect was not seen (Dumas et al., 2021). Given that data collection was halted from March 2020 to August 2020 and questions about alcohol use primarily focused on the last 30 days, it is possible that initial increases in alcohol use, if any, were not captured by the students reporting in Fall 2020. This is supported by a recent study by Charles and colleagues (2021) that found increases to students' alcohol use during Spring 2020, particularly among White students, and a return to pre-Covid levels by Fall 2020 despite continued social distancing precautions in place. Therefore, alcohol use among participants of this study may have returned to pre-Covid levels despite potential initial changes in Spring 2020. The lack of significant differences in alcohol use of the pre-Covid and post-Covid participants supports that these samples can be examined together, rather than needing to parse out Covid-19 as a potential confound for alcohol use outcomes.

Implications for Clinical Practice

There are several clinical implications of this research. Relationship concerns are the top 3 reason college students seek out counseling services on college campuses, and high alcohol use is prevalent for approximately 25% of college students seeking mental health services (CCMH, 2020). For clinicians working with primarily emerging adults, understanding the role of romantic partners in shaping clients' alcohol use and attitudes may be an important focus of treatment, particularly for students presenting with alcohol use concerns.

The Couple Power model of couples therapy suggests that commitment and cooperation are necessary prior to effective communication between couples (Sheras & Koch-Sheras, 2008). While many clients seeking counseling regarding relationship concerns mention communication skills as a primary goal, it may be more helpful for clinicians to focus on the commitment to their partners and the relationship prior to discussing communication skills (Sheras & Koch-Sheras, 2008). In this study, the lack of an overall significant impact of text message communication on the alcohol use and attitudes may suggest that the text messages serve a different, primary function. During the early stages of the relationship, couples may be communicating via text messages to form or maintain commitment with their partner, prior to communicating about their preferences or attitudes regarding alcohol use. As such, it would be important from a therapeutic standpoint to explore the commitment and cooperation in their relationship prior to focusing on communication skills with their partner.

However, once this is established, the importance of communication between romantic partners on health outcomes is well established in the literature (Lewis et al., 2006; Johnson et al., 2015). Communication styles between romantic partners have been linked to a host of health outcomes, such that marital conflict discussions are linked to cardiovascular, endocrine, and

immune responses as well as depression (Lewis et al., 2006; Robles & Kiecolt-Glaser, 2003; Sharabi et al., 2016). Underscoring this impact, communication style is identified as a predisposing factor in the interdependence model of communal coping and behavior change (Lewis et al., 2006). Communication may be an important area for additional clinical investigation, particularly in regards to helping couples communicate more directly with one another. For example, clinicians are trained to recognize equivocating language earlier on, it may be identified as an important area for clients to learn to engage in more direct communication with their partner. This may help couples set healthy expectations and boundaries with one another regarding alcohol use, or help determine incompatibility with expectations earlier on.

Additionally, among couples engaging in alcohol use disorder treatment, couples that use more first-person plural language (e.g., "we" language) compared to second-person (e.g., "you" language) and first-person language (e.g., "I" language) tended to have better outcomes (Hallgren & McCrady, 2016). As such, it would be helpful for clinicians to teach clients effective communication skills they can use with their partners via text message to communicate about alcohol use and other health behaviors. Specifically, for alcohol use concerns, encouraging clients to emphasize "we" language rather than the commonly taught "I" statements may maximize clinical effectiveness, though additional research is needed to this end. Furthermore, clinicians may benefit from having clients read an example text message exchange between them and their partner to better understand the dynamics of the relationship and what messages are directly or indirectly being communicated.

Finally, a theme in several areas of discussion has been the timing of this early dating phase and amount of time it takes to influence alcohol behavior and attitudes. While there was one actor effect of text messages on alcohol use, partner effects on use and changes in attitudes

appear to be less malleable. This may mean that attitudes in particular are more difficult to change, and this may give more time for clients and clinicians to explore how partner's attitudes and behaviors may be in line or not in line with their own attitudes about alcohol. This would be particularly important for clients in a relationship with a partner encouraging more engagement in risk behavior and suggests there may be more time to intervene before more lasting changes in attitudes occur.

Future Directions

There are several future directions implicated by this study. First, this is one of the first studies to examine text messages between couples and health behaviors, particularly among early dating couples (<6 months). Capturing text message data between couples in the early stages of dating is a strength of this study because we were able to examine communication about alcohol use outside of an artificial lab setting. However, the data included in this study were texts only, and we lost the richness of images/gifs that may have been shared between the couple. Future studies may also include images beyond emojis as these likely signal additional information about alcohol use or other health behaviors between partners. Additionally, considering text messages in the context of other platforms of communication (e.g., social media sites, face-to-face, etc.) is warranted given that text messages are likely only one of multiple methods of communicating about health behaviors. This approach is in line with media multiplexity theory (Haythornthwaite, 2005) as well.

Additionally, using similar methods to examine the role of text messages in other health behaviors (e.g., marijuana use, nutrition, risky sex, exercise, etc.) would provide useful information in examining the pathways that contribute to health concordance long term in couples and extend this research to other health behavior domains. For example, binge drinking

concerns and overall alcohol use have seen a slight decrease over the past 10 years on college campuses while there has been a rise in cannabis use among students seeking counseling services (CCMH, 2020). While U.S. college students who are in romantic relationships generally use fewer substances than their single counterparts, some substance use (e.g., binge drinking, marijuana use, and nicotine use) was more likely in certain contexts when romantic partners were in person together (Blumenstock & Papp, 2021). As such, examining actor-partner effects in substance use is warranted in future studies, particularly among emerging adult couples. Furthermore, a longitudinal design may be helpful in teasing apart the timeframe in which couples become more interdependent and have significant impacts on their partners behaviors and attitudes.

Conclusion

Despite largely not significant findings in this study, investigating how newly formed couples discuss and engage in risk behavior and how this influences their behaviors and attitudes remains an important area of consideration for the field of health psychology. This study provided a first step in establishing that text messages between newly dating romantic partners are linked to a potential risk behavior, alcohol use. Though the pathways to developing health concordance among couples in the long term remain unknown, emerging technologies such as text messages and other communication platforms will allow researchers to better capture the real-time interactions between new partners to better explain this phenomenon. For example, understanding why couples engage in positive health behaviors vs. negative health behaviors, and how this may translate to health promoting clinical interventions. Such endeavors will inherently need to be multidisciplinary, combining theory from social psychology, clinical

psychology, public health, communication, and other disciplines in order to better understand how these complex, interdependent associations among couples develop.

REFERENCES

Ajzen, I., & Fishbein, M. (1977). Attitude-behavior relations: A theoretical analysis and review of empirical research. *Psychological Bulletin, 84*(5), 888-918. https://doi.org/10.1037/0033-2909.84.5.888

Ajzen, I, Fishbein, M. (1980). *Understanding attitudes and predicting social behavior.* Englewood Cliffs, NJ: Prentice-Hall.

Ajzen, I., Fishbein, M., Lohmann, S., & Albarracín, D. (2018). The influence of attitudes on behavior. In D. Albarracin & B. T. Johnson (Eds.), *The Handbook of Attitudes* (pp. 197-255). Routledge.

Aldeis, D., & Afifi, T. D. (2013). College students' willingness to reveal risky behaviors: The influence of relationship and message type. *Journal of Family Communication, 13*(2), 92-113. doi: 10.1080/15267431.2013.768246

Arnett, J. J. (2000). Emerging adulthood: A theory of development from the late teens through the twenties. *American Psychologist, 55,* 469-480. doi: 10.1037//0003-066X.55.5.469

Arnett, J. J. (2005). The developmental context of substance use in emerging adulthood. *Journal of Drug Issues, 35*(2), 235-254. doi: 10.1177/002204260503500202

Arnett, J. J. (2006). The psychology of emerging adulthood: What is known and what remains to be known. In J. J. Arnett & J. L. Tanner (Eds.), *Emerging adults in America: Coming of age in the 21st century* (pp. 303-330). Washington, DC: American Psychological Association.

Arnett, J. J. (2014). Emerging Adulthood: The Winding Road from the Late Teens Through the Twenties (Second Edition). Oxford University Press.

Arnett, J. J. (2016). College students as emerging adults: The developmental implications of the college context. *Emerging Adulthood, 4*(3), 219-222. doi: 10.1177/2167696815587422

Arnett, J. J., Žukauskienė, R., & Sugimura, K. (2014). The new life stage of emerging adulthood at ages 18–29 years: Implications for mental health. *The Lancet Psychiatry, 1*(7), 569-576. doi: 10.1016/S2215-0366(14)00080-7

Auxier, B. & Anderson, M. (2021). Social media use in 2021. *Pew Research Center.* https://www.pewresearch.org/internet/2021/04/07/social-media-use-in-2021/

Bantum, E. O. C., & Owen, J. E. (2009). Evaluating the validity of computerized content analysis programs for identification of emotional expression in cancer narratives. *Psychological Assessment, 21*(1), 79-88. https://doi.org/10.1037/a0014643

Baron, R. M., & Kenny, D. A. (1986). The moderator–mediator variable distinction in social psychological research: Conceptual, strategic, and statistical considerations. *Journal of Personality and Social Psychology, 51*(6), 1173–1182. https://doi.org/10.1037/0022-3514.51.6.1173

Beck, K. H., Arria, A. M., Caldeira, K. M., Vincent, K. B., O'Grady, K. E., & Wish, E. D. (2008). Social context of drinking and alcohol problems among college students. *American Journal of Health Behavior, 32*(4), 420-430. doi: 10.5555/ajhb.2008.32.4.420

Birnholtz, J., Hancock, J., Smith, M., & Reynolds, L. (2012). Understanding unavailability in a world of constant connection. *Interactions*, *19*(5), 32-35. doi: 10.1145/2334184.2334193

Blanco, C., Okuda, M., Wright, C., Hasin, D. S., Grant, B. F., Liu, S. M., & Olfson, M. (2008). Mental health of college students and their non–college-attending peers: results from the national epidemiologic study on alcohol and related conditions. *Archives of General Psychiatry*, *65*(12), 1429-1437. doi: 10.1001/archpsyc.65.12.1429

Blumenstock, S. M., & Papp, L. M. (2021). Substance use behaviors in the daily lives of US college students reporting recent use: the varying roles of romantic relationships. *Social Science & Medicine, 279*, 114021. https://doi.org/10.1016/j.socscimed.2021.114021

Borsari, B., & Carey, K. B. (2001). Peer influences on college drinking: A review of the research. *Journal of Substance Abuse*, *13*(4), 391–424. https://doi.org/10.1016/S0899-3289(01)00098-0

Braithwaite, S. R., Delevi, R., & Fincham, F. D. (2010). Romantic relationships and the physical and mental health of college students. *Personal Relationships*, *17*(1), 1-12. doi: 10.1111/j.1475-6811.2010.01248.x

Braithwaite, S., & Holt-Lunstad, J. (2017). Romantic relationships and mental health. *Current Opinion in Psychology*, *13*, 120-125. doi: 10.1016/j.copsyc.2016.04.001

Brody, N., & Peña, J. (2015). Equity, relational maintenance, and linguistic features of text messaging. *Computers in Human Behavior*, *49*, 499–506. doi: 10.1016/j.chb.2015.03.037

Buelna, C., Ulloa, E. C., & Ulibarri, M. D. (2009). Sexual relationship power as a mediator between dating violence and sexually transmitted infections among college women. *Journal of Interpersonal Violence*, *24*(8), 1338-1357. doi: 10.1177/0886260508322193

Butterworth, P., & Rodgers, B. (2006). Concordance in the mental health of spouses: Analysis of a large national household panel survey. *Psychological Medicine*, *36*(5), 685-697. doi: 10.1017/S0033291705006677

Campbell, L., Simpson, J. A., Boldry, J., & Kashy, D. A. (2005). Perceptions of conflict and support in romantic relationships: The role of attachment anxiety. *Journal of Personality and Social Psychology*, *88*(3), 510-531. https://doi.org/10.1037/0022-3514.88.3.510

Capasso, A., Jones, A. M., Ali, S. H., Foreman, J., Tozan, Y., & DiClemente, R. J. (2021). Increased alcohol use during the COVID-19 pandemic: The effect of mental health and age in a cross-sectional sample of social media users in the US. *Preventive Medicine*, *145*, 106422. https://doi.org/10.1016/j.ypmed.2021.106422

Cashin, J. R., Presley, C. A., & Meilman, P. W. (1998). Alcohol use in the Greek system: Follow the leader?. *Journal of Studies on Alcohol*, *59*(1), 63-70. doi: 10.15288/jsa.1998.59.63

Caughlin, J. P., & Sharabi, L. L. (2013). A communicative interdependence perspective of close relationships: The connections between mediated and unmediated interactions matter. *Journal of Communication*, *63*(5), 873-893. https://doi.org/10.1111/jcom.12046

Christiansen, M., Vik, P. W., & Jarchow, A. (2002). College student heavy drinking in social contexts versus alone. *Addictive Behaviors*, *27*(3), 393-404. doi: 10.1016/S0306-4603(01)00180-0

Center for Collegiate Mental Health. (2021, January). 2020 Annual Report (Publication No. STA 21-045). https://ccmh.psu.edu/assets/docs/2020%20CCMH%20Annual%20Report.pdf

Center for Disease Control and Prevention (2017). Youth Risk Behavior Surveillance Survey (YRBSS) Questionnaires. File retrieved from https://www.cdc.gov/healthyyouth/data/yrbs/questionnaires.htm

Charles, N. E., Strong, S. J., Burns, L. C., Bullerjahn, M. R., & Serafine, K. M. (2021). Increased mood disorder symptoms, perceived stress, and alcohol use among college students during the COVID-19 pandemic. *Psychiatry Research*, *296*, 113706. https://doi.org/10.1016/j.psychres.2021.113706

Civic, D. (2000). College students' reasons for nonuse of condoms within dating relationships. *Journal of Sex & Marital Therapy*, *26*(1), 95-105. doi: 10.1080/009262300278678

Cohen, S., Gottlieb, B. H., & Underwood, L. G. (2000). Social relationships and health. In Cohen, S., Underwood, L. G., & Gottlieb, B. H. (Eds.) *Social support measurement and intervention: A guide for health and social scientists* (pp. 3-25). Oxford University Press New York.

Cohen, S., & Pressman, S. D. (2006). Positive affect and health. *Current Directions in Psychological Science, 15*, 122–125. doi: 10 .1111/j.0963-7214.2006.00420.x

College Data (2019). College profile overview: University of North Carolina at Charlotte. Retrieved from: https://www.collegedata.com/college/University-of-North-Carolina-at-Charlotte?pdf=1&collegeProfileTab=overview

Collins, S. E., & Carey, K. B. (2007). The theory of planned behavior as a model of heavy episodic drinking among college students. *Psychology of Addictive Behaviors*, *21*(4), 498-507. https://doi.org/10.1037/0893-164X.21.4.498

Cornelius, T., Desrosiers, A., & Kershaw, T. (2016). Spread of health behaviors in young couples: How relationship power shapes relational influence. *Social Science & Medicine, 165*, 46-55. doi: 10.1016/j.socscimed.2016.07.030

DeLay, D., Laursen, B., Bukowski, W. M., Kerr, M., & Stattin, H. (2016). Adolescent friend similarity on alcohol abuse as a function of participation in romantic relationships: Sometimes a new love comes between old friends. Developmental psychology, 52(1), 117-129. https://doi.org/10.1037/a0039882

DiBello, A. M., Miller, M. B., Neighbors, C., Reid, A., & Carey, K. B. (2018). The relative strength of attitudes versus perceived drinking norms as predictors of alcohol use. *Addictive behaviors*, *80*, 39-46. https://doi.org/10.1016/j.addbeh.2017.12.022

Diener, E., & Emmons, R. A. (1984). The independence of positive and negative affect. *Journal of Personality and Social Psychology*, *47*(5), 1105-1117. https://doi.org/10.1037/0022-3514.47.5.1105

Dumas, T. M., Ellis, W., & Litt, D. M. (2020). What does adolescent substance use look like during the COVID-19 pandemic? Examining changes in frequency, social contexts, and pandemic-related predictors. *Journal of Adolescent Health*, *67*(3), 354-361. https://doi.org/10.1016/j.jadohealth.2020.06.018

Eastwick, P. W., Keneski, E., Morgan, T. A., McDonald, M. A., & Huang, S. A. (2018). What do short-term and long-term relationships look like? Building the relationship coordination and strategic timing (ReCAST) model. *Journal of Experimental Psychology: General*, *147*(5), 747-781. https://doi.org/10.1037/xge0000428

Etcheverry, P. E., & Agnew, C. R. (2008). Romantic partner and friend influences on young adult cigarette smoking: Comparing close others' smoking and injunctive norms over time. *Psychology of Addictive Behaviors*, *22*(3), 313-325. doi: 10.1037/0893-164X.22.3.313

Falba, T. A., & Sindelar, J. L. (2008). Spousal concordance in health behavior change. *Health Services Research*, *43*(1p1), 96-116. doi: 10.1111/j.1475-6773.2007.00754.x

Fincham, F. D., Rogge, R., & Beach, S. R. (2018). Relationship satisfaction. In A. L. Vangelisti & D. Pearlman (Eds.), *The Cambridge Handbook of Personal Relationships* (pp. 579-594). Cambridge University Press.

Finkel, E. J., Eastwick, P. W., Karney, B. R., Reis, H. T., & Sprecher, S. (2012). Online dating: A critical analysis from the perspective of psychological science. *Psychological Science in the Public Interest*, *13*(1), 3-66. doi: 10.1177/1529100612436522

Finkel, E. J., Simpson, J. A., & Eastwick, P. W. (2017). The psychology of close relationships: Fourteen core principles. *Annual Review of Psychology*, *68*, 383-411. doi: 10.1146/annurev-psych-010416-044038

Fischer, J. L., Fitzpatrick, J., Cleveland, B., Lee, J. M., McKnight, A., & Miller, B. (2005). Binge drinking in the context of romantic relationships. *Addictive Behaviors*, *30*(8), 1496-1516. doi: 10.1016/j.addbeh.2005.03.004

Fischer, J.L. & Wiersma, J.D. (2012). Romantic relationships and alcohol use. *Current Drug Abuse Reviews*, *5*(2), 98-116. doi: 10.2174/1874473711205020098

Fitzpatrick, J., Gareau, A., Lafontaine, M.-F., & Gaudreau, P. (2016). How to use the actor-partner interdependence model (APIM) to estimate different dyadic patterns in Mplus: A step-by-step tutorial. *The Quantitative Methods for Psychology*, *12*, 74-86. doi: 10.20982/tqmp.12.1.p074

Fleming, C. B., White, H. R., & Catalano, R. F. (2010). Romantic relationships and substance use in early adulthood: An examination of the influences of relationship type, partner substance use, and relationship quality. *Journal of Health and Social Behavior*, *51*(2), 153-167. doi: 10.1177/0022146510368930

Fleming, C. B., White, H. R., Oesterle, S., Haggerty, K. P., & Catalano, R. F. (2010). Romantic relationship status changes and substance use among 18-to 20-year-olds. *Journal of Studies on Alcohol and Drugs*, *71*(6), 847-856. https://doi.org/10.15288/jsad.2010.71.847

Fletcher, A., Bonell, C., & Sorhaindo, A. (2011). You are what your friends eat: Systematic review of social network analyses of young people's eating behaviours and bodyweight. *Journal of Epidemiology and Community Health, 65*(6), 548-555. doi: 10.1136/jech.2010.113936

Fletcher, G. J. O., Simpson, J. A., & Thomas, G. (2000).The measurement of perceived relationship quality components: A confirmatory factor analytic approach. *Personality and Social Psychology Bulletin, 26,* 340-354. doi: 10.1177/0146167200265007

Fortenberry, J. D., Tu, W., Harezlak, J., Katz, B. P., & Orr, D. P. (2002). Condom use as a function of time in new and established adolescent sexual relationships. *American Journal of Public Health, 92*(2), 211-213. https://doi.org/10.2105/AJPH.92.2.211

Fromme, K., Corbin, W. R., & Kruse, M. I. (2008). Behavioral risks during the transition from high school to college. *Developmental Psychology*, *44*(5), 1497-1504. doi: 10.1037/a0012614

Furman, W., & Simon, V. A. (2006). Actor and partner effects of adolescents' romantic working models and styles on interactions with romantic partners. *Child Development*, *77*(3), 588-604. doi: 10.1111/j.1467-8624.2006.00892.x

Gaither, G. A., Sellbom, M., & Meier, B. P. (2003). The effect of stimulus content on volunteering for sexual interest research among college students. *Journal of Sex Research*, *40*(3), 240-248. https://doi.org/10.1080/00224490309552188

Garcia, R. L., Kenny, D. A., & Ledermann, T. (2015). Moderation in the actor–partner interdependence model. *Personal Relationships, 22*(1), 8-29. doi: 10.1111/pere.12060

Grant, A., Brown, B., & Moreno, M. (2013). The disparity between social drinking motives and social outcomes: A new perspective on college student drinking. *College Student Journal*, *47*(1), 96-101.

Graupensperger, S., Jaffe, A. E., Fleming, C. N., Kilmer, J. R., Lee, C. M., & Larimer, M. E. (2021). Changes in college student alcohol use during the COVID-19 pandemic: Are perceived drinking norms still relevant?. Emerging Adulthood, 1-10. https://doi.org/10.1177/2167696820986742

Greene, K., & Faulkner, S. L. (2005). Gender, belief in the sexual double standard, and sexual talk in heterosexual dating relationships. *Sex Roles*, *53*(3-4), 239-251. doi: 10.1007/s11199-005-5682-6

Griffin, D., & Gonzalez, R. (1995). Correlational analysis of dyad-level data in the exchangeable case. *Psychological Bulletin, 118*(3), 430-439. https://doi.org/10.1037/0033-2909.118.3.430

Haase, C. M., Holley, S. R., Bloch, L., Verstaen, A., & Levenson, R. W. (2016). Interpersonal emotional behaviors and physical health: A 20-year longitudinal study of long-term married couples. *Emotion*, *16*(7), 965-977. doi: 10.1037/a0040239

Hallgren, K. A. & McCrady, B. S. (2016). We-language and sustained reductions in drinking in couple-based treatment for alcohol use disorders. *Family Process*, *55*(1), 62-78. https://doi.org/10.1111/famp.12150

Hancock, J. T., Landrigan, C., & Silver, C. (2007). Expressing emotion in text-based communication. In *Proceedings of the 2007 conference on human factors in computing systems* (pp. 929-932). Chicago, ACM.

Haynie, D. L., Giordano, P. C., Manning, W. D., & Longmore, M. A. (2005). Adolescent romantic relationships and delinquency involvement. *Criminology, 43*(1), 177-210. doi: 10.1111/j.0011-1348.2005.00006.x

Haythornthwaite, C. (2005). Social networks and Internet connectivity effects. *Information, Community & Society*, *8*(2), 125-147. https://doi.org/10.1080/13691180500146185

He, F., Hensel, D. J., Harezlak, J., & Fortenberry, J. D. (2016). Condom use as a function of number of coital events in new relationships. *Sexually Transmitted Diseases, 43*(2), 67. doi: 10.1097/OLQ.0000000000000390

Hendriks, H., Van den Putte, B., Gebhardt, W. A., & Moreno, M. A. (2018). Social drinking on social media: Content analysis of the social aspects of alcohol-related posts on Facebook and Instagram. *Journal of Medical Internet Research*, *20*(6), e226. doi: 10.2196/jmir.9355

Holt-Lunstad, J., Birmingham, W., & Jones, B. Q. (2008). Is there something unique about marriage? The relative impact of marital status, relationship quality, and network social support on ambulatory blood pressure and mental health. *Annals of Behavioral Medicine*, *35*(2), 239-244. doi: 10.1007/s12160-008-9018-y

Holt-Lunstad, J., Smith, T. B., & Layton, J. B. (2010). Social relationships and mortality risk: A meta-analytic review. *PLoS Medicine*, *7*(7), e1000316. doi: 10.1371/journal.pmed.1000316

Horwitz, A. V., & White, H. R. (1998). The relationship of cohabitation and mental health: A study of a young adult cohort. *Journal of Marriage and the Family*, *60*(2), 505-514. https://doi.org/10.2307/353865

Horwitz, A. V., White, H. R., & Howell-White, S. (1996). Becoming married and mental health: A longitudinal study of a cohort of young adults. *Journal of Marriage and the Family, 58*(4), 895-907. doi: 10.2307/353978

House, J. S., Landis, K. R., & Umberson, D. (1988). Social relationships and health. *Science, 241*(4865), 540-545. doi: 10.1126/science.3399889

Ishii, K., Lyons, M. M., & Carr, S. A. (2019). Revisiting media richness theory for today and future. *Human Behavior and Emerging Technologies*, *1*(2), 124-131. https://doi.org/10.1002/hbe2.138

Ishii, K., Rife, T. S., & Kagawa, N. (2017). Technology-driven gratifications sought through text-messaging among college students in the U.S. and Japan. Computers in Human Behavior, 69, 396–404. https://doi.org/10.1016/j.chb.2016.12.022

Jackson, T. (2006). Relationships between perceived close social support and health practices within community samples of American women and men. *The Journal of Psychology*, *140*(3), 229-246. doi: 10.3200/JRLP.140.3.229-246

Jackson, K. M., & Sartor, C. E. (2016). The natural course of substance use and dependence. In: K. J. Sher, (Ed.), *The Oxford Handbook of Substance Use and Substance Use Disorders* (pp. 67-134). New York, NY: Oxford University Press.

Jarnecke, A. M., & South, S. C. (2014). Genetic and environmental influences on alcohol use problems: Moderation by romantic partner support, but not family or friend support. *Alcoholism: Clinical and Experimental Research, 38*(2), 367-375. https://doi.org/10.1111/acer.12263

Jeong, S., & Cho, S. I. (2018). Concordance in the health behaviors of couples by age: a cross-sectional study. *Journal of Preventive Medicine and Public Health*, *51*(1), 6-14. doi: 10.3961/jpmph.17.137

Jin, B., & Peña, J. (2010). Mobile Communication in Romantic Relationships: Mobile Phone Use, Relational Uncertainty, Love, Commitment, and Attachment Styles. *Communication Reports*, *23*(1), 39–51. doi: 10.1080/08934211003598742

Johnson, A. Z., Sieving, R. E., Pettingell, S. L., & McRee, A. L. (2015). The roles of partner communication and relationship status in adolescent contraceptive use. *Journal of Pediatric Health Care*, *29*(1), 61-69. https://doi.org/10.1016/j.pedhc.2014.06.008

Juhasz, A., & Bradford, K. (2016). Mobile phone use in romantic relationships. *Marriage & Family Review*, *52*(8), 707-721. doi: 10.1080/01494929.2016.1157123

Kachadourian, L. K., Fincham, F., & Davila, J. (2004). The tendency to forgive in dating and married couples: The role of attachment and relationship satisfaction. *Personal Relationships*, *11*(3), 373-393. doi: 1350-4126/02

Kawachi, I., & Berkman, L. F. (2001). Social ties and mental health. *Journal of Urban Health*, *78*(3), 458-467. https://doi.org/10.1093/jurban/78.3.458

Kenny, D. A., Kashy, D. A., and Cook, W. L. (2006). *Dyadic Data Analysis*. New York, NY: Guilford.

Kenny, D. A., Mannetti, L., Pierro, A., Livi, S., & Kashy, D. A. (2002). The statistical analysis of data from small groups. *Journal of Personality and Social Psychology*, *83*(1), 126-137. https://doi.org/10.1037/0022-3514.83.1.126

Khaddouma, A., Shorey, R. C., Brasfield, H., Febres, J., Zapor, H., Elmquist, J., & Stuart, G. L. (2016). Drinking and dating: Examining the link between relationship satisfaction,

hazardous drinking, and readiness-to-change in college dating relationships. *Journal of College Student Development, 57*(1), 32-46. doi: 10.1353/csd.2016.0007

Kiecolt-Glaser, J. K., Gouin, J. P., & Hantsoo, L. (2010). Close relationships, inflammation, and health. *Neuroscience & Biobehavioral Reviews, 35*(1), 33-38. doi: 10.1016/j.neubiorev.2009.09.003

Knobloch, L., & Solomon, D. H. (1999). Relational Uncertainty Measure [Database record]. Retrieved from PsycTESTS. doi: http://dx.doi.org/10.1037/t03993-000

Krippendorff, K. (2004). *Content analysis: An introduction to its methodology* (2nd ed.). Thousand Oaks, CA: Sage.

Kyriazos, T. A. (2018). Applied psychometrics: Sample size and sample power considerations in factor analysis (EFA, CFA) and SEM in general. *Psychology, 9*(08), 2207-2230. Doi: 10.4236/psych.2018.98126

Lane, S. P., & Hennes, E. P. (2018). Power struggles: Estimating sample size for multilevel relationships research. *Journal of Social and Personal Relationships, 35*(1), 7-31. https://doi.org/10.1177/0265407517710342

Ledermann, T. (2019, May). *Dyadic data analysis with Mplus* [Workshop]. Florida State University, Tallahassee, Florida, United States.

Ledermann, T. & Kenny, D. (2017). Analyzing dyadic data with multilevel modeling versus structural equation modeling: A tale of two methods. *Journal of Family Psychology*, *31*(4), 442–452. doi: 10.1037/fam0000290

Lee, M. R., & Sher, K. J. (2018). “Maturing out” of binge and problem drinking. *Alcohol Research: Current Reviews*, *39*(1), 31-42.

Lenhart A, Anderson, M. & Smith, A. (2015). Teens, technology, and romantic relationships. Retrieved from http://www.pewinternet.org/2015/10/01/teens-technology-and-romantic-relationships/

Levitt, A., & Cooper, M. L. (2010). Daily alcohol use and romantic relationship functioning: Evidence of bidirectional, gender-, and context-specific effects. *Personality and Social Psychology Bulletin*, *36*(12), 1706-1722. doi: 10.1177/0146167210388420

Lewis, M. A., McBride, C. M., Pollak, K. I., Puleo, E., Butterfield, R. M., & Emmons, K. M. (2006). Understanding health behavior change among couples: An interdependence and communal coping approach. *Social Science & Medicine*, *62*(6), 1369-1380. https://doi.org/10.1016/j.socscimed.2005.08.006

Lonardo, R. A., Giordano, P. C., Longmore, M. A., & Manning, W. D. (2009). Parents, friends, and romantic partners: Enmeshment in deviant networks and adolescent delinquency involvement. *Journal of Youth and Adolescence, 38*(3), 367-383. https://doi.org/10.1007/s10964-008-9333-4

Lorenz, K., & Ullman, S. E. (2016). Alcohol and sexual assault victimization: Research findings and future directions. *Aggression and Violent Behavior*, *31*, 82-94. doi: 10.1016/j.avb.2016.08.001

Loss, J., Lindacher, V., & Curbach, J. (2014). Online social networking sites—a novel setting for health promotion?. *Health & Place*, *26*, 161-170. https://doi.org/10.1016/j.healthplace.2013.12.012

Loving, T. J., & Slatcher, R. B. (2013). Romantic relationships and health. In Simpson, J & Campbell, L (Eds.), *The Oxford handbook of close relationships* (pp. 617-637). New York, NY: Oxford University Press.

Maggs, J. L., Cassinat, J. R., Kelly, B. C., Mustillo, S. A., & Whiteman, S. D. (2021). Parents who first allowed adolescents to drink alcohol in a family context during spring 2020 CoViD-19 emergency shutdowns. *Journal of Adolescent Health, 68*(4), 816-818. doi: 10.1016/j.jadohealth.2021.01.010

Maggs, J. L., Williams, L. R., & Lee, C. M. (2011). Ups and downs of alcohol use among first-year college students: Number of drinks, heavy drinking, and stumble and pass out drinking days. *Addictive Behaviors*, *36*(3), 197-202. https://doi.org/10.1016/j.addbeh.2010.10.005

Manlove, J., Welti, K., Wildsmith, E., & Barry, M. (2014). Relationship types and contraceptive use within young adult dating relationships. *Perspectives on Sexual and Reproductive Health*, *46*(1), 41-50. doi: 10.1363/46e0514

Marazziti, D., & Canale, D. (2004). Hormonal changes when falling in love. *Psychoneuroendocrinology*, *29*, 931–936. doi: 10.1016/j.psyneuen.2003.08.006

Markey, C. N., Markey, P. M., & Gray, H. F. (2007). Romantic relationships and health: An examination of individuals' perceptions of their romantic partners' influences on their health. *Sex Roles*, *57*(5-6), 435. doi: 10.1007/s11199-007-9266-5

McMahon, J. M., Volpe, E. M., Klostermann, K., Trabold, N., & Xue, Y. (2015). A systematic review of the psychometric properties of the Sexual Relationship Power Scale in HIV/AIDS research. *Archives of Sexual Behavior*, *44*(2), 267-294. doi: 10.1007/s10508-014-0355-6

Meier, A., & Allen, G. (2009). Romantic relationships from adolescence to young adulthood: Evidence from the National Longitudinal Study of Adolescent Health. *The Sociological Quarterly*, *50*(2), 308-335. doi: 10.1111/j.1533-8525.2009.01142.x

Meiklejohn, J., Connor, J. L., & Kypri, K. (2012). Drinking concordance and relationship satisfaction in New Zealand couples. *Alcohol and Alcoholism*, *47*(5), 606-611. doi: 10.1093/alcalc/ags042

Meyler, D., Stimpson, J. P., & Peek, M. K. (2007). Health concordance within couples: a systematic review. *Social science & medicine*, *64*(11), 2297-2310. doi: 10.1016/j.socscimed.2007.02.007

Miller, J. W., Naimi, T. S., Brewer, R. D., & Jones, S. E. (2007). Binge drinking and associated health risk behaviors among high school students. *Pediatrics*, *119*, 76–85. Doi: 10.1542/peds.2006-1517

Minniear, M., Sillars, A., & Shuy, K. (2018). Risky business: Disclosures of risky behavior among emerging adults in the digital age. *Communication Reports*, *31*(1), 1-13. doi: 10.1080/08934215.2017.1310271

Mohr, C. D., Umemoto, S. K., Rounds, T. W., Bouleh, P., & Arpin, S. N. (2021). Drinking to Cope in the COVID-19 Era: An Investigation Among College Students. *Journal of Studies on Alcohol and Drugs*, *82*(2), 178-187. https://doi.org/10.15288/jsad.2021.82.178

Monden, C. (2007). Partners in health? Exploring resemblance in health between partners in married and cohabiting couples. *Sociology of Health & Illness*, *29*(3), 391-411. doi: 10.1111/j.1467-9566.2007.01003.x

Montanaro, E. A., Bowling, J., Gattuso, J., Gioia, D., Guerrero-Ordonez, S., Joshi, S., Campbell, S., & Harrison, M. [Manuscript in preparation]. *Qualitative analyses of couples' text messages: Methods reflection.* The University of North Carolina at Charlotte.

Mushquash, A. R., Stewart, S. H., Sherry, S. B., Mackinnon, S. P., Antony, M. M., & Sherry, D. L. (2013). Heavy episodic drinking among dating partners: A longitudinal actor–partner

interdependence model. *Psychology of Addictive Behaviors*, *27*(1), 178-183. doi: 10.1037/a0026653

National Institute on Alcohol Abuse and Alcoholism (2003a). Recommended Alcohol Questions. Retrieved from https://www.niaaa.nih.gov/research/guidelines-and-resources/recommended-alcohol-questions

National Institute on Alcohol Abuse and Alcoholism (2003b). Alcohol Problems in Intimate Relationships: Identification and Intervention. Retrieved from https://pubs.niaaa.nih.gov/publications/niaaa-guide/index.htm#Note6

National Institute on Alcohol Abuse and Alcoholism (2018). Alcohol Facts and Statistics. Retrieved from https://www.niaaa.nih.gov/alcohol-facts-and-statistics

Nezlek, J. B., Pilkington, C. J., & Bilbro, K. G. (1994). Moderation in excess: binge drinking and social interaction among college students. *Journal of Studies on Alcohol*, *55*(3), 342-351. doi: 10.15288/jsa.1994.55.342

Nolen-Hoeksema, S., & Hilt, L. (2006). Possible contributors to the gender differences in alcohol use and problems. *The Journal of General Psychology*, *133*(4), 357-374. https://doi.org/10.3200/GENP.133.4.357-374

Nugawela, M. D., Langley, T., Szatkowski, L., & Lewis, S. (2016). Measuring alcohol consumption in population surveys: a review of international guidelines and comparison with surveys in England. *Alcohol and Alcoholism*, *51*(1), 84-92. https://doi.org/10.1093/alcalc/agv073

Office of Disease Prevention and Health Promotion. (2016). Adolescent Health. In *Healthy People 2020*. Retrieved from https://www.healthypeople.gov/2020/topics-objectives/topic/Adolescent-Health

O'Hare, T. M. (1990). Drinking in college: Consumption patterns, problems, sex differences and legal drinking age. *Journal of Studies on Alcohol, 51*(6), 536-541. doi: 10.15288/jsa.1990.51.536

Owens, M. D., Hallgren, K. A., Ladd, B. O., Rynes, K., McCrady, B. S., & Epstein, E. (2013). Associations between relationship satisfaction and drinking urges for women in alcohol behavioral couples and individual therapy. *Alcoholism Treatment Quarterly*, *31*(4), 415-430. doi: 10.1080/07347324.2013.831668

Park, M. J., Scott, J. T., Adams, S. H., Brindis, C. D., & Irwin Jr, C. E. (2014). Adolescent and young adult health in the United States in the past decade: little improvement and young adults remain worse off than adolescents. *Journal of Adolescent Health*, *55*(1), 3-16. doi: 10.1016/j.jadohealth.2014.04.003

Pedersen, D. E., & Pithey, K. P. (2018). Romantic relationships, college student alcohol use, and negative consequences of drinking. *The Social Science Journal, 55*(2), 198-207. https://doi.org/10.1016/j.soscij.2018.02.017

Pennebaker, J.W., Boyd, R.L., Jordan, K., & Blackburn, K. (2015). The development and psychometric properties of LIWC2015. Austin, TX: University of Texas at Austin. doi: 10.15781/T29G6Z

Pennebaker, J.W., Booth, R.J., Boyd, R.L., & Francis, M.E. (2015). Linguistic Inquiry and Word Count: LIWC2015. Austin, TX: Pennebaker Conglomerates (www.LIWC.net).

Perkins, H. W. (2002). Social norms and the prevention of alcohol misuse in collegiate contexts. *Journal of Studies on Alcohol, Supplement 14*, 164-172. doi: 10.15288/jsas.2002.s14.164

Pettigrew, J. (2009). Text messaging and connectedness within close interpersonal relationships. *Marriage & Family Review, 45*(6-8), 697-716. doi: 10.1080/01494920903224269

Pew Research Center (February 2016). 5 Facts About Online Dating. Retrieved from https://www.pewinternet.org/fact-sheet/mobile/

Pew Research Center (June 2019). Mobile Fact Sheet. Retrieved from https://www.pewinternet.org/fact-sheet/mobile/

Piwek, L., & Joinson, A. (2016). "What do they snapchat about?" Patterns of use in time-limited instant messaging service. *Computers in Human Behavior*, *54*, 358-367. https://doi.org/10.1016/j.chb.2015.08.026

Pizzicato, L. (2016). *Evaluating substance use in a network of emerging adult males via analysis of text messages sent and received* (Publication No. 1230) [Master's Thesis, Yale University]. EliScholar Public Health Theses. https://elischolar.library.yale.edu/ysphtdl/1230

Pollard, M. S., Tucker, J. S., & Green, H. D. (2020). Changes in adult alcohol use and consequences during the COVID-19 pandemic in the US. *JAMA Network Open, 3*(9), e2022942-e2022942. doi:10.1001/jamanetworkopen.2020.22942

Prensky, M. (2001). Digital natives, digital immigrants part 1. *On the horizon, 9*(5), 1-6. doi: 10.1108/10748120110424816

Pulerwitz, J., Amaro, H., Jong, W. D., Gortmaker, S. L., & Rudd, R. (2002). Relationship power, condom use and HIV risk among women in the USA. *AIDS Care, 14*(6), 789-800. doi: 10.1080/0954012021000031868

Pulerwitz, J., Gortmaker, S., & DeJong, W. (2000). Measuring Sexual Relationship Power in HIV/STD Research. *Sex Roles*, *42*(7), 637–660. doi: 10.1023/A:1007051506972

Rehm, J., Kilian, C., Ferreira-Borges, C., Jernigan, D., Monteiro, M., Parry, C. D., ... & Manthey, J. (2020). Alcohol use in times of the COVID 19: Implications for monitoring and policy. *Drug and Alcohol Review*, *39*(4), 301-304. https://doi.org/10.1111/dar.13074

Rehman, U. S., & Holtzworth-Munroe, A. (2007). A cross cultural examination of the relation of marital communication behavior and marital satisfaction. *Journal of Family Psychology, 21*, 759–763. doi: 10.1037/0893-3200.21.4.759

Reid, A. E., & Aiken, L. S. (2011). Integration of five health behaviour models: common strengths and unique contributions to understanding condom use. *Psychology & health*, *26*(11), 1499-1520. https://doi.org/10.1080/08870446.2011.572259

Reid, A. E., & Carey, K. B. (2015). Interventions to reduce college student drinking: State of the evidence for mechanisms of behavior change. *Clinical Psychology Review*, *40*, 213-224. doi: 10.1016/j.cpr.2015.06.006

Reis, H. T., & Shaver, P. (1988). Intimacy as an interpersonal process. In S. Duck (Ed.), Handbook of Personal Relationships (pp. 367–389). Chichester, UK: Wiley.

Robinson, C. D., Tomek, S., & Schumacker, R. E. (2013). Tests of moderation effects: Difference in simple slopes versus the interaction term. *Multiple Linear Regression Viewpoints*, *39*(1), 16-24.

Robles, T. F., & Kiecolt-Glaser, J. K. (2003). The physiology of marriage: Pathways to health. *Physiology & Behavior*, *79*(3), 409-416. doi: 10.1016/S0031-9384(03)00160-4

Robles, T. F., Slatcher, R. B., Trombello, J. M., & McGinn, M. M. (2014). Marital quality and health: A meta-analytic review. *Psychological Bulletin, 140*(1), 1-80. doi: 10.1037/a0031859

Rodriguez, L. M., Overup, C. S., & Neighbors, C. (2013). Perceptions of partners' problematic alcohol use affect relationship outcomes beyond partner self-reported drinking: Alcohol use in committed romantic relationships. *Psychology of Addictive Behaviors, 27*(3), 627-638. doi: 10.1037/a0031737

Rosenquist, J. N., Murabito, J., Fowler, J. H., & Christakis, N. A. (2010). The spread of alcohol consumption behavior in a large social network. *Annals of Internal Medicine, 152*(7), 426. doi: 10.1059/0003-4819-152-7-201004060-00007

Ruppel, E. K. (2015). Use of communication technologies in romantic relationships: Self-disclosure and the role of relationship development. *Journal of Social and Personal Relationships, 32*(5), 667-686. doi: 10.1177/0265407514541075

Ryerson, N. C., Wilson, O. W., Pena, A., Duffy, M., & Bopp, M. (2021). What happens when the party moves home? The effect of the COVID-19 pandemic on US college student alcohol consumption as a function of legal drinking status using longitudinal data. *Translational Behavioral Medicine, 11*(3), 772-774. https://doi.org/10.1093/tbm/ibaa006

Sarason, B. R., Sarason, I. G., & Gurung, R. (1997). Close personal relationships and health outcomes: A key to the role of social support. *Handbook of personal relationships: Theory, research and interventions (2nd ed) Chichester, UK: Wiley*, 547-573.

Schmits, E., & Glowacz, F. (2021). Changes in alcohol use during the COVID-19 pandemic: Impact of the lockdown conditions and mental health factors. *International Journal of Mental Health and Addiction*, 1-12. doi: 10.1007/s11469-020-00432-8

Schoenborn, C. A. (2004). Marital status and health, United States 1999-2002. *Advance Data From Vital and Health Statistics, Centers for Disease Control and Prevention*. Retrieved from http://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.137.3613&rep=rep1&type=pdf

Scott-Sheldon, L. A., Carey, K. B., & Carey, M. P. (2008). Health behavior and college students: Does Greek affiliation matter? *Journal of Behavioral Medicine, 31*(1), 61-70. doi: 10.1007/s10865-007-9136-1

Scott-Sheldon, L. A., Carey, M. P., & Carey, K. B. (2010). Alcohol and risky sexual behavior among heavy drinking college students. *AIDS and Behavior, 14*(4), 845-853. Doi: 10.1007/s10461-008-9426-9

Sharabi, L. L., Delaney, A. L., & Knobloch, L. K. (2016). In their own words: How clinical depression affects romantic relationships. *Journal of Social and Personal Relationships*, *33*(4), 421-448. https://doi.org/10.1177/0265407515578820

Sharp, M. J., & Getz, J. G. (1996). Substance use as impression management. *Personality and Social Psychology Bulletin, 22*(1), 60-67. https://doi.org/10.1177/0146167296221006

Sheeran, P., Maki, A., Montanaro, E., Avishai-Yitshak, A., Bryan, A., Klein, W. M., ... & Rothman, A. J. (2016). The impact of changing attitudes, norms, and self-efficacy on health-related intentions and behavior: A meta-analysis. *Health Psychology*, *35*(11), 1178. https://doi.org/10.1037/hea0000387

Sheeran, P., & Webb, T. L. (2016). The intention–behavior gap. *Social and Personality Psychology Compass, 10*(9), 503-518. https://doi.org/10.1111/spc3.12265

Sheras, P. L., & Koch-Sheras, P. R. (2008). Commitment first, communication later: Dealing with barriers to effective couples therapy. *Journal of Contemporary Psychotherapy, 38*(3), 109-117. doi: 10.1007/s10879-008-9082-4

Shorey, R. C., Stuart, G. L., & Cornelius, T. L. (2011). Dating violence and substance use in college students: A review of the literature. *Aggression and Violent Behavior, 16*(6), 541-550. doi: 10.1016/j.avb.2011.08.003

Shulman, S., & Connolly, J. (2013). The challenge of romantic relationships in emerging adulthood: Reconceptualization of the field. *Emerging Adulthood, 1*(1), 27-39. doi: 10.1177/2167696812467330

Simon, R. W., & Barrett, A. E. (2010). Nonmarital romantic relationships and mental health in early adulthood: Does the association differ for women and men? *Journal of Health and Social Behavior, 51*(2), 168-182. doi: 10.1177/0022146510372343

Smith, L., Heaven, P. C., & Ciarrochi, J. (2008). Trait emotional intelligence, conflict communication patterns, and relationship satisfaction. *Personality and Individual Differences, 44*(6), 1314-1325. doi: 10.1016/j.paid.2007.11.024

Sobell, M. B., & Sobell, L. C. (1993). Treatment for problem drinkers: A public health priority. In J. S. Baer, G. A. Marlatt, & R. J. McMahon (Eds.), *Addictive behaviors across the life span: Prevention, Treatment, and Policy Issues* (pp. 138-157). Thousand Oaks, CA, US: Sage Publications, Inc.

Sobell, L. C., & Sobell, M. B. (1995). Alcohol consumption measures. In J. P. Allen & M. Columbus (Eds.) *Assessing alcohol problems: A guide for clinicians and researchers* (pp. 55-74). Bethesda, MD: National Institute on Alcohol Abuse and Alcoholism.

Stadler, G., Snyder, K. A., Horn, A. B., Shrout, P. E., & Bolger, N. P. (2012). Close relationships and health in daily life: A review and empirical data on intimacy and somatic symptoms. *Psychosomatic Medicine*, *74*(4), 398-409. doi: 10.1097/PSY.0b013e31825473b8

Starks, T. J., Millar, B. M., & Parsons, J. T. (2015). Correlates of individual versus joint participation in online survey research with same-sex male couples. *AIDS and Behavior*, *19*(6), 963-969. https://doi.org/10.1007/s10461-014-0962-1

Substance Abuse and Mental Health Services Administration (2018). Results from the 2018 National Survey on Drug Use and Health: Graphics from the Key Findings Report. *Center for Behavior Health Statistic and Quality Abuse and Mental Health Services Administration, U.S. Department of Health and Human Services.* Retrieved from: https://www.samhsa.gov/data/sites/default/files/cbhsq-reports/NSDUHffrBriefingSlides2018_w-final-cover.pdf

Supski, S., Lindsay, J., & Tanner, C. (2017). University students' drinking as a social practice and the challenge for public health. *Critical Public Health*, *27*(2), 228-237. doi: 10.1080/09581596.2016.1190001

Tausczik, Y. R., & Pennebaker, J. W. (2010). The psychological meaning of words: LIWC and computerized text analysis methods. *Journal of Language and Social Psychology*, *29*(1), 24-54. doi: 10.1177/0261927X09351676

Tran, T. D., Hammarberg, K., Kirkman, M., Nguyen, H. T. M., & Fisher, J. (2020). Alcohol use and mental health status during the first months of COVID-19 pandemic in Australia. *Journal of Affective Disorders*, *277*, 810-813. https://doi.org/10.1016/j.jad.2020.09.012

Uchino, B. N. (2009). Understanding the links between social support and physical health: A life-span perspective with emphasis on the separability of perceived and received support. *Perspectives on Psychological Science*, *4*(3), 236-255. doi: 10.1111/j.1745-6924.2009.01122.x

Uecker, J. E. (2012). Marriage and mental health among young adults. *Journal of Health and Social Behavior*, *53*(1), 67-83. doi: 10.1177/0022146511419206

Umberson, D., Crosnoe, R., & Reczek, C. (2010). Social relationships and health behavior across the life course. *Annual Review of Sociology*, *36*, 139-157. https://doi.org/10.1146/annurev-soc-070308-120011

Umberson, D., Donnelly, R., & Pollitt, A. M. (2018). Marriage, social control, and health behavior: A dyadic analysis of same-sex and different-sex couples. *Journal of Health and Social Behavior*, *59*(3), 429-446. doi: 10.1177/0022146518790560

Umphrey, L., & Sherblom, J. (2007). Relational commitment and threats to relationship maintenance goals: Influences on condom use. *Journal of American College Health*, *56*(1), 61-68. doi: 10.3200/JACH.56.1.61-68

United States Census Bureau (2018). Historical Marital Status Tables. Table MS-2. Estimated Median Age at First Marriage, by Sex: 1890 to the Present . Retrieved from https://www.census.gov/data/tables/time-series/demo/families/marital.html

Velten, J. C., & Arif, R. (2016). The influence of snapchat on interpersonal relationship development and human communication. *The Journal of Social Media in Society*, *5*(2), 5-43.

Wang, X. T. (2008). Risk communication and risky choice in context: Ambiguity and ambivalence hypothesis. *Annals of the New York Academy of Sciences*, *1128*(1), 78-89. https://doi.org/10.1196/annals.1399.009

Wechsler, H., Dowdall, G. W., Davenport, A., & Castillo, S. (1995). Correlates of college student binge drinking. *American Journal of Public Health*, *85*(7), 921-926. https://doi.org/10.2105/AJPH.85.7.921

Weisman, O., Schneiderman, I., Zagoory-Sharon, O., & Feldman, R. (2015). Early stage romantic love is associated with reduced daily cortisol production. *Adaptive Human Behavior and Physiology*, *1*(1), 41-53. doi: 10.1007/s40750-014-0007-z

Werner, M. J., Walker, L. S., & Greene, J. W. (1995). Relation of alcohol expectancies to changes in problem drinking among college students. *Archives of Pediatrics & Adolescent Medicine*, *149*(7), 733-739. doi: 10.1001/archpedi.1995.02170200023003

Weston, S. J., Cox, K. S., Condon, D. M., & Jackson, J. J. (2016). A comparison of human narrative coding of redemption and automated linguistic analysis for understanding life stories. *Journal of Personality*, *84*(5), 594-606. https://doi.org/10.1111/jopy.12183

White, A. M. (2020). Gender differences in the epidemiology of alcohol use and related harms in the United States. *Alcohol Research: Current Reviews*, *40*(2) 1. https://doi.org/10.35946/arcr.v40.2.01

White, A., & Hingson, R. (2013). The burden of alcohol use: Excessive alcohol consumption and related consequences among college students. *Alcohol Research: Current Reviews, 35*(2), 201-218.

White, H. R., & Jackson, K. (2004). Social and psychological influences on emerging adult drinking behavior. *Alcohol Research & Health, 28*(4), 182-190.

Whitton, S. W., Weitbrecht, E. M., Kuryluk, A. D., & Bruner, M. R. (2013). Committed dating relationships and mental health among college students. *Journal of American College Health, 61*(3), 176-183. doi: 10.1080/07448481.2013.773903

Widman, L., Nesi, J., Choukas-Bradley, S., & Prinstein, M. J. (2014). Safe sext: Adolescents' use of technology to communicate about sexual health with dating partners. *Journal of Adolescent Health, 54*(5), 612-614. doi: 10.1016/j.jadohealth.2013.12.009

Widman, L., Noar, S. M., Choukas-Bradley, S., & Francis, D. B. (2014). Adolescent sexual health communication and condom use: a meta-analysis. *Health Psychology, 33*(10), 1113-1124. doi: 10.1037/hea0000112

Wiederman, M. W. (1999). Volunteer bias in sexuality research using college student participants. *Journal of Sex Research, 36*(1), 59-66. https://doi.org/10.1080/00224499909551968

Wilson, S. E. (2002). The health capital of families: An investigation of the inter-spousal correlation in health status. *Social Science & Medicine, 55,* 1157-1172. doi: 10.1016/S0277-9536(01)00253-2

Wolf, E. J., Harrington, K. M., Clark, S. L., & Miller, M. W. (2013). Sample size requirements for structural equation models: An evaluation of power, bias, and solution

propriety. *Educational and Psychological Measurement*, *73*(6), 913-934. https://doi.org/10.1177/0013164413495237

Ziemer, K. S., & Korkmaz, G. (2017). Using text to predict psychological and physical health: A comparison of human raters and computerized text analysis. *Computers in Human Behavior*, *76*, 122-127. https://doi.org/10.1016/j.chb.2017.06.038

Table 1

Aim Two Hypotheses: Positive relationships between Actor and Partner Text Message Content, Alcohol Use, and Alcohol Attitudes

Hypothesis	Text Content	Alcohol Outcomes	
		Alcohol Use	Alcohol Attitudes
H3a	Actor +	Higher Actor	--
H3b	Actor +	Higher Partner	--
H3c	Partner +	Higher Actor	--
H3d	Partner +	Higher Partner	--
H3e	Actor -	Lower Actor	--
H3f	Actor -	Lower Partner	--
H3g	Partner -	Lower Actor	--
H3h	Partner -	Lower Partner	--
H3i	Actor +	--	Actor Positive
H3j	Actor +	--	Partner Positive
H3k	Partner +	--	Actor Positive
H3l	Partner +	--	Partner Positive
H3m	Actor -	--	Actor Negative
H3n	Actor -	--	Partner Negative
H3o	Partner -	--	Actor Negative
H3p	Partner -	--	Partner Negative

Note. Each hypothesis corresponds with each path in Figures 1A and 1B. Text content indicates actor or partner text content valence, positive (+) or negative (-). Alcohol Use corresponds with current engagement in alcohol use (e.g., number of drinking days over the past 30 days; number of binges in past 30 days). Alcohol Attitudes corresponds with the degree to which participants view alcohol in a positive or negative manner (e.g., good vs. bad). For example, H3a is that positive actor text message content about alcohol via texting will predict higher actor alcohol use (actor effect).

Table 2

Aim Three Hypotheses: Relationship Power and Relationship Satisfaction Moderate the Relationship Between Actor and Partner Text Message Content and Alcohol Use and Attitudes

Hypothesis	Text Content	Relationship Variables		Alcohol Outcomes	
		Relationship Power	Relationship Satisfaction	Alcohol Use	Alcohol Attitudes
H4a	Actor +	Partner Low	--	Higher Partner	--
H4b	Partner +	Actor Low	--	Higher Actor	--
H4c	Actor -	Partner Low	--	Lower Partner	--
H4d	Partner -	Actor Low	--	Lower Actor	--
H4e	Actor +	Partner Low	--	--	+ Partner
H4f	Partner +	Actor Low	--	--	+ Actor
H4g	Actor -	Partner Low	--	--	- Partner
H4h	Partner -	Actor Low	--	--	- Actor
H5a	Actor +	--	Partner High	Higher Partner	--
H5b	Partner +	--	Actor High	Higher Actor	--
H5c	Actor -	--	Partner High	Lower Partner	--
H5d	Partner -	--	Actor High	Lower Actor	--
H5e	Actor +	--	Partner High	--	+ Partner
H5f	Partner +	--	Actor High	--	+ Actor
H5g	Actor -	--	Partner High	--	- Partner
H5h	Partner -	--	Actor High	--	- Actor

Note. Each hypothesis corresponds with each path in Figures 2-3. Text content indicates actor or partner text content valence, positive (+) or negative (-). Alcohol Use corresponds with current engagement in alcohol use (e.g., number of drinking days over the past 30 days, etc.). Alcohol Attitudes corresponds with the degree to which participants view alcohol in a positive (+) or negative (-) manner (e.g., good vs. bad, etc.). For example, H4a is that actors' positive text message content will predict partners greater alcohol use when partners' are low in relationship power; this effect will be weaker when partners are high in relationship power. Furthermore, H5a is that actors' positive text message content will predict partners' greater alcohol use when partners' are high in relationship satisfaction; however, those low in relationship satisfaction will have higher alcohol use regardless of the valence of the text message content.

Table 3

Descriptive Statistics of Study Variables and by Gender

	Overall Sample (*N*=58)	Women[1] (*N*=29)	Men (*N*=29)
	M(SD)	*M*(SD)	*M*(SD)
Alcohol Related Text Messages	0.14(0.16)	0.12(.15)	0.15(.17)
Alcohol Quantity	1.93(1.28)	1.62(1.05)	2.24(1.43)
Alcohol Frequency	1.83(1.47)	1.62(1.47)	2.03(1.45)
Binge Episodes	1.16 (1.40)	.90(1.21)	1.41(1.55)
Alcohol Attitudes	4.20 (1.35)	4.13(1.29)	4.27(1.43)
Relationship Satisfaction	6.03(1.23)	6.06(.99)	6.01(1.45)
Relationship Power	2.01(.21)	2.07(.21)[+]	1.95(.19)

Note. $^{**}p < .01$, $^{*}p < .05$. Relationship satisfaction was high (scale of 1 to 7), such that on average couples in this sample reported that they were very satisfied with their relationships. [1]One person endorsed woman as sex at birth and did not answer the question about current gender identity, this person is included in the women column. [+]Relationship power was the only variable with a significant difference between men and women in this sample.

Table 4

Bivariate Correlations and Intraclass Correlations Between Study Variables

	1	2	3	4	5	6	7
1. Alcohol Frequency	--						
2. Alcohol Quantity	.35**	--					
3. Binge Episodes	.82**	.52**	--				
4. Alcohol Attitudes	.48**	.56**	.52**	--			
5. Relationship Satisfaction	-.24	-.21	-.41**	-.28	--		
6. Relationship Power	-.14	.10	-.13	.05	-.08	--	
7. Positive-Negative Alcohol Text Messages	.43**	.07	.29*	.19	.01	-.08	--
8. ICCs *n*=29	.24	-.02	.40**	.26*	.63**	-.45	.60**

Note. ***p* < .01, * *p* <.05. ICC=Intraclass Correlations using pairwise data structure for actors and partners on each study variable.

Table 5a

Effect Estimates for the Actor-Partner Interdependence Model of Alcohol Related Text Messages predicting Frequency of Alcohol Use over the Past 30 Days

	Estimate	SE	95% CI		Standardized Beta	*p*
			Lower	Upper		
Intercept	1.83*	0.26	1.46	2.20		<.001
Actor	3.31*	1.32	.72	5.90	.37*	.015
Partner	.98	1.32	-1.61	3.58	.11	.460
k parameter	.28		-.42	2.97		
R^2 = .205						

Note. *p < .05.

Table 5b

Effect Estimates for the Actor-Partner Interdependence Model of Alcohol Related Text Messages predicting Quantity of Alcohol Use over the Past Year

	Estimate	SE	95% CI for *b*		Standardized Beta	*p*
			Lower	Upper		
Intercept	1.88*	0.21	1.45	2.32		<.001
Actor	.77	1.41	-2.07	3.62	.10	.586
Partner	-.42	1.41	-3.27	2.43	-.05	.768
k parameter	-.54		-8.38	7.32		
R^2 = -.035						

Note. *p < .05.

Table 5c

Effect Estimates for the Actor-Partner Interdependence Model of Alcohol Related Text Messages predicting Binge Episodes over the Past 30 Days

	Estimate	SE	95% CI for b		Standardized Beta	*p*
			Lower	Upper		
Intercept	1.16*	0.29	.74	1.57		<.001
Actor	2.14	1.24	-.34	4.63	.25	.089
Partner	.62	1.24	-1.87	3.10	.07	.621
k parameter	.29		-3.10	4.76		
R^2 = .063						

Note. *p < .05.

Table 5d

Effect Estimates for the Actor-Partner Interdependence Model of Alcohol Related Text Messages predicting Alcohol Attitudes

	Estimate	SE	95% CI for b		Standardized Beta	*p*
			Lower	Upper		
Intercept	4.19*	0.28	3.79	4.58		<.001
Actor	.99	1.32	-1.60	3.59	.12	.455
Partner	1.06	1.34	-1.56	3.69	.13	.431
k parameter	1.07		-14.22	15.02		
R^2 = .025						

Note. *p < .05.

Table 6a

Effects of the Moderation Actor-Partner Interdependence Model with Mixed Relationship Power Moderating Relationship Between Text Messages about Alcohol and Alcohol Use and Attitudes

Alcohol Outcome		**Estimate**	**Sig. (*p*)**	**Lower**	**95% CI**	**Upper**	**Standardized**
Frequency							
	Actor Text Messages (TM)	3.53	.004	1.10	to	5.958	.05
	Partner TM	0.65	.602	-1.81	to	3.077	.09
	Actor Relationship Power (RP)	0.57	.595	-1.52	to	2.656	.06
	Partner RP	0.28	.793	-1.81	to	2.367	.03
	Actor TM X Actor RP	-5.52	.028	-10.44	to	-.597	-.12
	Actor TM X Partner RP	-9.34	<.001	-13.56	to	-5.122	-.21
	Partner TM X Actor RP	26.80	<.001	22.64	to	30.963	.61
	Partner TM X Partner RP	15.96	<.001	11.07	to	20.847	.36
Quantity							
	Actor TM	0.78	.540	-1.71	to	3.26	.13
	Partner TM	-0.12	.924	-1.45	to	2.36	-.02
	Actor RP	0.88	.366	-1.02	to	2.78	.11
	Partner RP	0.45	.643	-1.45	to	2.35	.06
	Actor TM X Actor RP	-13.15	<.001	-18.08	to	-8.21	-.03
	Actor TM X Partner RP	-14.66	<.001	-18.80	to	-10.51	-.38
	Partner TM X Actor RP	8.55	<.001	4.43	to	12.67	.22
	Partner TM X Partner RP	19.04	<.001	14.14	to	23.94	.49
Binges							
	Actor TM	2.16	.055	-0.05	to	4.37	.32
	Partner TM	0.61	.590	-2.32	to	2.82	.09
	Actor RP	0.07	.950	-2.07	to	2.21	.01
	Partner RP	0.19	.863	-2.32	to	1.94	-.02
	Actor TM X Actor RP	16.76	<.001	-20.99	to	-12.53	-.40
	Actor TM X Partner RP	-19.52	<.001	-23.03	to	16.02	-.46
	Partner TM X Actor RP	27.01	<.001	23.49	to	30.52	.64
	Partner TM X Partner RP	25.30	<.001	21.07	to	29.52	.60
Attitudes							
	Actor TM	1.69	.164	-0.69	to	4.07	.26
	Partner TM	0.47	.704	-1.41	to	2.88	.07
	Actor RP	1.24	.238	-0.82	to	3.30	.15
	Partner RP	0.70	.517	-1.41	to	2.80	.08
	Actor TM X Actor RP	-8.88	.002	-14.53	to	-3.24	-.22
	Actor TM X Partner RP	-20.73	<.001	-25.26	to	-16.21	-.51
	Partner TM X Actor RP	20.11	<.001	16.12	to	24.10	.60
	Partner TM X Partner RP	31.04	<.001	26.50	to	35.58	.77

Note. $^{**}p < .01$, $^{*}p < .05$. *N*=29 dyads in dyadic dataset format. TM=Text Messages, RP=Relationship Power.

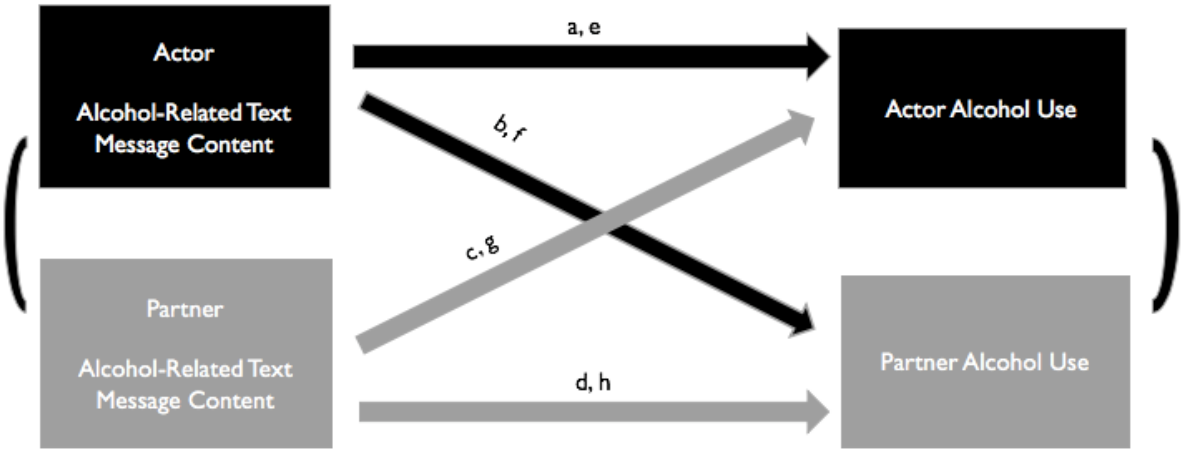
Table 6b

Effects of the Moderation Actor-Partner Interdependence Model with Mixed Relationship Satisfaction Moderating Relationship Between Text Messages about Alcohol and Alcohol Use and Attitudes

Alcohol Outcome		**Estimate**	**Sig. (p)**	**Lower**	**95% CI**	**Upper**	**Standardized**
Frequency							
	Actor Text Messages (TM)	2.43	.182	-1.14	to	6.00	2.03
	Partner TM	3.66	.044	-0.50	to	7.22	3.05
	Actor Relationship Satisfaction (RS)	-0.21	.455	-0.76	to	0.34	-0.02
	Partner RS	0.05	.857	-0.50	to	0.60	0.01
	Actor TM X Actor RS	-0.22	.932	-5.29	to	4.85	-0.03
	Actor TM X Partner RS	1.84	.641	-5.90	to	9.58	0.23
	Partner TM X Actor RS	-0.32	.935	-8.06	to	7.42	-0.04
	Partner TM X Partner RS	0.98	.706	-4.10	to	6.05	0.12
Quantity							
	Actor TM	2.17	.215	-1.27	to	5.61	2.09
	Partner TM	-2.22	.205	-0.69	to	1.22	-2.14
	Actor RS	-0.02	.932	-0.53	to	0.48	-0.00
	Partner RS	-0.18	.476	-0.69	to	0.32	-0.02
	Actor TM X Actor RS	-1.81	.471	-6.74	to	3.12	-0.26
	Actor TM X Partner RS	-1.60	.668	-8.91	to	5.71	-0.23
	Partner TM X Actor RS	4.58	.219	-2.73	to	11.89	0.67
	Partner TM X Partner RS	-1.02	.686	-5.95	to	3.91	-0.15
Binges							
	Actor TM	3.80	.017	0.67	to	6.93	3.31
	Partner TM	1.16	.469	-0.64	to	4.29	1.01
	Actor RS	-0.21	.405	-0.69	to	0.28	-0.02
	Partner RS	-0.16	.528	-0.64	to	0.33	-0.02
	Actor TM X Actor RS	-0.47	.850	-5.33	to	4.39	-0.06
	Actor TM X Partner RS	-1.33	.709	-8.33	to	5.67	-0.18
	Partner TM X Actor RS	3.83	.283	-3.17	to	10.83	0.51
	Partner TM X Partner RS	-0.58	.814	-5.44	to	4.27	-0.08
Attitudes							
	Actor TM	2.56	.145	-0.88	to	6.00	2.40
	Partner TM	2.20	.202	-0.77	to	5.58	2.06
	Actor RS	0.05	.843	-0.48	to	0.59	0.01
	Partner RS	-0.23	.399	-0.77	to	0.31	-0.03
	Actor TM X Actor RS	1.85	.460	-3.06	to	6.75	0.26
	Actor TM X Partner RS	-4.22	.258	-11.54	to	3.09	-0.60
	Partner TM X Actor RS	2.41	.521	-4.95	to	9.77	0.34
	Partner TM X Partner RS	2.20	.375	-2.66	to	7.06	0.31

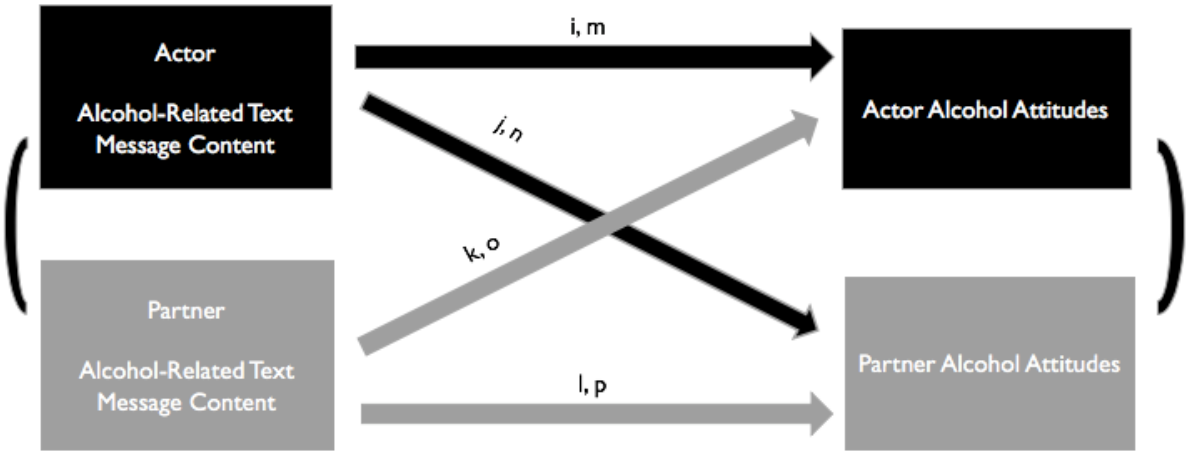
Note. $^{**}p < .01$, $^{*}p < .05$. N=29 dyads in dyadic dataset format. TM=Text Messages, RS=Relationship Satisfaction.

Figure 1A
Relationship between Alcohol Text Message Content and Alcohol Use.



Note. Aim 2 was originally planned to use an unconstrained model and test the full APIM model above. However, due to a small sample size, the model was constrained and effectively only texted paths a,e and b,f. Alcohol-Related Text Message Content refers to the difference score between positive – negative text message content. Alcohol Use corresponds with current engagement in alcohol use (e.g., number of drinking days over the past 30 days; number of binges in past 30 days, number of drinks during instance of drinking over the past year). Each arrow represents a hypothesized (H3) relationship between actor or partner text message content and alcohol attitudes. For example, arrow a,e corresponds to an expected positive actor effect between actor text message content and actor alcohol use, such that if alcohol related text message content is more positive, actor alcohol use will be greater while if text message content is more negative, actor alcohol use will be lower.

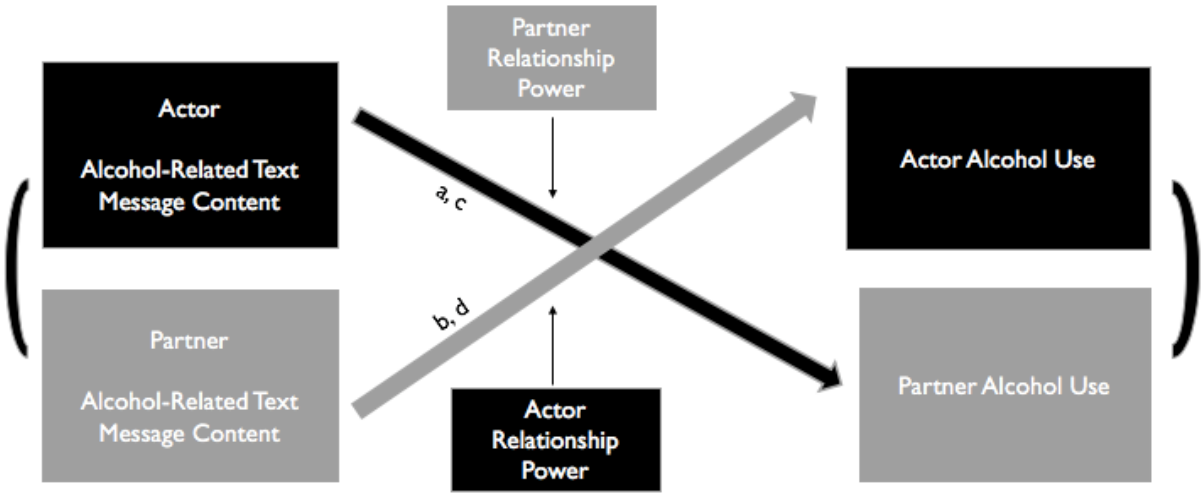
Figure 1B
Relationship Between Alcohol Text Message Content and Alcohol Attitudes



Note. Alcohol-Related Text Message Content refers to the difference score between positive – negative text message content. Alcohol Attitudes corresponds with the degree to which participants view alcohol in a positive or negative manner (e.g., good vs. bad). Each arrow represents a hypothesized (H3) relationship between actor or partner text message content and alcohol attitudes. For example, arrow i,m corresponds to an expected positive actor effect between actor text message content and actor alcohol attitudes, such that if alcohol related text message content is more positive, actor alcohol attitudes will be more positive (H3i) while if text message content is more negative, actor alcohol attitudes will be more negative (H3m).

Figure 2A

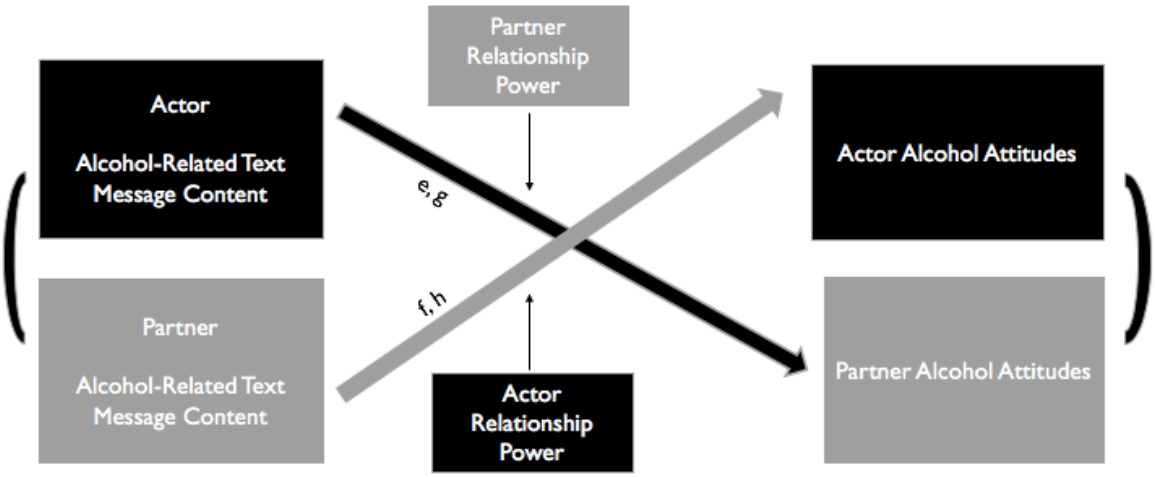
Relationship Power Moderates Associations between Alcohol Text Message Content and Alcohol Use.



Note. Alcohol-Related Text Message Content refers to the difference score between positive – negative text message content. Relationship power refers to the extent to which a participant perceives themselves or their partner to have more power in the relationship (e.g., who decides what parties to go to, etc.). Perceptions of relationship power are distinct for each participant (e.g., mixed dyadic variable), such that each person rates their own perceptions of power in the relationship (e.g., actor and partner ratings are separate). Alcohol Use corresponds with current engagement in alcohol use (e.g., number of drinking days over the past 30 days; number of binges in past 30 days). Each arrow represents a hypothesized (H4) moderated relationship between actor or partner text message content and alcohol use. For example, arrow a,c corresponds to actor's positive text message content will predict partners greater alcohol use when partner's are low in relationship power; this effect will be weaker when partners are high in relationship power (H4a). Similarly, actor's negative text message content will predict lower partners alcohol use when partner's are low in relationship power; this effect will be weaker when partners are high in relationship power (H4c).

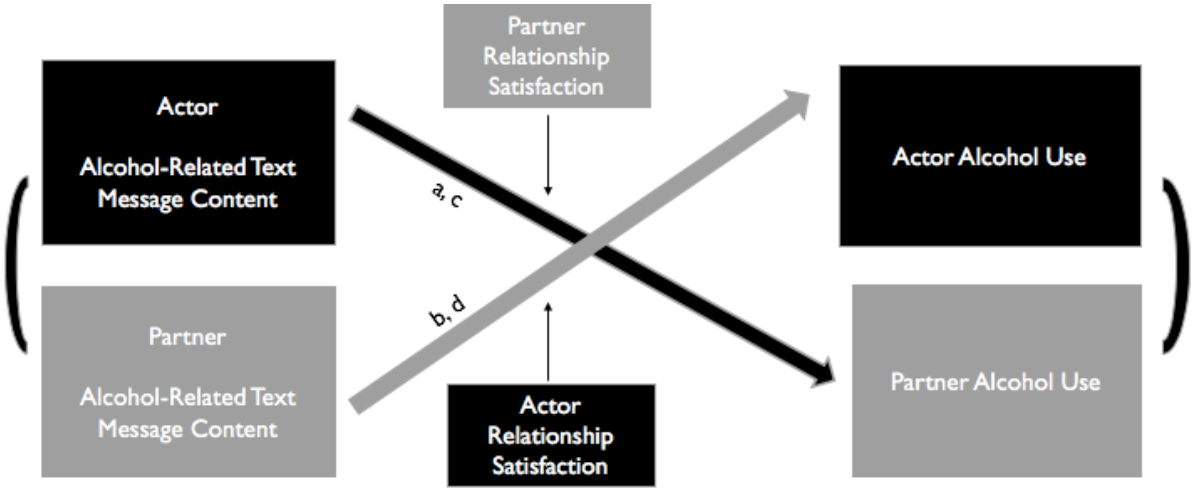
Figure 2B

Relationship Power Moderates Associations between Alcohol Text Message Content and Alcohol Attitudes



Note. Alcohol-Related Text Message Content refers to the difference score between positive – negative text message content. Relationship power refers to the extent to which a participant perceives themselves or their partner to have more power in the relationship (e.g., who decides what parties to go to, etc.). Perceptions of relationship power are distinct for each participant (e.g., mixed dyadic variable), such that each person rates their own perceptions of power in the relationship (e.g., actor and partner ratings are separate). Alcohol Attitudes corresponds with the degree to which participants view alcohol in a positive or negative manner (e.g., good vs. bad). Each arrow represents a hypothesized (H4) moderated relationship between actor or partner text message content and alcohol use. For example, arrow e,g corresponds to actor's positive text message content will predict partner's greater positive attitudes about alcohol when partner's are low in relationship power; this effect will be weaker when partners are high in relationship power. Similarly, actor's negative text message content will predict partners greater negative attitudes about alcohol when partner's are low in relationship power; this effect will be weaker when partners are high in relationship power.

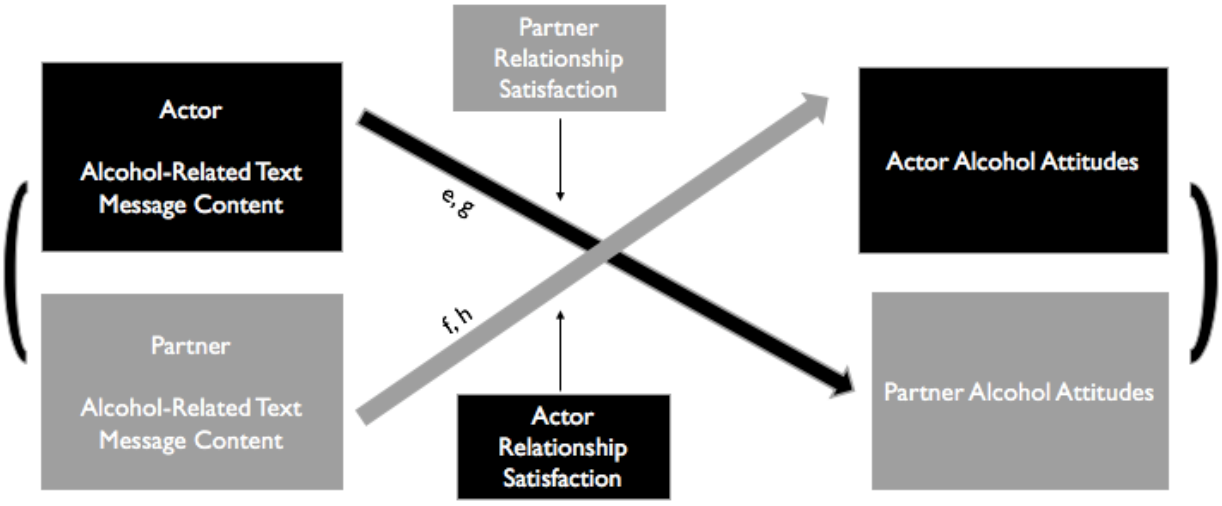
Figure 3A
Relationship Satisfaction Moderates Associations between Alcohol Text Message Content and Alcohol Use



Note. Alcohol-Related Text Message Content refers to the difference score between positive – negative text message content. Relationship satisfaction refers to the extent to which each participant rates that they are happy, content, and satisfied with their romantic relationship. Perceptions of relationship satisfaction are distinct for each participant (e.g., mixed dyadic variable), such that each person rates their own perceptions of satisfaction in the relationship (e.g., actor and partner ratings are separate). Alcohol Use corresponds with current engagement in alcohol use (e.g., number of drinking days over the past 30 days; number of binges in past 30 days). Each arrow represents a hypothesized (H5) moderated relationship between actor or partner text message content and alcohol use. For example, arrow a,c corresponds to actor's positive text message content will predict partners greater alcohol use when partners are high in relationship satisfaction (H5a), while actor's negative text message content will predict lower partners alcohol use when partners are high in relationship satisfaction (H5c). However, those lower in relationship satisfaction will have higher alcohol use regardless of the valence of the text message content.

Figure 3B

Relationship Satisfaction Moderates Associations between Alcohol Text Message Content and Alcohol Attitudes



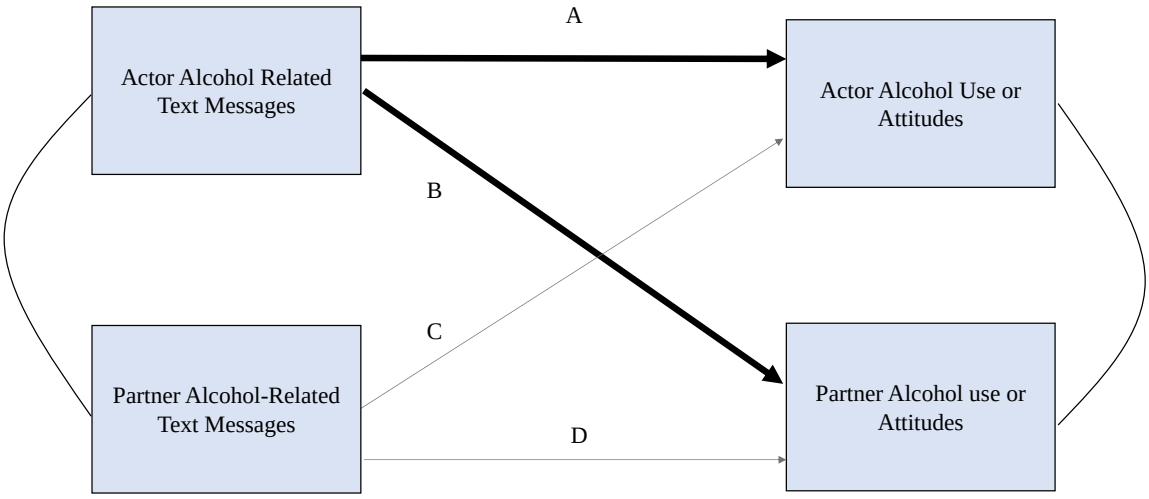
Note. Alcohol-Related Text Message Content refers to the difference score between positive – negative text message content. Relationship satisfaction refers to the extent to which each participant rates that they are happy, content, and satisfied with their romantic relationship. Perceptions of relationship satisfaction are distinct for each participant (e.g., mixed dyadic variable), such that each person rates their own perceptions of satisfaction in the relationship (e.g., actor and partner ratings are separate). Alcohol Attitudes corresponds with the degree to which participants view alcohol in a positive or negative manner (e.g., good vs. bad). Each arrow represents a hypothesized (H5) moderated relationship between actor or partner text message content and alcohol use. For example, arrow e,g corresponds to actor's positive text message content will predict partner's greater positive attitudes about alcohol when partners are high in relationship satisfaction (H5e), while actor's negative text message content will predict partners greater negative attitudes about alcohol when partners are high in relationship satisfaction (H5g). However, those lower in relationship satisfaction will have greater positive attitudes about alcohol regardless of the valence of the text message content.

Figure 4
Custom LIWC Dictionary

Positive Alcohol Words			
12 pack	Club	Lightweight	Redneck riviera
18 pack	Clubbing	Liquor bottles	Riesling
2 packs	Clubs	Litty	Rum
5th	Corona	Margaritas	Sangiovese
A case	Cross faded	Miller lites	Shlumped
Abc store	Crossed as fuck	Mimosa	Shot
Alcoholic	dacres	Mimosas	Shot glass
Bar	DD	Moscato	Shotgun
Bar hop	Drink more	My limit	Shotgunned
Bars	Drinks	My liver	Six pack
Bottle caps	Drunkenly	Night club	Smirnoff's
Bottles	Empty stomach	Partier	Spiked
Breweries	Geeked	Partying	Tequila
Bud light	Glass of wine	Pina colada	Tipsy
Buzzed	Glasses	Pitcher	Vodka
Can't hang	Hammered	Pitchers	Whiskey
Cases	Hold my stuff	Pong	Whiskey barrel
Champagne	I'm so gone	Poured	Whisky
Chugged	IPAs	Prosecco	White claw
Ciroc	Jack Daniels	Pub	Zoinked
	Keg stand	Pub crawls	
Leans Positive Alcohol Words			
Brewery		Wine	
Ambivalent Words			
Alc	Didn't drink		Go out
Alcamahol	Drank		Going out
Alcohol	Drinking game		Hungover
Bartender	Drinkinh		Intoxicated
Beer	Drunk mistakes		Parties
Beers	Fireball		Party
Black our	Fucked up		Pedialite
blackout			Shots
Leans Negative Alcohol Words			
Recovery			
Negative Alcohol Words			
Abstaining	Never drink		Sad drunk
Anti-ish alc	Not drink		Shouldn't drink
Blackout drunk	Not gonna drink		Sober
Dehydrated	Reckless driving		Sobered
Dui	Recovering addicts		Withdrawal
I'm fucked			

Note. Typos are a reflection of misspelled words in the text messages and were not corrected so LIWC would include these typos.

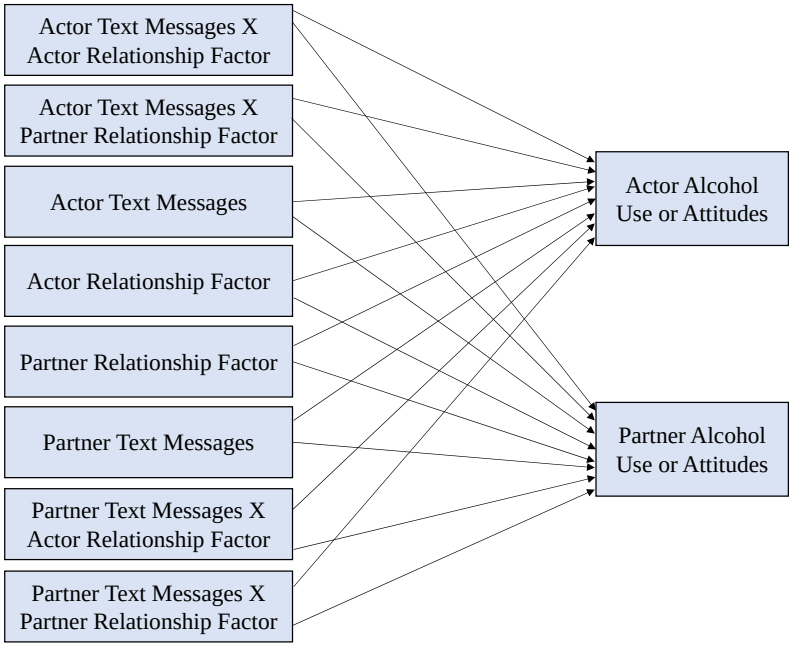
Figure 5
Constrained Actor-Partner Interdependence Model Tested in Aim 2



Note. The hypothesized unconstrained Actor-Partner interdependence model (represented by paths A-D) was unable to be conducted due to small sample size. As such, the partner effects were constrained in the models tested in Aim 2, such that only paths A and B were unconstrained and tested.

Figure 6

Aim 3 Moderated Actor-Partner Interdependence Model of Alcohol Related Text Messages Predicting Alcohol Attitudes and Use Moderated by Relationship Power and Relationship Satisfaction



Note. Model Representing Pathways Tested in Aim 3 analyses. In this model, the outcomes were alcohol use (frequency, quantity, or binge episodes) or alcohol attitudes. Text messages between partners were the predictive variable for each model. And relationship moderators (expressed as relationship factors in the model) were either relationship power or relationship satisfaction. All analyses were underpowered and not significant. Correlations between variables and residuals of the DVs are not depicted for clarity, but statistically were included in the tested model.

APPENDIX A: Supplemental demographics tables with outlier

Descriptive Statistics of Study Variables With and Without Outlier

	Without Outlier (*N*=58)	With Outlier (*N*=60)
	M(SD)	*M*(SD)
Alcohol Related Text Messages	0.14(0.161)	.28(0.798)
Alcohol Quantity	1.93(1.282)	1.93(1.260)
Alcohol Frequency	1.83(1.465)	1.83(1.440)
Binge Episodes	1.16 (1.399)	1.17(1.380)
Alcohol Attitudes	4.20 (1.350)	4.24(1.341)
Relationship Satisfaction	6.03(1.229)	6.04(1.208)
Relationship Power	2.01(.207)	2.02(.209)

Note. The range for Alcohol Related Text Messages was 0-4.56, and this maximum is 5.4 times higher than the average. As such, this couple was removed for being a significant outlier.

Bivariate Correlations and Intraclass Correlations Between Study Variables with Outlier

	1	2	3	4	5	6
1. Alcohol Frequency	--					
2. Alcohol Quantity	.35**	--				
3. Binge Episodes	.82**	.51**	--			
4. Alcohol Attitudes	.48**	.58**	.52**	--		
5. Relationship Satisfaction	-.24	-.21	-.41**	-.27	--	
6. Relationship Power	-.14	.10	-.11	.08	-.09	--
7. Positive-Negative Alcohol Text Messages	.43**	.07	.29*	.19	-.08	.00

Note. $^{**}p < .01$, $^{*}p < .05$.

APPENDIX B: STUDY MEASURES

Alcohol Use

During the past 30 days, on how many days did you have at least one drink of alcohol?

0: 0 days 1: 1 or 2 days 2: 3 to 5 days 3: 6 to 9 days 4: 10 to 19 days 5: 20 to 29 days 6: All 30 days 8: Refuse to Answer

During the past 30 days, on how many days did you have 5 or more drinks within a couple of hours?

0: 0 days 1: 1 day 2: 2 days 3: 3 to 5 days 4: 6 to 9 days 5: 10 to 19 days 6: 20 or more days 8: Refuse to Answer

How many drinks did you have on a typical day when you were drinking in the past year?

0: None, I do not drink 1: 1 or 2 2: 3 or 4 3: 5 or 6 4: 7 to 9 5: 10 or more 8: Refuse to Answer

Alcohol Attitudes

Drinking alcohol is

1: Unpleasant **2 - 6:** unlabelled scale points **7:** Pleasant **8:** Refuse to Answer

Drinking alcohol is

1: Fun **2 - 6:** unlabelled scale points **7:** Boring **8:** Refuse to Answer

Drinking alcohol is

1: Bad **2 - 6:** unlabelled scale points **7:** Good **8:** Refuse to Answer

Drinking alcohol is

1: Wise **2 - 6:** unlabelled scale points **7:** Foolish **8:** Refuse to Answer

Sexual Relationship Power Scale (SRPS)

Please rate the degree to which you agree or disagree with each statement.

Decision-Making Dominance Subscale Items

1-Your Partner, 2-Both of you equally, 3-You

- Who usually has more say about whose friends to go out with?
- Who usually has more say about whether you have sex?
- Who usually has more say about what you do together?
- Who usually has more say about how often you see one another?
- Who usually has more say about when you talk about serious things?
- In general, who do you think has more power in your relationship?
- Who usually has more say about whether you use condoms?
- Who usually has more say about what types of sexual acts you do?

Relationship Satisfaction: Perceived Relationship Quality Component (PRQC)

Instructions: Please indicate what your current partner/relationship is like, answering each question that follows. Use this scale when answering each question:

1 2 3 4 5 6 7

not at all extremely

Relationship Satisfaction

1. How satisfied are you with your relationship?
2. How content are you with your relationship?
3. How happy are you with your relationship?

Demographics

INSTRUCTIONS: The following demographic questions are here to help us understand who is completing this survey. The following questions are for statistical purposes only.

What is your age? _____

What was your assigned sex at birth?

- ☐ Female
- ☐ Male
- ☐ Other (*please specify*) _____

What is your current gender identity?

- ☐ Female
- ☐ Male
- ☐ Agender
- ☐ Bigender
- ☐ Genderqueer/Non-binary
- ☐ Transgender
- ☐ Transsexual
- ☐ Other (*please specify*) _____

What is your sexual orientation?

- ☐ Exclusively heterosexual/straight
- ☐ Mostly heterosexual, only incidentally homosexual/gay/lesbian
- ☐ Equally heterosexual/straight and homosexual/gay/lesbian
- ☐ Mostly homosexual/gay/lesbian, only incidentally heterosexual
- ☐ Exclusively homosexual/gay/lesbian
- ☐ Pansexual
- ☐ Queer
- ☐ Asexual: No socio-sexual contacts or reactions

What is your relationship status?

- ☐ Single (i.e., no current sexual or romantic partners)
- ☐ I am in a sexual, but non-romantic relationship
- ☐ Casually dating (i.e., I am in a non-monogamous romantic relationship)
- ☐ Exclusively dating (i.e., I am in a monogamous romantic relationship)
- ☐ Engaged to be married
- ☐ Married/Civil Union/Domestic Partnership
- ☐ Other (*Please Specify*): _____

How long have you been in your current relationship? _____ Years _____ Months

Are you and your partner currently cohabitating? ☐ Yes ☐ No

How many nights in a typical week do you spend the night with your partner?
0-7

Is your relationship with this partner long distance? ☐ Yes ☐ No

Are you Spanish, Hispanic, or Latino/a? (e.g., Mexican or Mexican American, Cuban or Cuban American, Puerto Rican, Dominican, Central or South American)

- ☐ Yes
- ☐ No
- ☐ I would rather not report this

What do you consider your primary race/origin?

- ☐ **White** (e.g., Irish, German, Italian, Lebanese, Arab, Moroccan, etc.)
- ☐ **Hispanic, Latino/a, or Spanish Origin** (e.g., Mexican or Mexican American, Puerto Rican, Cuban Dominican, etc.)
- ☐ **Black or African American** (e.g., African American, Kenyan, Nigerian, Haitian, etc.)
- ☐ **American Indian or Alaska Native** (e.g., Navajo, Blackfeet, Inupiat, Central or South American Indian groups, etc.)
- ☐ **Asian** (e.g., Chinese, Filipino, Korean, Japanese, Vietnamese, etc.)
- ☐ **Native Hawaiian or Other Pacific Islander** (e.g., Native Hawaiian, Guamanian, Samoan, etc.)
- ☐ **Biracial or Multiracial**
- ☐ **Other** (*Please Specify*): _____
- ☐ I would rather not report this

What is the highest level of education you have completed?

- ☐ 11th grade or less (not high school graduate)
- ☐ High school graduate or G.E.D.
- ☐ Vocational or technical school after high school
- ☐ Some college, including 2 year degrees
- ☐ Bachelor's Degree
- ☐ Master's Degree
- ☐ Doctoral Degree (Ph.D., M.D., J.D., etc.)
- ☐ I would rather not report this