DOES MY FRIEND LIKE MY ROMANTIC PARTNER? LINKS AMONG RELATIONSHIP WORK WITH PARTNERS AND FRIENDS AND PHYSIOLOGICAL IMPLICATIONS

by

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ABSTRACT

Informed by the theoretical foundation of social exchange theory and polyvagal theory, we examined romantic, social, and psychophysiological functioning among a sample of 284 heterosexual, emerging adult romantic partners and their friends. Final APIM model results revealed that females who spoke frequently with their partner about romantic challenges also reported greater romantic adjustment. Additionally, males were found to have more favorable psychophysiological functioning, as captured by heart rate variability (HRV) during conversations with their partner, when males spoke frequently to friends about romantic challenges. Also, males' HRV scores when talking to partners and to friends were more favorable if males perceived that friends' approval of their relationship was high. Conversely, poorer HRV was found for male partners if their friends did not actually approve of the romantic relationship. Social, romantic, and psychophysiological implications for emerging adult partners are discussed.

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CHAPTER 1: INTRODUCTION

Romantic relationships evolve and vary across life stages (Arnett, 2000). For example, the nuances of communication between dating partners is quite different in early adolescence as opposed to middle adulthood (Courtain & Glowacz, 2019). As such, researchers should avoid generalizing romantic relationship expectations and trends across life cycle stages. Age is an important aspect of intersectionality when considering how couples operate across the lifespan. Emerging adulthood (ages 18-25) ushers in particular transitions for how individuals interact during this time, as the formation of romantic relationships has been identified as a key developmental process during this stage and sets the stage for future relationships (Erikson, 1968). Most emerging adults are simultaneously moving out of their parents' homes, exploring career and educational opportunities, and tentatively embracing newfound independence and the responsibility that accompanies new levels of autonomy (Courtain & Glowacz, 2019).

Emerging adulthood is a time of tumultuous change filled with choices that impact the remainder of the lifespan (Arnett, 2000). As they shed their adolescence, differing relationship patterns and ways of communicating begin to emerge (Courtain & Glowacz, 2019). Researchers must understand the circumstances that impact and transform emerging adults' ways of interacting in romantic relationships during this time. For example, romantic relationships rarely, if ever, exist in complete isolation. The social network of each partner significantly influences the outcome of the relationship (Felmlee, 2001). These larger systems play a fundamental role in whether a relationship lasts or dissolves (Milardo, 1982). Perceptions of approval from a partner's friend and approval from a partner's family increase relationship stability, therefore making a relationship more likely to last (Felmlee, 2001). Friendships may compete for companionship and closeness to a friend can decrease romantic stability (Felmlee, 2001). As

such, it is important to consider the role friends, and their approval, can play in the outcome of romantic relationships (Helms et al., 2003).

Friends often become intertwined in relationships through a phenomenon dubbed relationship work (RW; Jensen & Rauer, 2016). This occurs when partners discuss romantic challenges with each other, along with friends. RW may also include venting to friends when frustrated with a romantic partner (Jensen et al., 2019). Previous research examining RW suggests that it is most beneficial for the outcome of the relationship when partners discuss their romantic problems with one another prior to involving their friends in such disputes (Jensen & Rauer, 2016). The tone and frequency of such conversations, as well as numerous other relationship components, are inevitably linked with measures of romantic functioning such as relationship satisfaction (Proulx et al., 2004). Capturing antecedents and correlates of relationships satisfaction is important, given that successful romantic relationships have been linked to lower rates of emotional and physical distress, along with increased positive physiological functioning (Schneiderman et al., 2012).

Need for Study

Understanding the complexity of romantic relationships in emerging adulthood, the researchers conducting the current study sought to examine romantic functioning in a more comprehensive manner. In an effort to account for the unique social dynamics accompanying romantic functioning, as well as potential psychophysiological impacts, we investigated associations between relationship adjustment and RW, perceptions of social network approval, and psychophysiological functioning as measured by heart rate variability while discussing a couple stressor.

Examination of Psychophysiology Among Romantic Partners

Limited research (e.g., Levenson & Gottman, 1983) has been conducted on partners' physiological data when engaging in conversations about romantic problems. Yet, these findings have been crucial in adding to the overall understanding of how couples experience distress during times of conflict. To our knowledge, no previous research has been done examining how physiological data, specifically heart rate variability, is affected when discussing romantic challenges with friends. This is a common social interaction and greater understanding of these conversations could contribute to the understanding of the role friends play in a relationship (Jensen et al., 2019). By assessing a more comprehensive outlook of how romantic conflict can impact physiological data, clinicians may be better able to conceptualize the significance that these problems may carry.

Clinical Implications

In order to cultivate successful relationships, couples must establish effective communication patterns (Gottman et al., 1998). Clinicians can aid partners in building these through couples therapy. Therefore, increased and expanded conceptualization of the couple's system can benefit the clinician in helping achieve this goal (Broderick, 1993). During emerging adulthood, friends tend to be a crucial part of the system and offer support and guidance (Jensen & Rauer, 2016; Manning et al., 2011). By including friends in the external system, therapists can gain a deeper understanding of outside factors that may affect a relationship (Huston, 2000). Furthermore, investigating whether or not relationship satisfaction is impacted when discussing romantic problems with friends who either approve or disapprove of the romantic union may be helpful in determining effects the friendship may have on the relationship. Currently, few clinicians involve friends in the therapeutic process, despite the general assumption that couple dysfunction is systemic.

Furthermore, the results of this study may inform clinicians regarding the psychophysiological impact of disclosing romantic problems to partners and friends. Clinicians may provide accurate psychoeducation to clients about how engaging with their social networks may be impactful not only emotionally, but also physiologically. Additionally, therapists may benefit from greater understanding of friends' approval or disapproval of the romantic union as social determinants of health continue to shape romantic dynamics (Blair, 2012).

Research Questions and Hypotheses

The current study seeks to explore how emerging adults interact with their partner and a friend when discussing relationship challenges, as well as the resulting physiological changes that occur during these conversations. The data were collected at East Carolina University as a part of the larger Relationship Work in Emerging Adults Study.

The following research questions were addressed:

1. In emerging adult romantic couples, is social network approval linked with relationship adjustment and relationship work with partners and friends?
2. How do emerging adults' perceptions of their friends' approval of their romantic relationship differ from their actual approval?
3. For emerging adults in romantic relationships, how are relationship adjustment and HR variability associated with RW with a partner and friend as they engage in relationship discussions, controlling for friend's social network approval?

Hypotheses corresponding to each of the research questions are as follows:

1. Based on the research by Jensen et al. (2019), we predict that social network approval will be significantly positively associated with relationship adjustment and greater relationship work with partners and friends.

2. By taking into account the findings of Felmlee (2001)-which demonstrated that perceived social network approval had a more significant positive effect on relationship stability than actual social network approval-we anticipate that emerging adults will be more likely to perceive their friends as more approving of their relationship than they actually are.
3. We anticipate that relationship adjustment and heart rate variability will be positively associated with RW when engaging in relationship conversations, based on the previous findings by Levenson and Gottman (1985).

Conclusion

Romantic communication and relationship adjustment have been widely examined by researchers (Beg, 2018; González-Ortega et al., 2021; Gottman & Porterfield, 1981). Noteworthy patterns emerge across varying time periods, including emerging adulthood (Courtain & Glowacz, 2019). Social networks are also an influencing factor in how communication habits develop and how relationships progress over time (Blair & Holmberg, 2008; Felmlee, 2001; Johnson et al., 2015). However, studies including the effects friends may have on relationship adjustment and the resulting physiological changes during relationship work (RW), particularly during this life stage, are limited (Jensen et al., 2019; Jensen et al., 2018). Therefore, a study is needed that considers how social network approval, both actual and perceived, affects relationship adjustment and RW along with the consideration of physiological processes accompanying typical romantic problem disclosures.

The following chapter will present a thorough review of existing research regarding couples communication, emerging adults and the influence of their social networks, relationship work, psychophysiology in couples with a specific focus on heart rate variability, and the

theoretical foundations guiding the study. A subsequent chapter will outline the methods of the proposed study, complete with a comprehensive description of proposed measures and data analysis plans.

CHAPTER 2: LITERATURE REVIEW

Couples' Communication

Communication patterns impact disparate romantic processes including nurturing relationships, causing destruction, or achieving goals. Broadly, communication may be defined as the transmitting of information and shared understanding from one individual to another (Lunenburg, 2010). When examining how communication occurs, it is important to identify the pivotal parts of the interaction (Lunenburg, 2010). The sender begins the communication cycle by sending a message through the encoding of words, symbols, or gestures to the receiver. The message the receiver obtains is the result of decoding the idea after being passed through a medium. However, noise can misconstrue the information that is received. Examples of noise include language barriers, emotions, or attitudes. Feedback is given after the receiver returns a message and the original sender can determine if it has been correctly understood. Figure 1 illustrates the typical communication process.

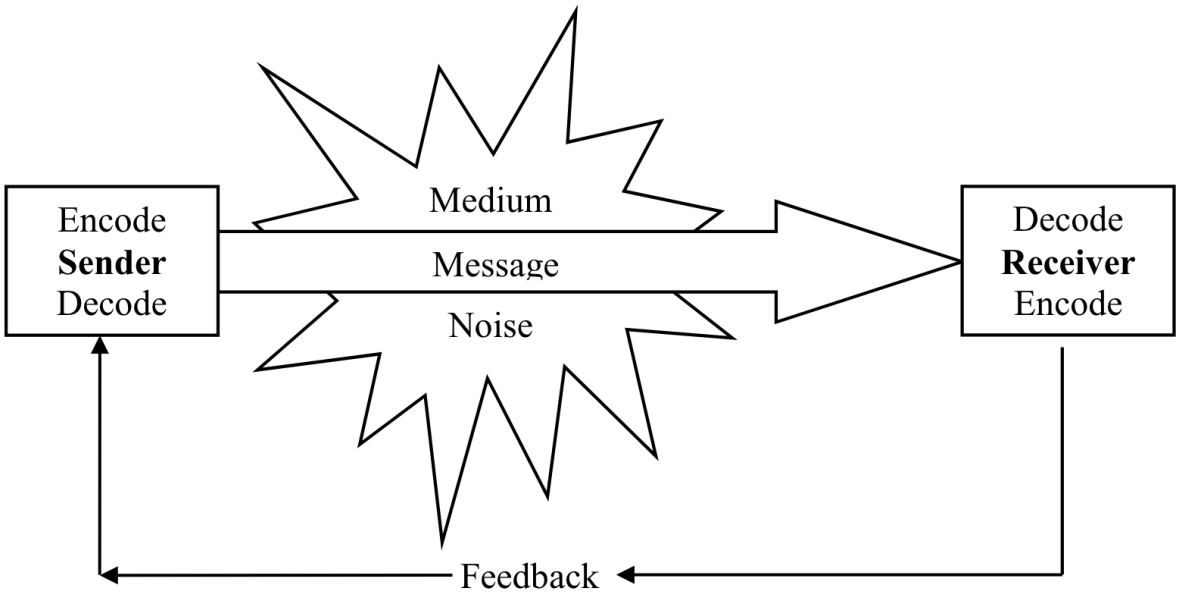

Figure 1. The Communication Process.

Identifying various types of communication and the role they play in interactions may be helpful in conceptualizing how couples communicate. Nonverbal communication, sexual communication, and utilizing humor each follow a similar outline and can affect how couples interact. It is also important to account for variation in communication patterns and distinct issues due to different life stages, particularly in emerging adult couples (Olarte, 2012). For example, these individuals may engage in conversations around digital communication in trying to determine how much time should pass before sharing their newfound relationship status online (Russett & Waldron, 2017). New skills are also practiced during this time, including increased perspective-taking. Using this skill can result in more positive conflict resolution strategies (Courtain & Glowacz, 2019). Emerging adults have also been found to communicate more frequently and through a larger variety of means with peers than they do with parents (Lee & Dworkin, 2023). Therefore, communication with friends may be hypothesized to play a central role during this time period. Nonverbal communication, such as touch or facial expressions, may be another form of crucial connection with friends (Guerrero & Floyd, 2005).

Nonverbal Communication

Nonverbal communication is often overlooked and can be critically important when examining romantic communication patterns, particularly during courtship and when making first impressions (Hall & Knapp, 2013). Gender differences in nonverbal communication may be especially notable. In conveying messages of attraction or interest, men have been shown to predominantly use movement strategies (e.g., clothes straightening), while women tend to use a greater variety of body language techniques such as head tilts, gazing down or sideways, hugs, and hair grooming (Romaniuk & Terán, 2022). Nonverbal cues can provide potential insight into the physiological state of each partner. Partners may influence each other's physiological states

as a result of reading one another's nonverbal cues, even in early staging of the relationship (Behrens et al., 2020). As a relationship unfolds and develops over time, body language continues to contribute to the dynamic between partners. Gottman and Porterfield (1981) found that husbands who could read nonverbal cues regarding their wives' emotional states had more satisfied wives than those that were not as in tune. For decades, researchers have concluded that couples with high marital adjustment have been shown to have more effective nonverbal communication (Noller, 1980).

Links between nonverbal communication and relationship adjustment have spurred ongoing research to explain the connection. Gener (2021) examined these two variables along with potential associations with cohabitation status among couples who were ages 18-30. Results from the study supported Gener's hypothesis that higher partner ratings in nonverbal communication effectiveness were associated with higher relationship satisfaction. The study further revealed couples who rated their partner highest in nonverbal communication were those who were not cohabiting and not married. Those who were cohabitating but not married reported higher satisfaction than those who were married. The low ranking for couples who were married and cohabiting may have been explained by circumstances not accounted for in the study (e.g., the presence of children). The higher satisfaction ratings of non-cohabiting couples may have been due in part to spending less time together which allows for fewer opportunities for conflict. Individuals who are deemed more proficient in nonverbal communication may also experience greater relationship satisfaction because of a greater ability to express and understand emotions and feelings, which is linked with greater connection (Schrage et al., 2020).

If a partner is able to detect nonverbal cues indicating discomfort, they may be more apt to offer reassurance through nonverbal language. Nonverbal affectionate cues can include a

variety of behaviors such as smiling, nodding, animation in speech, gaze, and touch (Manusov & Patterson, 2006). In avoidant partners, significant positive association has been found between an increased amount of nonverbal affection and increased receptive listening (Schrage et al., 2020). If a person feels safe and comfortable in a conversation, they may be more likely to listen and empathize, which in turn increases relationship satisfaction.

However, when considering intercultural couples, consideration must be given towards cultural norms and expectations surrounding nonverbal interactions (Beg, 2018). In a study conducted on intercultural German-Thai couples, each partner rated and scored the other on their nonverbal cues and how they were perceived (Beg, 2018). Some partners cited that German accents could sound harsh or aggressive when speaking in English to one another. Thai participants smiled much more often than their German counterparts, at a rate which some felt was disrespectful during an argument. Strong eye contact was viewed as a sign of good listening by Germans, yet in Asian cultures, it can be viewed as dominating and disrespectful (Beg, 2018). As a result, it is important to take into consideration each culture's norms and how nonverbal cues are being distinguished and judged.

Sexual Communication

Like nonverbal communication, couple interactions surrounding sexual themes are often overlooked when researchers consider communication patterns. Sexual communication can play an integral part in a couple's relationship. Increased amounts of communication around sex lead to greater overall relationship and sexual satisfaction (Jones et al., 2018). In fact, scholars contend that the act of engaging in regular conversations around sexual intimacy should be emphasized as a way to become more sexually fulfilled (Jones et al., 2018).

Communication patterns, including those around sex, are often passed down generationally. In a study by Wilson et al. (2022), researchers investigated a possible link between the most common source of sexual information and the sexual satisfaction level with a current partner. They also examined sexual guilt and parent-child sexual communication and whether or not these factors had a corresponding effect on satisfaction with a romantic partner. Participants reported on primary sources of sexual education, along with relationship satisfaction levels, sexual intimacy, and sexual communication. The source of sexual knowledge was not found to have an impact on the satisfaction levels of participants. However, there was a significant, positive relationship identified between those who indicated that they experienced more openness with parent-child sexual communication and the level of sexual satisfaction with their current partner. This suggested that parental behavior, particularly around sexual communication, may have an impact on the later satisfaction levels of their children's relationships. Another significant, positive, but surprising relationship was found between sexual guilt and parent-child sexual communication. Researchers hypothesized several plausible explanations for this finding including the potential confounding impact of religion. Perhaps those who experienced increased parent-child sexual communication discussed topics like premarital sex through a heavy religious lens, which was found to amplify sexual guilt.

Humor in Communication

Much like sexual intimacy, humor may also play a vital role in couples' relationships. A couple's ability to infuse humor or affection into a tense conflict directly correlates to the future health of the relationship and has been found to increase daily positive interactions (Driver & Gottman, 2004). In a study by Gottman and Driver (2004), childless newlyweds were analyzed for their ability to create positive interactions during moments of conflict. Couples first

participated in a discussion over a known conflict and their responses were coded for instances of reciprocal humor. The second interaction was monitored during dinnertime as part of a 24-hour time period spent in a laboratory apartment. This ten-minute interaction was monitored for any type of bids for attention, which were classified into three response types: turning towards, turning against, and turning away.

Upon analysis of the data, preliminary results indicated a correlation between positive daily interactions during bids for attention and amount of positive affect during a conflict (Driver & Gottman, 2004). Positive bids during otherwise mundane moments, such as eating dinner together, may cause a positive ripple effect in a relationship. When couples continually turn towards each other, even in neutral moments, they may be increasing their resilience in conflict (Helms et al., 2003). If partners feel continually safe and reassured, they may be better able to withstand anxiety that accompanies relationship conflict. By utilizing humor when discussing a problem, individuals may feel comforted and more encouraged to continue engaging with their partner.

However, not all humor results in universally positive romantic outcomes. Research by Campbell and Moroz (2014) revealed differences in conflict resolution dependent upon couples' use of positive or negative humor. Positive humor, such as playful banter, is a tool for connection, while negative humor may include making the partner the victim of a joke (Campbell & Moroz, 2014). When partners recounted more positive humor, the self-reported effectiveness of their problem solving increased. The opposite effect was seen with increased negative humor as less effective problem solving was demonstrated (Campbell & Moroz, 2014). These findings indicate that use of humor may affect conflict resolution for both partners, even if it is primarily used by one member of the couple dyad.

Communication during Conflict in Emerging Adulthood

Conflict resolution is an evolving skill among emerging adults. Understanding the strategies emerging adults use to communicate is important because relationships that function well have positive impacts on many areas of life, including social and emotional development (Crouter et al., 2005). Therefore, if knowledge of communication patterns is improved, more specific psychoeducation can be done with this age group, resulting in increased relationship satisfaction. Culture should also be considered in determining what communication patterns may be more prevalent. In a study done with Spanish emerging adults examining conflict resolution styles and attachment styles, conflict engagement and withdrawal were found to be more often used by female partners while compliance was seen more commonly with males (González-Ortega et al., 2021). Withdrawal was highly associated with avoidance and conflict engagement was more associated with anxiety. This supports the idea that anxious partners tend to engage or pursue conflict while avoidant partners may be more apt to withdraw. Overall, insecure attachment styles were found to negatively hinder conflict resolution skills. These findings supported previous research done with other cultural groups, indicating it was most likely generalizable to the general public (González-Ortega et al., 2021).

In a study done with affluent emerging adults in Belgium, positive conflict resolution strategies, like negotiation and compromise, have been found to increase as participants age (Courtain & Glowacz, 2019). While positive changes may be seen in conflict resolution, there is also an increase in the amount of friction around unmet relational needs as individuals enter emerging adulthood (Gray et al., 2015; Johnson et al., 2015). Emerging adults may be becoming more aware of their wants and needs and, therefore, may be more likely to engage in conflict. When comparing negative strategies, coercion is more dominant through adolescence, but by

emerging adulthood, disengagement is more apt to be used (Laursen et al., 2001). The probability of intimate partner violence (IPV) perpetuation also peaks during the early 20s (Johnson et al., 2015). In a study done by Cherrier et al. (2023), significant negative association has been found between the likelihood of experiencing IPV when social problem solving (SPS) and self-esteem are low in emerging adulthood. SPS skills are often significantly tied to one's family of origin. If an individual was raised in an insecure family environment, unproductive conflict management strategies are likely to be carried into relationships in emerging adulthood (Cherrier et al., 2023). Experiencing childhood abuse was also found to have a negative impact on one's later abilities to engage in positive conflict resolution strategies (Cherrier et al., 2023; Courtain & Glowacz, 2019). However, these problem solving skills can also be influenced by factors beyond the immediate family unit. Both romantic and platonic relationships can further shape the way an individual engages with conflict (Cherrier et al., 2023). Therefore, it is important to understand that problem solving abilities can be influenced by one's larger social network.

Emerging Adults and Social Networks

Social networks can influence individuals beyond increasing conflict resolution strategies. They can affect the likelihood of individuals engaging in risky behavior, such as binge drinking and substance use (Bartel et al., 2020; Tucker et al., 2015; Tucker et al., 2022). The weighty influence of social circles may stem from humans' physiological need to experience attachment and acceptance from others (Seppala et al., 2013). Humans are hardwired for emotional connection and certainly do not exist in isolation (Felmlee, 2001).

Importance of Social Networks

This drive to be in relationships with others stretches across the lifespan. The push for connection is particularly noteworthy during emerging adulthood. Erikson's sixth stage of development identifies the need for intimacy versus isolation (Erikson, 1950). Spanning the ages of 18-30, this maturation can look different for males and females (Bishop & Keth, 2013). The variation in the development of genders may be due to socialization and not an effect of biological sex (Hook et al., 2003). Women may be taught to share their feelings and rely on others for input whereas men may be encouraged to project a more masculine perspective of being self-sufficient and tough. Men are often pushed to see themselves as independent entities, while women's self-perception tends to be in relation to others in their social network (Gilligan, 1982; Torres & Garcia, 2019). Cultural expectations also influence the age at which individuals reach this stage (Gardiner & Kosmitzki, 2011). If a culture values marriage and child-bearing at a young age, members may reach this stage faster than a culture that values self-exploration and independence. If people are unable to create intimacy and connection with others, emotional and social problems may arise (Hook et al., 2003).

Through achieving intimacy with others, these problems may be able to be mitigated. As emerging adults form relationships, their social networks mesh and overlap (Milardo, 1982). This merging can influence the course of the relationship as some may choose to remain in a relationship in an effort to avoid losing their social network (Savage & Sommer, 2016). The functionality of social and dating relationships also evolves across this life cycle stage. Dating becomes more about seeking the possibility of emotional and physical intimacy with others than simply having fun (Arnett, 2000). The idea of searching for a life partner also emerges during this stage as the focus shifts away from casual dating (Arnett, 2000). When considering the level

of importance emerging adults place on their romantic relationships, the process of merging a partner into an existing social network becomes critical.

Social Network Influence

If individuals are unable to successfully incorporate their partners into their social networks, increased relationship dissatisfaction and instability are likely (Jenson et al., 2021). The effects of disapproval of a relationship extend to the rapport between the individual and those around them. If a member of one's social network strongly criticizes a relationship, it has been linked to a decline in emotional closeness with that person (Gillian et al., 2022). The stronger the vocalized disapproval, the more difficult it is for the relationship to recover.

Emerging adults may not always feel the pressure to conform to their social network, but they often use the people around them for guidance on how to make decisions about conducting themselves in their own romantic relationships (Manning et al., 2011). In a study done by Manning et al. (2011), participants were more likely to cohabitate if they had peers who had positive experiences with it. For those who came from families with divorced parents, there was a noticeable increased awareness about the vulnerability of marriage. Reactions tended to either involve increased anxiety about entering and becoming trapped in what could become an unhappy union or viewing parental mistakes as lessons to avoid with a spirit of optimism for their own future marriages. The study demonstrated the effects one's social circles may have on their relationship choices. Instead of strictly making choices based on evaluation of what parents modeled, individuals tended to look to their friends for guidance. The outcome of their friends' relationships played a role in determining if a couple was more willing to cohabitate or marry, highlighting the impacts a social network may have on relationship maintenance.

Social Network Approval

People generally strive to see their partner in the best light and can go to great lengths to maintain idealization (Niehuis et al., 2011). If a social network approves of one's partner, it can help extend the idealization effect through a positive perception of the relationship (Felmlee, 2001). Relationship satisfaction (Blair & Holmberg, 2008, Holmberg & Blair, 2016) and relationship stability (Blair, 2012) have been shown to improve in both same-sex and mixed-sex relationships when social network approval is established. Even the prediction of social network approval can influence which relationships individuals choose to be a part of. For example, emerging adults are more likely to be involved in interracial romantic relationships if they believe their family members will be supportive (Miller et al., 2022). On the other hand, disapproval from one's family and friends has been linked to an increased risk for infidelity and relationship dissolution (Zak et al., 2002). If social network approval is not gained, there is a tendency to attribute the disapproval to bias (Jenson et al., 2021). Individuals often feel that their own viewpoint is impartial, thus any variance in others must be due to their lack of objectivity (Pronin et al., 2002). Consequently, romantic partners must navigate their own feelings about a partner, while finding a way to account for the approval or disapproval of those around them.

Along with idealization, partner enhancement positively correlates with social network approval (Busby et al., 2017). Partner enhancement occurs when one views their significant other as more capable or proficient than themselves with a characteristic or skill set (Morry et al., 2010). The correlation between social network approval and partner enhancement could occur due to family and friends referring to one's partner in a consistently favorable light (Busby et al., 2017). By regularly hearing positive feedback, individuals' perspectives on their partner may be more positively influenced versus receiving neutral or negative feedback. Women tend to show more significant correlation between partner enhancement and social network approval than men

(Busby et al., 2017). This may be because women utilize their social networks to discuss relationships more frequently than men. If a female partner gains support of their family and friends for the relationship, their positive beliefs about their partner may be affirmed frequently, thus resulting in increased partner enhancement.

In emerging adulthood, parental opinions are given different weight than friend support or disapproval (Blair & Pukall, 2015). When parents are found to be initially correct in their criticism of a later problematic partner, more consideration is given to their opinion in the future. However, if parents express objections about a relationship and the relationship lasts for a significant period of time without negative repercussions, children are less inclined to consult parents for their opinion in future relationships. Blair and Pukall (2015) dubbed this concept as 'having a set amount of relationship disapproval currency (p. 266).' When a parent has disapproved repeatedly and spent their currency, their assessments are no longer given consideration. This phenomenon was only found to be present with parents and was not illustrated when accounting for friend approval or disapproval. This indicates that friends most likely have continuous influence on relationships, whereas parental influence may fluctuate.

Pointing to the critical role that friendship approval plays with regard to romantic relationships, parental disapproval was not found to have an impact on the duration of a relationship, while friend disapproval led to increased rates of the relationship ending (Blair, 2012). As emerging adults develop their social networks, more importance is given to friends and 'chosen family' over biological family members, particularly for those in same-sex relationships (Blair, 2012). Emerging adults may feel more supported, along with a sense of being known and understood, by friends than family members. However, this is contrasted with the results found by Sinclair et al. (2014) which showed that overall greater approval for the

relationship, regardless of the source, correctly predicted it would fare better than relationships with decreased social network support. It is important to note that parents are more likely to respond in a negative manner than friends or peers to any information given about their children's relationships (Baxter & Widenmann, 1993). This could play a role in the amount and type of information individuals choose to reveal to their parents as it has been shown emerging adults are more likely to hide information about their relationship from their parents than friends (Baxter & Widenmann, 1993). Although some research points to the importance of peer approval for relationships success, other research has shown that emerging adults may be the most subject to parental influence, perhaps due to factors like financial dependence and emotional support (Manning et al., 2011). While the research does not identify one singular most important source of influence, it is clear that emerging adults pay attention to the guidance offered by their social network regarding their romantic relationships. Consequently, research examining romantic functioning is most comprehensive when accounting for the impact of the social network (Huston, 2000).

Relationship Work

Romantic relationships exist within a larger social context that can influence how they progress (Blair & Holmberg, 2008). When an individual discusses their relationship problems with a partner or someone else, this disclosure is known as relationship work (RW; Jensen et al., 2018). In a study done by Helms et al. (2003), researchers dubbed this process of disclosure about marriage to others as "marriage work" when looking specifically at married couples. They measured husbands' and wives' relationship quality, the amount of marriage work done with each other and a close friend, and other variables including psychosocial adjustment. The results showed that men partook in greater amounts of marriage work with their wives than with close

friends, while women participated in similar amounts of marriage work with their husbands and with close friends. When engaged with friends, women may have more lengthy and detailed discussions, while men's conversations tend to be briefer and more solution-oriented (Jensen at el., 2019). Connections with marital quality were also examined. If women took part in low levels of marriage work with husbands and higher levels with their friends, the less marital love and more ineffective arguing they perceived in their relationship. If women engaged in high levels of marriage work with their husbands, the amount of marriage work with friends was unrelated to their perception of the quality of their marriage. This suggests that engaging in marriage work with friends becomes a neutral activity when high levels of work are performed with a partner, accentuating the need for partners to turn toward each other.

Relationship Work in Emerging Adults

Jensen and Rauer (2016) revamped the concept of marriage work further and applied it to emerging adults. Their work looked specifically at emerging adult females and their engagement in relationship work (RW) with partners and friends at two separate time periods. The results showed that women partook in more RW with partners than friends and that RW with partners increased over the duration of the relationship. The amount of RW with friends did not change over the course of the study. Increased amounts of RW with partners predicted greater romantic stability and increased RW with friends was connected to greater instability. This finding may partially be accounted for by participants' ages and the volatility of relationships during the ages of 18-25. Yet, if individuals are less inclined to turn towards their partner to solve romantic conflict, issues may fester and lead to eventual dissolution of the relationship. Jensen and Rauer (2016) concluded similarly to Helms and colleagues (2003) that engaging in high RW with

friends in place of discussing romantic problems with a partner, was potentially detrimental to the relationship.

In a subsequent study examining RW patterns among emerging adults, researchers found partners most frequently turned to one another to discuss relationship issues, but friends and others were also turned to in times of romantic distress (Jensen et al., 2018). They noted that emerging adults tended to fall into one of three groups: disclosers, selectives, and discretes. Disclosers took part in high levels of RW with mothers, fathers, friends, and partners while selectives mainly engaged in RW with mothers and partners. Individuals who were categorized as discretes took place in the least amount of RW overall and only with their partners. The three categories appeared to represent individuals' varying levels of openness with others about their romantic relationship issues. Jensen and colleagues reported that RW occurs more frequently with mothers and friends than fathers. Moreover, friends may be the most common source of support for emerging adult relationships. The findings also highlighted mothers' residual role as an important fixture in many children's social networks, even into emerging adulthood. When RW with fathers occurs, it often takes place during difficult periods where less love and increased conflict is reported. Researchers hypothesized several explanations for this finding, including fathers being more apt to provide solutions when needed, as opposed to emotional connection. Friends were found to provide as much emotional support as mothers during emerging adulthood. This may have important ramifications for clinicians. While practitioners often include family members in a systemic therapy approach, friends may be an undervalued resource.

In another study conducted by Jensen et al. (2019), relationship approval from the male's friends was significantly positively correlated to females engaging in more RW with their

partners. However, the same connection was not found when examining females' friends' approval and males' likelihood to engage in relationship work with their partner. Researchers found that closer friendships were associated with more self-reported relationship work with those friends. Males were found to have a strong positive association between engaging in more self-reported RW with friends when their friendship quality was greater. Although it is evident that discussing romantic challenges with partners and friends can importantly impact the relationship itself, only a handful of researchers have begun to examine the physiological processes that accompany such disclosures.

Moreover, Jensen et al. (2019) explored the connection between skin conductance-a type of physiological arousal-and RW. Skin conductance activity (SCA) was examined due to its connection to physiological stress and skin perspiration. Couples were brought into a research lab and observed while discussing their relationship challenges with a friend and their partner. Sensors were placed on them during the conversations to capture SCA. Jensen and colleagues (2019) discovered that males experienced more SCA than females when discussing romantic relationship challenges. Greater SCA was found when engaged in RW with either partners or friends than at baseline. Surprisingly, participants were also found to have greater SCA when engaging in RW with friends as compared to during RW with partners. The difference indicates that participants experienced greater physiological arousal when discussing their relationship with friends than with their partner, which may suggest that venting to friends is not as beneficial as many believe it to be.

The advantages of RW with a friend may be limited in comparison to the benefit of RW with a partner. During RW conversations with friends, individuals are unable to be validated by their partner and create change. When friends affirm their stance on a relationship problem, they

may also be inadvertently heightening their physiological reactions through engagement in mutual venting. As a result, discussing problems without being able to work towards solutions may create more stress for individuals. This could help explain why increased physiological arousal was seen when engaged in RW with friends.

Psychophysiology in Couples

Psychophysiological arousal during couple conflict is a topic that has been examined by researchers over the past several decades (Heffner et al., 2004; Osgarby & Halford, 2013). Measurements of physiological factors including heart rate, blood pressure, and skin conductance may be useful metrics for examining the physiological responses accompanying interpersonal discord. Monitoring physiological changes during couple interactions was first pioneered by Gottman and Levenson (1983). This study examined thirty married couples and how physiological changes and affective patterns were associated with their level of marital satisfaction. They hypothesized that physiological arousal would be associated with more negative affective patterns. The four physiological markers they chose were heart rate (measured by interbeat interval or IBI), pulse transmission time (PTT), skin conductance level (SCL), and general somatic activity. Heart rate and pulse transmission time were chosen as a way to monitor cardiac activity of the participants. Skin conductance level measured the activity of the sweat glands believed to be associated with emotions and general somatic activity was chosen to monitor overall physical movement when seated in a chair. Combined, they tracked the following four important points of physiology: the heart, vasculature, sweat glands, and muscles. IBI, PTT, and SCL also are influenced by the sympathetic nervous system which has a connection to negative emotions via the evolutionary fight or flight response.

These metrics were explained to couples when they came to be monitored after approximately eight hours apart. They were observed for twenty minutes. Later, couples returned individually to watch the video of their interaction and self-reported the changing affect they observed. Upon analysis of the results, negative affect, such as stereotyping, rigidity, and sequential restraint, was seen more frequently in dissatisfied pairings and 60% of the variation in marital satisfaction was accounted for due to the physiological linkage. This study was expanded upon later by re-examining nineteen of the original couples (Levenson & Gottman, 1985). The more physiologically aroused a couple had been during the original interactions, the more their satisfaction declined over the three-year period between studies.

Relationship satisfaction has also been investigated in association with cortisol levels in saliva, a type of physiological arousal denoting stress (Denes et al., 2020). Researchers studied fifty heterosexual couples and the frequency with which they engaged in pillow talk. Pairings were asked to double the amount of pillow talk for three weeks. During the final portion of the study, participants came to a lab for saliva collection. First, individuals had a cortisol sample collected (i.e., time 1 or T1) and then engaged in a ten-minute conversation with their partner about a frequency relationship problem. Afterwards, saliva samples were collected at 20 (T2) and 40 (T3) minutes post-conversation for both participants. Relationship satisfaction was measured at T1 and T2 with Hendrick's (1988) measure of relationship satisfaction.

Upon analysis of the results, increasing pillow talk resulted in more relationship satisfaction for men. No significant change was found for women. Greater baseline levels of cortisol were seen for men in the experimental group, while the control group had lower levels that remained consistent over time. However, men in the experimental group had a decrease in cortisol levels after the conflict discussion. Therefore, anticipation of engaging in the conflict

may have increased stress levels, but the discussion may also have had a cathartic effect for those who engaged in more pillow talk leading up to it. Women are often already seen as relationship managers, therefore, this could explain why engaging in more pillow talk did not result in a significant change for relationship satisfaction or cortisol levels.

Heart Rate Variability

Like salivary cortisol levels, heart rate variability is another measure of physiological arousal. Heart rate variability (HRV) measures the discrepancy in time between heartbeats (Lehrer et al., 2020). Tracking this metric can be insightful as the body is constantly adapting to stimuli and changes in HRV can be monitored. In a study completed by Jensen et al. (2018), researchers looked at how the heart rate (HRT) changed when engaged in RW. Participants were monitored for HRT at baseline, when engaged in RW with a friend, and when discussing the same romantic challenge with their partner. HRT was measured with a photoplethysmogram sensor attached to the participants' index finger on the non-dominant hand. Physiological arousal was associated with RW, but they noted that there was not a significant difference in HRT when performing RW with a friend or partner. Females did experience significantly higher HRT scores at baseline, when with a friend, and with their partner. This may be due to the fact that women often feel more pressure to maintain relationships and attempt to prevent partners from disengaging during conflict. When partners disengage during conflict, relationship satisfaction could be affected. However, there is a noticeable lack of research into how HRV may influence relationship satisfaction. As such, it is important to examine if the quality of a relationship can be positively or negatively associated with HRV.

Theoretical Foundation

Two theories guide the current study-Porges' polyvagal theory and social exchange theory. Both are rooted in the effect of relationships on individual functioning. Therefore, these two theories serve as an appropriate guide for the study of how individuals, their partners, and their friends relate to one another and the resulting physiological changes that occur during these interactions. Porges' polyvagal theory focuses on how external stimuli affect internal physiological states and the resulting sense of safety or danger (Porges, 2009, 2015). When safety is established, humans' nervous systems facilitate growth and restoration and they are able to emotionally connect with each other without the fear of threats (Porges, 2022). Social exchange theory also looks at how people build relationships over time. It defines behavior as a commodity to be traded back and forth between parties with the expectation of reciprocity (Ahmad et al., 2023). Combining these two theories lays the groundwork through which to examine how relationships function between partners and in their larger social networks.

Porges' Polyvagal Theory

Porges' (2009, 2015) polyvagal theory maps out a theoretical foundation describing how external indicators of risk or safety affect our internal physiological states. Conceived in 1994, Porges' (1995, 2007) theory is designed to evolve over time as neurophysiology knowledge increases and changes. Porges (2009) suggests that three primary neural circuits-the ventral vagal complex (VVC), dorsal vagal complex (DVC), and the sympathetic nervous system (SNS)-evolved from the autonomic nervous system (ANS). The goal of these systems is to maintain homeostasis and perceive and respond to threats in the environment. The DVC and VVC are activated by the vagus nerve (Tindle & Tadi, 2023). The vagus nerve is the 10th cranial nerve and the primary nerve that the parasympathetic nervous system (PNS) activates (Tindle & Tadi, 2023). The myelinated vagus nerve works as a "vagal brake" for the autonomic nervous system

(ANS; Porges, 2007). When the stress response is initiated, it works as a counterbalance by directing the reactions of various body systems (Tindle & Tadi, 2023). The body does not switch between SNS and PNS activation. Instead, both work in flux as they respond to stimuli in the internal and external environments (Gibbons, 2019).

When the SNS is triggered, it prepares the body for mobilizing in a fight or flight response to threats (Porges, 2021). The phylogenetically older DVC responds to threats by immobilizing the body, or dissolution (Porges, 2021). This may look like fainting or feigning death (Porges, 2021). As a more primal response, the DVC is an unmyelinated pathway in the PNS. The activation of the SNS inhibits the ability of the DVC to respond to a stimulus. However, if the reaction of the SNS is inadequate in countering the threat, the DVC is initiated (Porges 2009, 2021). For example, a reaction driven by the SNS would promote a sudden increase in heart rate. If this reaction was insufficient, a response from the DVC would result in a dramatic decrease in heart rate (Porges, 2021).

In comparison to the SNS, the myelinated VVC is a phylogenetically newer component of the PNS (Porges 2009, 2021). If activated, it coordinates select organs above the diaphragm and striated muscles of the head and face (Porges, 2021). Processes such as turning the head or making eye contact are called social engagement behaviors or the “tend and befriend” response (Shaffer & Venner, 2013). This response is activated when a person feels secure with those around them and increases connection and attachment. The body initiates a physiological response including a slowed heart and respiration rate and increased feelings of calmness and security (Shaffer & Venner, 2013). People are able to co-regulate and decrease defensiveness through the formation of safe connected relationships (Porges, 2022; Sayar & Ülker, 2022). This creates an ideal state for mental and physical wellbeing (Sayar & Ülker, 2022). Creating safe

connections with partners can potentially increase the likelihood that individuals are able to activate the relaxation response involved with social engagement behaviors.

Social Exchange Theory

Social exchange theory seeks to explain the evolutionary driving factors behind these social engagement behaviors as the baseline for the formation and sustainment of relationships. Behaviors are viewed as a type of good to be exchanged between parties (Ahmad et al., 2023). Rules and norms are established between groups and create the guidelines by which actions are judged (Cropanzano & Mitchell, 2005). The rules and resources of exchange therefore create social exchange relationships (Cropanzano & Mitchell, 2005).

Reciprocity is a core exchange rule (Cropanzano & Mitchell, 2005). Cropanzano and Mitchell (2005) defined it in one of three ways. First, reciprocity can be seen as an interdependent behavior indicating that outcomes are produced based on both parties' respective inputs. It demonstrates that trade taking place is a bidirectional transaction. Second, it can be viewed as a "folk belief" that, with time, people who are helpful will be rewarded and those who are unhelpful will be punished. This lens supports the just world concept that universal justice, or karma, will eventually befall people. It also works to decrease revenge-seeking behavior. Third, it can be regarded as a societal norm. This differs from a "folk belief" because it carries the expectation that there is a proper and correct way to conduct oneself. The overall belief of reciprocity keeps the exchange functioning as a constant cycle (Ahmad et al., 2023). Negotiated rules can also be a part of the pattern. Cropanzano and Mitchell (2005) explained negotiation as more overt and detailed in comparison to reciprocity. In comparison to negotiation, reciprocity has been shown to result in a greater increase in trust, particularly in working relationships (Cropanzano & Mitchell, 2005).

The resources of exchange include concepts like status, money, love, and services (Ahmad et al., 2023). These can be further classified into two groups: economic (material) and socioemotional (symbolic; Ahmad et al., 2023). In romantic relationships, partners tend to focus more on the socioemotional aspect. These are dubbed rewards (positive outcomes) and costs (negative outcomes) of the exchanges (Clark, 2023). Rewards can be affection, sexual behavior, and time together while costs can look like relational conflict, time commitments, or lack of sexual activity. When rewards and costs are perceived as balanced, relationship equity is achieved. Partners seek to maintain symmetry in the level of perceived effort and conflict is likely when the balance is unequal (Clark, 2023). The desire to stay in the relationship is the result of the perceived net profit of this equation (Nakonezny & Denton, 2008). When alternatives to being in the relationship are deemed more rewarding, dependence on the relationship decreases. A lopsided dependence on the relationship between partners can increase relationship instability due to a lack of trust that both partners will remain committed (Nakonezny & Denton, 2008). This may also result in turning more frequently to the social network, as opposed to one's partner, for relationship support.

Current Study

Building upon these theories, communication between couples can be attributed back to the evolution of body systems and societal relationships (Ahmad et al., 2023; Porges, 2021). Satisfying relationships are built with positive conflict resolution strategies (Cherrier et al., 2023; Courtain & Glowacz, 2019) and support from one's larger social network (Felmlee, 2001). While the effects of larger social circles on a relationship have been examined (Felmlee, 2001; Gillian et al., 2022), limited research has been done on how relationship satisfaction may be affected by perceived versus actual social support. Emerging adults are also an understudied group when it

comes to relationship satisfaction and social network approval. Studies often examine couples along the entire lifespan or other specific age groups (Gillian et al., 2022; Jenson et al., 2021). Emerging adults were specifically examined in relation to heart rate variability (Jensen et al., 2018), however, relationship satisfaction was not considered in this study. Therefore, it is important to address these gaps by creating a study that focuses on the connection between real and perceived social support and relationship satisfaction and between heart rate variability, relationship satisfaction, and relationship work, all within the specific demographic of emerging adults.

CHAPTER 3: METHODOLOGY

Couples exist within a complex social system that they influence and, in turn, influences them (Huston, 2000). Looking at the example others set in a social network can affect how a couple may communicate (Blair & Pukall, 2015). The creation of healthy communication patterns in a relationship is a responsibility of both partners (Lunenburg, 2010). These patterns may create more satisfying relationships. If relationships have decreased satisfaction, the impact for partners is broad, with marital distress resulting in decreased health outcomes and an increased likelihood of negative affect in children (Gottman & Notarius, 2000). Negative health impacts may include increased stress-related hormones and suppressed immune function (Gottman & Notarius, 2000). Physiological distress is also seen temporarily when discussing conflict, such as increased heart rate, blood pressure, and skin conductance (Jensen et al., 2019).

The current study examines whether or not emerging adults' social network approval is significantly associated with relationship satisfaction and relationship work (RW). It also investigates whether this population accurately perceives their friends' approval or disapproval of their romantic relationship. In addition, it seeks to explore the connection between heart rate variability (HRV) and relationship satisfaction and RW.

Sample and Procedures

The data used for the current study was originally collected as part of the larger ongoing Relationship Work in Young Adults Study. This study is looking at emerging adults at East Carolina University and was originally approved by the Institutional Review Board in May 2015. Only procedures and measures relevant to the current study will be discussed. Although 75 emerging adult couples and a friend of each partner (i.e. 300 individuals) were recruited for participation in the study, we retained 71 of those couples for the current analyses. Four of the

couples identified as same-sex couples and in order to discuss gender differences in romantic and social functioning, these four couples were dropped from the current study.. These candidates were recruited via classroom visits, research flyers, and university emails from an assortment of undergraduate and graduate-level courses (i.e. Human Development, Biology, English, and Nursing). There was no gender specificity as both heterosexual and same-sex couples were recruited. All participants were required to fulfill the following criteria:

1. Of each group of four (two partners and two friends), at least one had to be a student of East Carolina University
2. All participants were 18 years or older
3. All partners needed to indicate that they were in a type of romantic relationships
4. Each partner needed to identify as having a close friend and bring that friend to the research lab

Each group of four (i.e. couple and one of each of their friends) were required to come to an on-campus research facility and spend approximately 90-minutes partaking in various items that sought to capture personal, romantic, and social functioning. Additionally, all participants completed online questionnaires through Qualtrics about their personal characteristics such as age and ethnicity, their romantic relationship (e.g. length and quality), and their friendship (e.g. length and quality).

Along with the questionnaires, participants were asked to engage in a video-recorded conversation in which they discussed—first with their partner, and then with their friend—a romantic problem that they were currently experiencing or had experienced in the past. They discussed the same romantic challenge with both their partner and friend. Prior to the video conversation, each partner received a list of common romantic relationship problems (e.g.,

needing to be more organized, wanting to make love more often) and were asked to independently rate what they felt were the most significant problems in their relationship on a 6-point Likert scale from 0 ("Not an issue") to 5 ("Major problem"). Participants were encouraged to choose a topic from this list that received a higher score as the subject to discuss during the video conversation. Each partner identified a separate issue that was a concern in the romantic relationship. After one partner discussed his or her issues with the partner and with the friend, the other partner followed the same pattern, with their issue. To account for potential gender dynamics, order of participation was counterbalanced such that for odd numbered participants the female first discussed her problem with her partner and then her friend, and for even numbered participants males went first. When discussing the issue with a partner, the friend left the room, and vice versa.

While engaging in conversation about the romantic challenge, psychophysiological stress of the partner leading the conversation was captured through various means. Romantic partners, but not friends, had psychophysiological data assessed and monitored. In order to compensate participants for their time and input for the study, romantic partners received a $50 Target gift card each, and each friend received a $35 Target gift card.

Measures

Dyadic Adjustment

Dyadic adjustment was captured using the 14-item Revised Dyadic Adjustment Scale (RDAS; Busby et al., 2007). The first six items were scored on a 6-point Likert scale, with 0 representing "Always disagree" and 5 representing "Always agree." The next four items were also scored on a 6-point Likert scale, with 0 representing "All the time" and 5 representing "Never." Next, one item was scored on a 5-point Likert scale ranging from 0, representing

"Never," to 4, representing "Every day." The final three items were scored on a 6-point Likert scale ranging from 0, representing "Never," to 5, representing "More than once a day." Sample items from the measure included "How often do you and your partner quarrel?" and "How often do you and your partner work together on a project?" Higher scores indicated greater dyadic adjustment. The RDAS has been found to have a Cronbach's alpha of .90. Reliability in our sample was found to be acceptable (female partners α=.64; male partners α=.68).

Relationship Work (RW)

The degree to which participants engaged in RW with their romantic partner and with a close friend was measured using a modified 5-item Marriage Work Scale (Helms et al., 2003). Some items from the original scale were dropped due to not being applicable to this population's current lifestyle (i.e., items related to child rearing). Retained items were those that seemed most relevant to the current population, such as "How often do you bring up how well you and your partner get along with one another's families and how much and how often you see them?" Respondents were asked to select a number on a 9-point Likert scale, with 1 representing "Never" and 9 representing "Always." Each question separately addressed RW with the respondent's partner and friend. Higher scores indicated more frequent RW with either partners or friends. The modified version of the scale demonstrated good reliability for both the partner scale (female partners: α = .68; male partners α = .79) and the friend scale (female partners: α = .79; male partners α = .83).

Social Network Approval

Partners' perceptions of their friends' approval of their romantic relationship were captured using a single-item measure ("To what degree do you think that your close friend who accompanied you to the research visit today approves of your current romantic relationship?"),

ranging from 1 (“Very much disapproves”) to 7 (“Very much approves”). Friends’ approval of the romantic relationship was captured using the 6-item Social Reactions Scale (Sprecher, 2011). Responses were scored on a 7-point Likert scale with higher scores indicating greater approval of the romantic relationship. Reliability was found to be acceptable (females’ friends: $\alpha = .95$; males’ friends $\alpha = .84$).

Heart Rate Variability (HRV)

HRV was captured using Nexus-10 psychophysiological equipment and Biotrace+ software. Participants were monitored for heart rate (HRT) at baseline, when engaged in RW with a friend, and when discussing the same romantic challenge with their partner. HRT was measured with a photoplethysmogram sensor attached to the participants’ index finger on the non-dominant hand. A five-minute period in which participants did not engage in conversation or activity was recorded at the start of the observation in order to establish a baseline description of their HRV.

Data Analysis

In order to answer our research questions, we first examined univariate descriptive statistics, followed by bivariate correlational analyses among all study variables. Path modeling was conducted to investigate relationships among multiple variables simultaneously. For our first research question regarding potential links between social network approval, relationship adjustment, and relationship work, bivariate correlations were conducted. Regarding our second research question in examining comparisons between partners’ perception of friends’ approval versus actual approval of the relationship reported by friends, we conducted Kendall’s tau correlation comparisons in addition to examination of the mean scores and other descriptive statistics. Path analyses by means of actor-partner interdependence modeling (APIM) were

conducted to answer our third research question, which considered the potential associations among all study variables simultaneously.

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CHAPTER 5: DOES MY FRIEND LIKE MY ROMANTIC PARTNER? LINKS AMONG RELATIONSHIP WORK WITH PARTNERS AND FRIENDS AND PHYSIOLOGICAL IMPLICATIONS

Romantic relationships evolve and vary across life stages (Arnett, 2015). For example, the nuances of communication between dating partners are quite different in early adolescence as opposed to middle adulthood (Courtain & Glowacz, 2019), suggesting that age is an important aspect of intersectionality (Arnett, 2014; Arnett, 2015). Emerging adulthood (ages 18-25) ushers in particular transitions for how individuals interact with their social networks. The formation of romantic relationships has been identified as a key developmental process during this stage and establishes foundational patterns for future relationships (Erikson, 1968).

Emerging adulthood is a time of tumultuous change, filled with choices that impact the remainder of the lifespan (Arnett, 2014; Arnett, 2015). Most emerging adults in the United States are simultaneously moving out of their parents' homes, exploring career and educational opportunities, and tentatively embracing newfound independence and responsibilities that accompany unprecedented levels of autonomy (Courtain & Glowacz, 2019). As they shed their adolescence, differing relationship patterns and ways of communicating begin to emerge (Courtain & Glowacz, 2019). Researchers have sought to understand the circumstances that impact and transform emerging adults' ways of interacting in romantic relationships. For example, romantic relationships rarely, if ever, exist in complete isolation. The social network of each partner significantly influences relationship dynamics (Felmlee, 2001). Perceptions of approval from a partner's friend and family increase relationship stability, while relationships that compete for companionship and closeness to a friend can decrease romantic stability

(Felmlee, 2001). As such, it is important to consider the role friends, and their approval, can play in the outcome of romantic relationships (Helms et al., 2003).

Friends often become intertwined in their friends' romantic relationships through a phenomenon dubbed relationship work (RW; Jensen & Rauer, 2016). This occurs when partners discuss romantic challenges with each other, along with friends. RW may also include venting to friends when frustrated with a romantic partner (Jensen et al., 2019). Previous research examining RW suggests that it is most beneficial for the outcome of the relationship when partners discuss their romantic problems with one another prior to involving their friends in such disputes (Jensen & Rauer, 2016). The tone and frequency of such conversations, as well as numerous other relationship components, are inevitably linked with measures of romantic functioning such as relationship satisfaction (Proulx et al., 2004). Capturing antecedents and correlates of relationship satisfaction is important, given that successful romantic relationships have been linked to lower rates of emotional and physical distress, along with increased positive physiological functioning (Schneiderman et al., 2012).

LITERATURE REVIEW

Theoretical Foundation

To comprehensively assess the intersection of personal, social, and romantic functioning in emerging adulthood, two complementary theories guide the current study – Porges' polyvagal theory (2009, 2015) and social exchange theory (Cropanzano & Mitchell, 2005). Both are rooted in the effects of relationships on individual functioning. Therefore, these two theories serve as an appropriate guide for the study of how individuals, their partners, and their friends relate to one another and the resulting physiological changes that occur during these interactions. Porges'

(2009, 2015) polyvagal theory captures how external stimuli affect internal physiological states. The goal of these systems is to maintain homeostasis and perceive and respond to threats in the environment. When the stress response is initiated, it works as a counterbalance by directing the reactions of various body systems (Tindle & Tadi, 2023). When safety is established, humans' nervous systems facilitate growth and restoration, and they may emotionally connect with each other without the fear of threats (Porges, 2022). Processes such as turning the head or making eye contact are referred to as "social engagement behaviors" or the "tend and befriend" response (Shaffer & Venner, 2013). This response is activated when a person feels secure with those around them and increases connection and attachment. The body initiates a physiological response including a slowed heart and respiration rate and increased feelings of calmness and security (Shaffer & Venner, 2013). Accordingly, via measured physiological functioning, individuals are able to co-regulate and decrease defensiveness through the formation of safe and connected relationships (Porges, 2022; Sayar & Ülker, 2022).

Examining the intersection of individual and social functioning through a complementary theoretical lens, social exchange theory seeks to explain the evolutionary driving factors behind the behaviors that formulate and sustain relationships (Ahmad et al., 2023). These behaviors are viewed as a type of good to be exchanged with rules and norms established between groups that create the guidelines by which actions are judged (Cropanzano & Mitchell, 2005). The expectation of reciprocity (Ahmad et al., 2023) is a fundamental principle that drives social exchange within relationships (Cropanzano & Mitchell, 2005). Partners generally seek to maintain approximate symmetry in the level of perceived effort exerted to maintain and navigate a relationship. Consequently, conflict often ensues when the balance is unequal (Clark, 2023). The desire to stay in the relationship is the result of the perceived net profit of this equation

(Nakonezny & Denton, 2008). When alternatives to being in the relationship are deemed more rewarding, dependence on the relationship decreases. A lopsided dependence on the relationship between partners can increase relationship instability due to a lack of trust that both partners will remain committed (Nakonezny & Denton, 2008). Critically important to the current study, romantic conflict associated with imbalance in the relationship often results in triangulation of friends or others in an attempt to seek validation or support where it is lacking within the romantic relationship (Jensen & Rauer, 2016). Over time, this may result in the potentially problematic process of turning more frequently to the social network, as opposed to one's partner, for relationship support (Helms et al., 2003; Jensen & Rauer, 2016). The combination of Porges polyvagal theory and social exchange theory lays the groundwork through which to examine emerging adult romantic relationship functioning, accounting for the influence of the social network on individual and relational well-being.

Communication in Emerging Adults

Navigating the unique transitions that accompany individual and social development in emerging adulthood creates a distinctive context for communication. Understanding the strategies emerging adults use to communicate is important owing to the fact that relationships that function well have positive impacts on numerous areas of life, including social and emotional development (Crouter et al., 2005). If communication patterns are improved, increased relationship satisfaction is likely to follow (Hendrick, 1988). Relatedly, the creation of new and more effective conflict resolution strategies is considered developmentally appropriate during the emerging adult life stage (Arnett, 2015).

In a study done with affluent emerging adults in Belgium, positive conflict resolution strategies, such as negotiation and compromise, were found to increase as participants age

(Courtain & Glowacz, 2019). While positive changes may be seen in conflict resolution, there is also an increase in the amount of friction around unmet relational needs as individuals enter emerging adulthood (Gray et al., 2015; Johnson et al., 2015). Emerging adults are in the midst of developing an awareness of their preferences and needs and, therefore, may be more likely to engage in conflict. Highlighting the link to social exchange theory, emerging adults become increasingly adept at engaging in relationships that they perceive as beneficial, and withdrawing from those they deem detrimental (Ahmad et al., 2023; Jensen & Rauer, 2016). When comparing negative strategies, coercion is more dominant through adolescence, but by emerging adulthood, disengagement is more apt to be used (Laursen et al., 2001).

Relational and social problem-solving skills are often significantly tied to one's family of origin. If an individual was raised in an insecure family environment, unproductive conflict management strategies are likely to be carried into relationships in emerging adulthood (Cherrier et al., 2023). However, these problem-solving skills can also be influenced by factors beyond the immediate family unit. Both romantic and platonic relationships can further shape the way an individual engages with conflict (Cherrier et al., 2023). Therefore, researchers should seek to understand how problem-solving abilities can be influenced by one's larger social network (Huston, 2000).

Moreover, it is critical to account for variation in communication patterns and distinct issues linked with life stages, particularly in emerging adult couples (Olarte, 2012). New skills are practiced during this time, including increased perspective-taking. Using this skill can result in more positive conflict resolution strategies (Courtain & Glowacz, 2019). Emerging adults have also been found to communicate more frequently and through a larger variety of means (e.g., face-to-face, social media, texting) with peers than they do with parents (Lee & Dworkin,

2023). Therefore, given the frequency of communication with friends, such interactions may be hypothesized to play a central role in emerging adults' individual and romantic functioning during this life cycle stage.

Emerging Adults and Social Network Approval

The impact of one's social network extends beyond influencing communication strategies. Humans are hardwired for emotional connection and certainly do not exist in isolation (Felmlee, 2001). This drive to be in relationships with others stretches across the lifespan. The push for connection is particularly noteworthy during emerging adulthood. Erikson's sixth stage of development identifies the need for intimacy versus isolation (Erikson, 1950). Spanning the ages of 18-30, this maturation can look different for males and females (Bishop & Keth, 2013) and may be due to socialization and not an effect of biological sex (Hook et al., 2003). Women are often taught to share their feelings and rely on others for input, whereas men are often encouraged to project a more masculine perspective of being self-sufficient. Men are often pushed to see themselves as independent entities, while women's self-perception tends to be in relation to others in their social network (Gilligan, 1982; Torres & Garcia, 2019). Cultural expectations also influence the age at which individuals reach this stage (Gardiner & Kosmitzki, 2011). For instance, if a culture values marriage and childbearing at a young age, members may reach this stage faster than a culture that values self-exploration and independence. If individuals are unable to create intimacy and connection with others, emotional and social problems may arise (Hook et al., 2003).

Through achieving intimacy with others, potential problematic social trials may be able to be mitigated. As emerging adults form relationships, their social networks mesh and overlap (Milardo, 1982). This merging can influence the course of the relationship as some may choose

to remain in a romantic partnership to avoid losing their social network (Savage & Sommer, 2016). The idea of searching for a long-term partner also emerges during this stage as the focus shifts away from casual dating and becomes more about emotional and physical intimacy with others (Arnett, 2014; Arnett, 2015). When considering the level of importance emerging adults place on their romantic relationships, the process of merging a partner into an existing social network becomes critical. If individuals are unable to successfully incorporate their partners into their social networks, increased relationship dissatisfaction and instability are likely (Jenson et al., 2021). If a member of one's social network strongly criticizes a relationship, it may cause damage to the friendship as this type of feedback has been linked to a decline in emotional closeness with that person (Gillian et al., 2022). The stronger the vocalized disapproval, the more difficult it is for the relationship to recover.

Conversely, if a social network approves of one's partner, this may expand the positive perception of the relationship (Felmlee, 2001). Relationship satisfaction (Blair & Holmberg, 2008, Holmberg & Blair, 2016) and relationship stability (Blair, 2012) have been shown to improve in both same-sex and mixed-sex relationships when social network approval is established. Even the *prediction* of social network approval can influence which relationships individuals choose to be a part of. For example, emerging adults are more likely to be involved in interracial romantic relationships if they believe their family members will be supportive (Miller et al., 2022). On the other hand, disapproval from one's family and friends has been linked to an increased risk for infidelity and relationship dissolution (Zak et al., 2002). If social network approval is not gained, there is a tendency for partners to attribute the disapproval to bias (Jenson et al., 2021). Individuals often feel that their own viewpoint is impartial, thus assuming that any variance in others must be due to their lack of objectivity (Pronin et al., 2002).

Consequently, romantic partners must navigate their own feelings about a partner, while finding a way to account for the approval or disapproval of those around them.

Relationship Work

The influence of the social network on a romantic relationship can be seen in a type of divulgence known as relationship work (RW; Jensen et al., 2018). When an individual discusses their relationship problems with a partner or someone else, this disclosure is known as RW (Jensen et al., 2018). In a study done by Helms et al. (2003), researchers dubbed this process of disclosure about marriage to others as "marriage work" when looking specifically at married couples. They measured husbands' and wives' relationship quality, the amount of marriage work done with each other and a close friend, and other variables including psychosocial adjustment. The results showed that men partook in greater amounts of marriage work with their wives than with close friends, while women participated in similar amounts of marriage work with their husbands and with close friends. When engaged with friends, women may have more lengthy and detailed discussions, while men's conversations tend to be briefer and more solution-oriented (Jensen at el., 2019). Connections with marital quality were also examined by Helms and colleagues (2003). If women took part in low levels of marriage work with husbands and higher levels with their friends, the less marital love and more ineffective arguing they perceived in their relationship. If women engaged in high levels of marriage work with their husbands, the amount of marriage work with friends was unrelated to their perception of the quality of their marriage. This suggests that engaging in marriage work with friends becomes a neutral activity when high levels of work are performed with a partner, accentuating the need for partners to turn toward each other.

Relationship Work in Emerging Adults

Jensen and Rauer (2016) revamped the concept of marriage work further and applied it to emerging adults in dating relationships. Their work looked specifically at emerging adult females and their engagement in relationship work (RW) with partners and friends at two separate time periods. The results showed that women partook in more RW with partners than friends and that RW with partners increased over the duration of the relationship. The amount of RW with friends did not change over the course of the study. Increased amounts of RW with partners predicted greater romantic stability and increased RW with friends was connected to greater instability. This finding may have been partially accounted for by participants' ages and the volatility of relationships during the ages of 18-25. Yet, if individuals are less inclined to turn towards their partner to address romantic conflict, issues may fester and lead to eventual dissolution of the relationship. Jensen and Rauer (2016) concluded similarly to Helms and colleagues (2003) that engaging in high RW with friends in place of discussing romantic problems with a partner, was potentially detrimental to the relationship.

In a subsequent study examining RW patterns among emerging adults, researchers found partners most frequently turned to one another to discuss relationship issues, but friends and others, such as parents, were also confided in during times of romantic distress (Jensen et al., 2018). Moreover, friends were found to be the most common source of support for emerging adult relationships. The findings also highlighted mothers' residual role as an important fixture in many children's social networks, even into emerging adulthood. Friends and mothers were found to provide nearly equally high levels of emotional support during emerging adulthood. This may have important ramifications for clinicians. While practitioners often include family members in a systemic therapy approach, friends may be an undervalued resource.

In a subsequent study on this topic, Jensen et al. (2019) reported that relationship approval from male partners' friends was significantly positively correlated to females engaging in more RW with their partners. However, the same connection was not found when examining females' friends' approval and males' likelihood to engage in relationship work with their partner. Researchers found that closer friendships were associated with more self-reported RW with those friends. Males were found to have a strong positive association between engaging in more self-reported RW with friends when their friendship quality was greater. Although it has become evident that discussing romantic challenges with partners and friends can importantly impact the relationship itself, only a handful of researchers have begun to examine the physiological processes that accompany such disclosures.

Jensen and colleagues (2019) further explored the connection between skin conductance-a type of physiological arousal-and RW. Skin conductance activity (SCA) was examined due to its connection to physiological stress and skin perspiration. Couples were brought into a research lab and SCA was captured via sensors while discussing their relationship challenges with a friend and their partner. Jensen and colleagues (2019) discovered that males experienced more SCA than females when discussing romantic relationship challenges. Greater SCA was found when engaged in RW with either partners or friends than at baseline. Surprisingly, participants were also found to have greater SCA when engaging in RW with friends as compared to during RW with partners. The difference indicates that participants experienced greater physiological arousal when discussing their relationship with friends than with their partner, which may suggest that venting to friends is not as beneficial as many believe it to be. During RW conversations with friends, individuals are unable to be validated by their partner and create change. When friends affirm their stance on a relationship problem, they may also be

inadvertently heightening their physiological reactions through engagement in mutual venting or passionate validation. As a result, turning to friends to the exclusion of partners to discuss romantic trials may actually exacerbate individuals' stress. This may explain why increased physiological arousal was seen when engaged in RW with friends.

Psychophysiology in Couples

Psychophysiological arousal during couple conflict is a topic that has been examined by researchers for several decades (Heffner et al., 2004; Osgarby & Halford, 2013). Monitoring physiological changes during couple interactions was first pioneered by Gottman and Levenson (1983). They examined thirty married couples and how physiological changes and affective patterns were associated with their level of marital satisfaction. They hypothesized that physiological arousal would be associated with more negative affective patterns. They examined four physiological markers: heart rate (measured by interbeat interval or IBI), pulse transmission time (PTT), skin conductance level (SCL), and general somatic activity. Combined, they tracked the following four important points of physiology: the heart, vasculature, sweat glands, and muscles.

Couples were monitored after approximately eight hours apart and were observed for twenty minutes in a laboratory setting. Later, couples returned individually to watch the video of their interaction and self-reported the changing affect they observed. Upon analysis of the results, negative affect (e.g., stereotyping, rigidity, sequential restraint) was seen more frequently in dissatisfied pairings and 60% of the variation in marital satisfaction was accounted for due to the physiological linkage. This study was expanded upon later by re-examining nineteen of the original couples (Levenson & Gottman, 1985). Notably, the more physiologically aroused the

couple during the original interactions, the more their satisfaction declined over the three-year period between studies.

Heart Rate Variability

Heart rate variability (HRV) is a measure of physiological arousal that captures the discrepancy in time between heartbeats (Lehrer et al., 2020). Tracking this metric can be insightful as the body is constantly adapting to stimuli and changes in HRV can be monitored. Quantifying HRV can be done through a variety of time domain, frequency domain, and metrics from nonlinear dynamics (Ciccone et al., 2017). Root mean square of successive differences (RMSSD) is commonly accepted as an appropriate time domain measure for HRV (Ciccone et al., 2017; Pham et al., 2021). This metric is captured using an electrocardiogram (ECG) and determining the time interval between adjacent R-waves (Ciccone et al., 2017). Cardiac parasympathetic activity is reflected in RMSSD values (Penttilä et al., 2001). RMSSD has been demonstrated to be an effective measurement when examining stress and emotional responses in adolescents (Laborde et al., 2017) and adults (Palix et al., 2022; Utsey et al., 2015). For example, through the utilization of RMSSD data, slow-breathing was found to be an effective form of stress relief by measuring and comparing adolescents' scores between a control group and when exposed to high-stress conditions (Laborde et al., 2017).

Although only a singular measure of cardiac function and response, higher RMSSD values generally indicate greater flexibility to cope with stressors as a result of increased HRV (Laborde et al., 2022; Shaffer & Ginsberg, 2017). HRV has also been shown to be significantly associated with heart rate (HRT) due to the physiological and mathematical relationships between the two components (Sacha, 2014). In a study completed on emerging adults by Jensen et al. (2018), researchers looked at how the heart rate (HRT) changed when engaged in RW.

Participants were monitored for HRT at baseline, when engaged in RW with a friend, and when discussing the same romantic challenge with their partner. HRT was measured with a photoplethysmogram sensor attached to the participants' index finger on the non-dominant hand. Physiological arousal was associated with RW, but they noted that there was not a significant difference in HRT when performing RW with a friend or partner. Compared to males, females experienced significantly higher HRT scores at baseline, when with a friend, and with their partner. This may have been due to the fact that women often feel more pressure to maintain relationships and attempt to prevent partners from disengaging during conflict. When partners disengage during conflict, relationship satisfaction may be affected (Gray et al., 2015). However, there is a noticeable lack of research regarding how HRV may be associated with relationship satisfaction and overall partner adjustment. As such, it is important to examine if the quality of a relationship can be positively or negatively associated with HRV.

PURPOSE OF STUDY

Limited research (e.g., Levenson & Gottman, 1983) has been conducted on partners' physiological data when engaging in conversations about romantic problems. Yet, these findings have been crucial in adding to the overall understanding of how couples experience distress during times of conflict. To our knowledge, no previous research has been done examining how physiological data, specifically heart rate variability, is affected when discussing romantic challenges with friends. Such disclosures to the social network are typical (Helms et al., 2003) and greater understanding of these conversations could contribute to a more holistic comprehension of romantic relationship functioning (Huston, 2000). By assessing a more comprehensive outlook of how romantic conflict can impact physiological data, clinicians may be better able to conceptualize the significance that these problems may carry. By including

friends in the external system, therapists can gain a deeper understanding of outside factors that may affect a relationship (Huston, 2000). Furthermore, investigating whether or not relationship adjustment is impacted when discussing romantic problems with friends (who either approve or disapprove of the romantic union) may be helpful in determining effects the friendship may have on the relationship. The results of this study will inform clinicians regarding the psychophysiological impact of disclosing romantic problems to partners and friends. Therapists may benefit from greater understanding of friends' approval or disapproval of the romantic union as social determinants of health continue to shape romantic dynamics (Blair, 2012).

Therefore, the current study sought to explore how emerging adults interact with their partner and with a friend when discussing relationship challenges, as well as the resulting physiological changes that occur during these conversations.

The following research questions were addressed:

1. In emerging adult romantic couples, is social network approval linked with relationship adjustment and relationship work with partners and friends?
2. How do emerging adults' perceptions of their friends' approval of their romantic relationship differ from their actual approval?
3. For emerging adults in romantic relationships, how are relationship adjustment and HR variability associated with RW with a partner and friend as they engage in relationship discussions, controlling for friend's social network approval?

Hypotheses corresponding to each of the research questions are as follows:

1. Based on the research by Jensen et al. (2019), we predict that for both females and males, social network approval will be significantly positively associated with relationship adjustment and greater relationship work with partners and friends.

2. By taking into account the findings of Felmlee (2001)-which demonstrated that perceived social network approval had a more significant positive effect on relationship stability than actual social network approval-we anticipate that emerging adults will be more likely to perceive their friends as more approving of their relationship than they actually are.
3. We anticipate that relationship adjustment and heart rate variability will be positively associated with RW with partners, based on the previous findings by Levenson and Gottman (1985).

METHODOLOGY

The current study examined whether emerging adults' social network approval is significantly associated with relationship satisfaction and relationship work (RW). We also investigated whether this population accurately perceives their friends' approval or disapproval of their romantic relationship. In addition, we sought to explore the connection between heart rate variability (HRV) and relationship adjustment and RW.

Sample and Procedures

The data used for the current study was originally collected as part of the larger ongoing Relationship Work in Young Adults Study. This study considered emerging adults at East Carolina University and was originally approved by the Institutional Review Board in May 2015. Only procedures and measures relevant to the current study will be discussed. Although 75 emerging adult couples and a friend of each partner (i.e. 300 individuals) were recruited for participation in the study, we retained 71 of those couples for the current analyses. Four of the couples identified as same-sex couples, and we did not have sufficient power to analyze findings for these four cases. The inclusion of exclusively different-sex couples also facilitated a

discussion of gender differences among our variables of interest. Participants were recruited via classroom visits, research flyers, and university emails from an assortment of undergraduate and graduate-level courses (e.g., Human Development, Biology, English, Nursing). All participants were required to fulfill the following criteria:

1. In each group of four (two partners and two friends), at least one had to be a student of East Carolina University
2. All participants were 18 years or older
3. All partners needed to indicate that they were in a type of romantic relationship
4. Each partner needed to identify as having a close friend and bring that friend to the research lab

Each group of four (i.e., the couple and one of each of their friends) were required to come to an on-campus research facility and spend approximately 90-minutes participating in various tasks that captured personal, romantic, and social functioning. Additionally, all participants completed online questionnaires through Qualtrics about their personal characteristics such as age and ethnicity, their romantic relationship (e.g., length and quality), and their friendship (e.g., length and quality).

Along with the questionnaires, participants were asked to engage in a video-recorded conversation in which they discussed—first with their partner, and then with their friend—a romantic problem that they were currently experiencing or had experienced in the past. They discussed the same romantic challenge with both their partner and friend. Prior to the video conversation, each partner received a list of common romantic relationship problems (e.g., needing to be more organized, wanting to make love more often) and were asked to independently rate what they felt were the most significant problems in their relationship on a 6-

point Likert scale from 0 (“Not an issue”) to 5 (“Major problem”). Participants were encouraged to choose a topic from this list that received a higher score as the subject to discuss during the video conversation. Each partner identified a separate issue that was a concern in the romantic relationship. After one partner discussed his or her issues with the partner and with the friend, the other partner followed the same pattern with their issue. To account for potential gender dynamics, order of participation was counterbalanced such that for odd numbered participants the female first discussed her problem with her partner and then her friend, and for even numbered participants males went first. When discussing the issue with a partner the friend left the room, and vice versa.

While engaging in conversation about the romantic challenge, psychophysiological stress of the partner leading the conversation was captured through various means. Romantic partners, but not friends, had psychophysiological data assessed and monitored. To compensate participants for their time and input for the study, romantic partners received a $50 Target gift card each, and each friend received a $35 Target gift card.

Measures

Dyadic Adjustment

Dyadic adjustment was captured using the 14-item Revised Dyadic Adjustment Scale (RDAS; Busby et al., 2007). The first six items were scored on a 6-point Likert scale, with 0 representing “Always disagree” and 5 representing “Always agree.” The next four items were also scored on a 6-point Likert scale, with 0 representing “All the time” and 5 representing “Never.” Next, one item was scored on a 5-point Likert scale ranging from 0, representing “Never,” to 4, representing “Every day.” The final three items were scored on a 6-point Likert scale ranging from 0, representing “Never,” to 5, representing “More than once a day.” Sample

items from the measure included “How often do you and your partner quarrel?” and “How often do you and your partner work together on a project?” Higher scores indicated greater dyadic adjustment. The RDAS has been found to have a Cronbach’s alpha of .90. Reliability in our sample was found to be acceptable (female partners α=.64; male partners α=.68).

Relationship Work (RW)

The degree to which participants engaged in RW with their romantic partner and with a close friend was measured using a modified 5-item Marriage Work Scale (Helms et al., 2003). Some items from the original scale were dropped due to not being applicable to this population’s current lifestyle (i.e., items related to child rearing). Retained items were those relevant to the study sample, such as “How often do you bring up how well you and your partner get along with one another’s families and how much and how often you see them?” Respondents were asked to select a number on a 9-point Likert scale, with 1 representing “Never” and 9 representing “Always.” Each question separately addressed RW with the respondent’s partner and friend. Higher scores indicated more frequent RW with either partners or friends. The modified version of the scale demonstrated good reliability for both the partner scale (female partners: α = .72; male partners α = .78) and the friend scale (female partners: α = .75; male partners α = .85).

Social Network Approval

Partners’ perceptions of their friends’ approval of their romantic relationship were captured using a single-item measure (“To what degree do you think that your close friend who accompanied you to the research visit today approves of your current romantic relationship?”), ranging from 1 (“Very much disapproves”) to 7 (“Very much approves”). Friends’ approval of romantic relationships was captured using the 6-item Social Reactions Scale (Sprecher, 2011). Responses were scored on a 7-point Likert scale with higher scores indicating greater approval of

the romantic relationship. Reliability was found to be acceptable (females' friends: α = .95; males' friends α = .84).

Heart Rate Variability (HRV)

HRV was captured using Nexus-10 psychophysiological equipment and Biotrace+ software. HRV can be measured in a variety of ways, and we elected to examine the Root Mean Square of Successive Differences (RMSSD). RMSSD is a type of time domain measure for HRV (Pham et al., 2021) that determines the amount of time between adjacent R-waves (Ciccone et al., 2017). A higher HRV score, as measured by RMSSD, suggests greater flexibility to handle stressors and less physiological arousal (Laborde et al., 2022; Shaffer & Ginsberg, 2017). Participants were monitored for RMSSD at baseline, when engaged in RW with a friend, and when discussing the same romantic challenge with their partner. RMSSD was measured with a photoplethysmogram sensor attached to the participants' index finger on the non-dominant hand. A five-minute period in which participants did not engage in conversation or activity was recorded at the start of the observation to establish a baseline description of their RMSSD.

Data Analysis

In order to answer our research questions, we first examined univariate descriptive statistics for all study variables. Next, we examined bivariate correlational analyses among all study variables. Actor-partner interdependence modeling (APIM) was conducted to investigate relationships among multiple independent and dependent variables simultaneously. For our first research question regarding potential links between social network approval, relationship adjustment, and relationship work, bivariate correlations were conducted and considered. Regarding our second research question, in examining comparisons between partners' perception of friends' approval versus actual approval of the relationship reported by friends, we conducted

Kendall's tau correlation comparisons in addition to examination of the mean scores and other descriptive statistics. A series of path analytic models, specifically APIMs, were fitted to answer our third research question, which considered the potential associations among all study variables simultaneously and examined both actor and partner effects.

RESULTS

Descriptive statistics and correlations for all study variables can be found in Table 1. The sample showed a mean score of 41.75 (SD = 6.78) for dyadic adjustment for females and 42.48 (SD = 7.52) for males, suggesting a fairly unsatisfied sample of participants given that the clinical cutoff score is 48. To note, we discovered that there was a significant, positive association between dyadic adjustment scores and the amount of relationship work with a partner, for both females (r = 0.36, p < .01) and males (r = .29, p < .05). The amount of relationship work done with partners and friends was also significantly, positively associated for males (r = .45, p < .01) as well as females (r = .27, p < .05). Analyses also demonstrated males' and females' perceptions of their friend's approval was significantly, positively associated (r = .46, p < .01). There was also a significant, positive correlation between male and female friend's approval and the perception of approval by male (r = .79, p < .01) and female (r = .68, p < .01) partners. Meanwhile, males' friend approval was found to be significantly, positively associated with males' dyadic adjustment scores (r = .26, p < .05). Notably, we found a significant, negative association between females' dyadic adjustment with males' RMSSD scores during RW with friends (r = -.26, p < .05).

To answer our first research question, which considered whether social network approval was linked with relationship adjustment and relationship work with partners and friends, we first considered bivariate correlations. We found that, for females, friends' approval

of the relationship was not significantly correlated with females' self-reported relationship adjustment. Conversely, for males, we found that friends' approval of the relationship was significantly associated with males' self-reported dyadic adjustment ($r = .26$, $p < .05$). Additionally, for females, we did not find a significant correlation between friends' social network approval and the amount of RW with partners or friends. We found marginal associations for males (see Table 1).

To answer our second research question regarding comparisons between partners' perception of friends' approval versus actual approval of the relationship reported by friends, we conducted Kendall's tau correlation comparisons, in addition to examination of the mean scores and other descriptive statistics. These tests revealed that for both females (r=.53, p<.001) and males (r=.64, p<.001), partners' perceptions of friends' approval and friends' actual self-reported approval were significantly correlated, demonstrating moderate concordance between the two scores. Notably, males' scores were slightly more aligned than females scores, suggesting that males may be more accurate regarding friends' approval of romantic relationships than females.

Finally, to answer our third research question, we first fit an APIM (Model 1) testing all links among partners' self-reported RW with partner and perceptions of friends' social network approval with RMSSD with partner, RMSSD with friend, and romantic adjustment, controlling for age and romantic relationship length (see Figure 2). Data were analyzed using Mplus Version 8, and missing data were handled using full information maximum likelihood. Residuals of the dependent variables were allowed to covary. Goodness of fit was evaluated using the chi-square statistic, comparative fit index (CFI) and Tucker Lewis index (TLI; Bentler, 1990), and root mean square of approximation (RMSEA; Hu & Bentler, 1995). Consistent with recommendations for analyzing distinguishable dyads (Peugh, DiLillo, & Panuzio, 2013) and

common to structural equation modeling (Kenny & Ledermann, 2010), this model was fully saturated (i.e., all parameters were estimated, zero degrees of freedom; Cook & Kenny, 2005) and demonstrated perfect fit ($\chi 2 = 0.00$, df = 0; Confirmatory Fit Index [CFI] = 1.00; Tucker Lewis Index [TLI] = 1.00; root mean square error of approximation [RMSEA] = 0.00). Results demonstrated significant actor effects. Consistent with the correlational results, we found that females' ($\beta = .36$, $p < .01$) and males' ($\beta = .23$, $p < .05$) RW with their partners was significantly, positively associated with their respective dyadic adjustment. Consistent with our hypothesis, this suggested that the more RW females and males reported, the greater the relationship adjustment and was consistent with previous RW literature (e.g., Helms et al., 2003; Jensen et al., 2016). Females' age was also found to be significantly, positively associated with females' dyadic adjustment ($\beta = .36$, $p < .01$). Additionally, we noted the following significant covariances among the residuals of the dependent variables: females' RMSSD with partner and females' RMSSD with friend ($r = .87$, $p < .01$); males' RMSSD with partner and males' RMSSD with friend ($r = .89$, $p < .01$); females' dyadic adjustment with males' RMSSD with partners ($r = -.38$, $p < .01$) and males' RMSSD with friends ($r = -.32$, $p < .01$); and, demonstrating interdependence, females' dyadic adjustment with males' dyadic adjustment ($r = .29$, $p < .01$). This model accounted for 8.8% of the variance in females' RMSSD with partner, 12.2% of the variance in females' RMSSD with friend, 25.8% of the variance in females' romantic adjustment, 3.9% of the variance in males' RMSSD with partner, 4.2% of the variance of males' RMSSD with friend, and 18.8% of the variance of males' romantic adjustment.

Model 2 included additional independent variables that captured the influence of interacting with friends (e.g., RW with friends, friends' actual approval of the relationship). Once again, all potential pathways were tested, and residuals of the dependent variables were allowed

to covary. Fit statistics indicated good model fit ($\chi^2 = 6.51$, $p = .36$, df = 6, CFI = .99, TLI = .97, RMSEA = .04). Results of the APIM (see Figure 3) revealed males' perception of their friend's approval was significantly, positively associated with their RMSSD scores when talking with their partner ($\beta = .51$, $p < .01$) and friend ($\beta = .60$, $p < .01$). In other words, males had more favorable psychophysiological outcomes during conversations with partners and friends, when they perceived their friends' approval of their relationship to be high. When examining the actual approval level of males' friends, social network approval was found to be significantly, negatively associated with their RMSSD scores during conversations with their partners ($\beta = -.45$, $p < .01$) and friends ($\beta = -.56$, $p < .01$). Unexpectedly, this suggested that their psychophysiological outcomes during conversations with partners and friends were less favorable when friends did report approving of the relationship. Females' friends' social network approval was not found to be significantly associated with any variables. Males' RW with their friend was also revealed to be marginally, positively associated with males' RMSSD scores with their partner ($\beta = .26$, $p < .10$), suggesting that when males spoke more frequently to their friends, they may have had more favorable psychophysiological outcomes when talking to their partner. In addition, females' dyadic adjustment was found to be significantly, positively associated with their RW with their partner ($\beta = .36$, $p < .01$), and marginally, positively associated with males' RW with partner ($\beta = .24$, $p < .10$). Consistent with previous RW literature, this suggests that females report greater adjustment when both partners discuss relationship problems more frequently with one another. Additionally, females' romantic adjustment was associated with their age ($\beta = .25$, $p < .01$).

Moreover, we noted the following significant covariances among the residuals of the dependent variables: females' RMSSD with partner and females' RMSSD with friend ($r = .87$, p

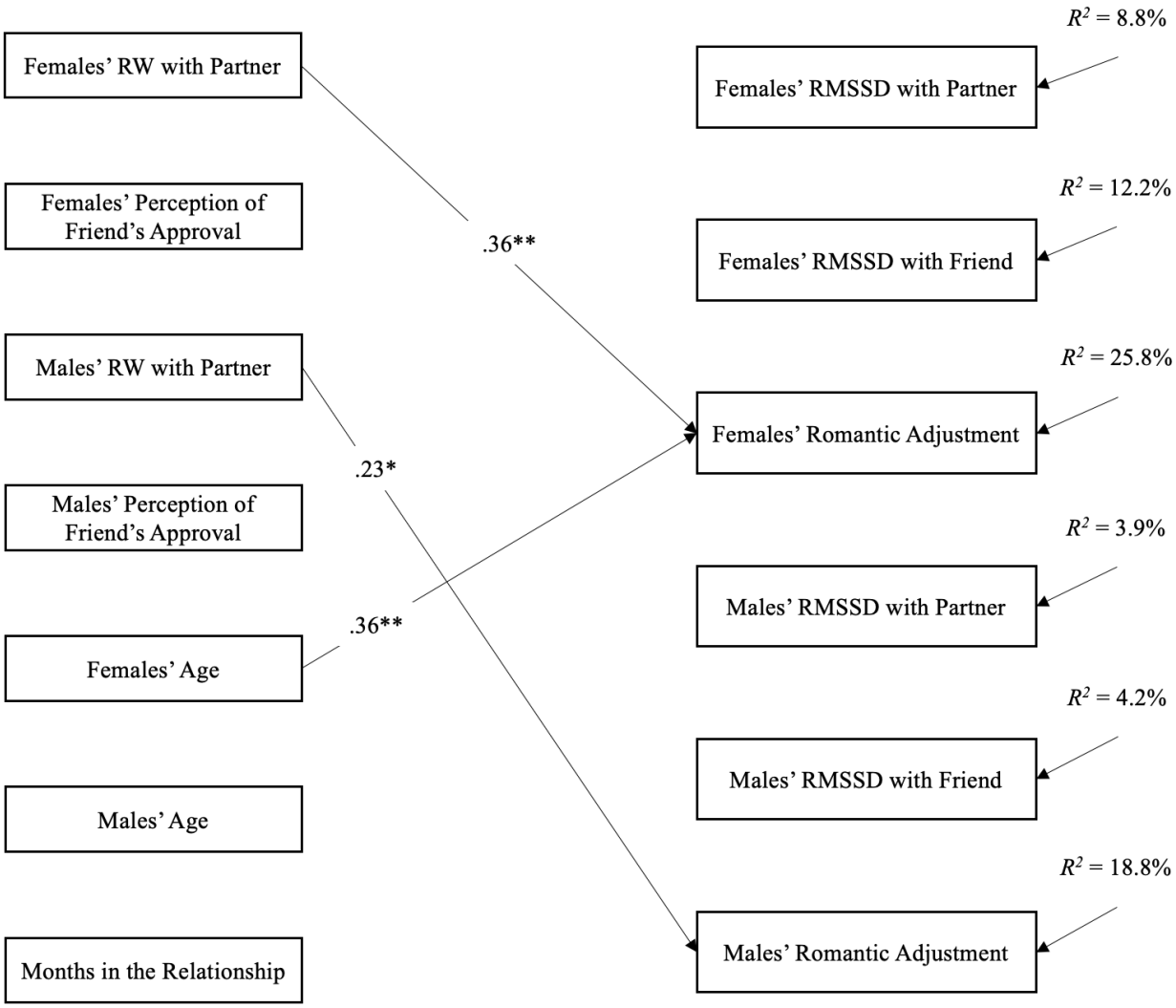
< .01); males' RMSSD with partner and males' RMSSD with friend (r = .87, p < .01); females' dyadic adjustment with males' RMSSD with partners (r = -.30, p < .01) and males' RMSSD with friends (r = -.27, p < .01); and, demonstrating interdependence, females' dyadic adjustment with males' dyadic adjustment (r = .28, p < .01). This model accounted for 7.6% of the variance in females' RMSSD with partner, 11.8% of the variance in females' RMSSD with friend, 31.1% of the variance in females' romantic adjustment, 20.7% of the variance in males' RMSSD with partner, 20.0% of the variance of males' RMSSD with friend, and 20.7% of the variance of males' romantic adjustment.

Table 1.
Descriptive Statistics and Intercorrelations For Study Variables (n = 284).

Variables	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.	13.	14.	15.	16.	17.
1. Rom Rel Length	-																
2. F Age	.32**	-															
3. M Age	.22†	.44**	-														
4. F RDAS	.05	.26*	.06	-													
5. M RDAS	-.09	.01	.10	.38**	-												
6. F RW w/Partner	.29*	.01	.09	.36**	.24*	-											
7. M RW w/Partner	-.10	.07	-.05	.20†	.29*	.15	-										
8. F RW w/Friend	-.13	-.07	-.13	.04	.02	.27*	-.16	-									
9. M RW w/Friend	-.08	-.02	-.01	-.04	.22†	.06	.45**	.25*	-								
10. F Perc of Approv	.07	-.01	.12	.02	.18	.01	.07	.06	.13	-							
11. M Perc of Approv	.12	-.07	.17	.17	.22†	.30*	.11	.10	.22†	.46**	-						
12. F Friend Approv	.20†	.09	.07	.06	.16	.15	.08	-.16	-.11	.68**	.41**	-					
13. M Friend Approv	.12	-.08	.02	.22†	.26*	.23†	.21†	.04	.16	.36**	.79**	.42**	-				
14. F RMSSD w/Partner	.29*	-.10	-.05	-.04	-.11	-.16	-.12	-.11	-.02	-.01	-.15	-.12	-.14	-			
15. M RMSSD w/Partner	-.10	-.08	-.11	-.33**	-.05	-.02	.04	.14	.30*	-.05	.13	-.04	-.05	.09	-		
16. F RMSSD w/Friend	-.13	-.17	-.13	.09	-.09	.07	-.08	-.16	-.09	-.18	-.15	-.17	-.12	.84**	.04	-	
17. M RMSSD w/ Friend	-.08	.01	-.12	-.26*	-.11	-.02	-.04	.12	.18	-.11	.07	-.06	-.15	.06	.89**	.04	-
M	22.40	20.52	20.59	41.75	42.48	7.11	6.57	5.43	4.49	6.29	6.00	5.65	5.53	80.63	74.60	84.73	82.32
SD	19.42	1.66	1.36	6.78	7.52	1.23	1.45	1.69	1.87	1.06	1.11	0.80	0.90	43.75	39.39	41.18	45.87

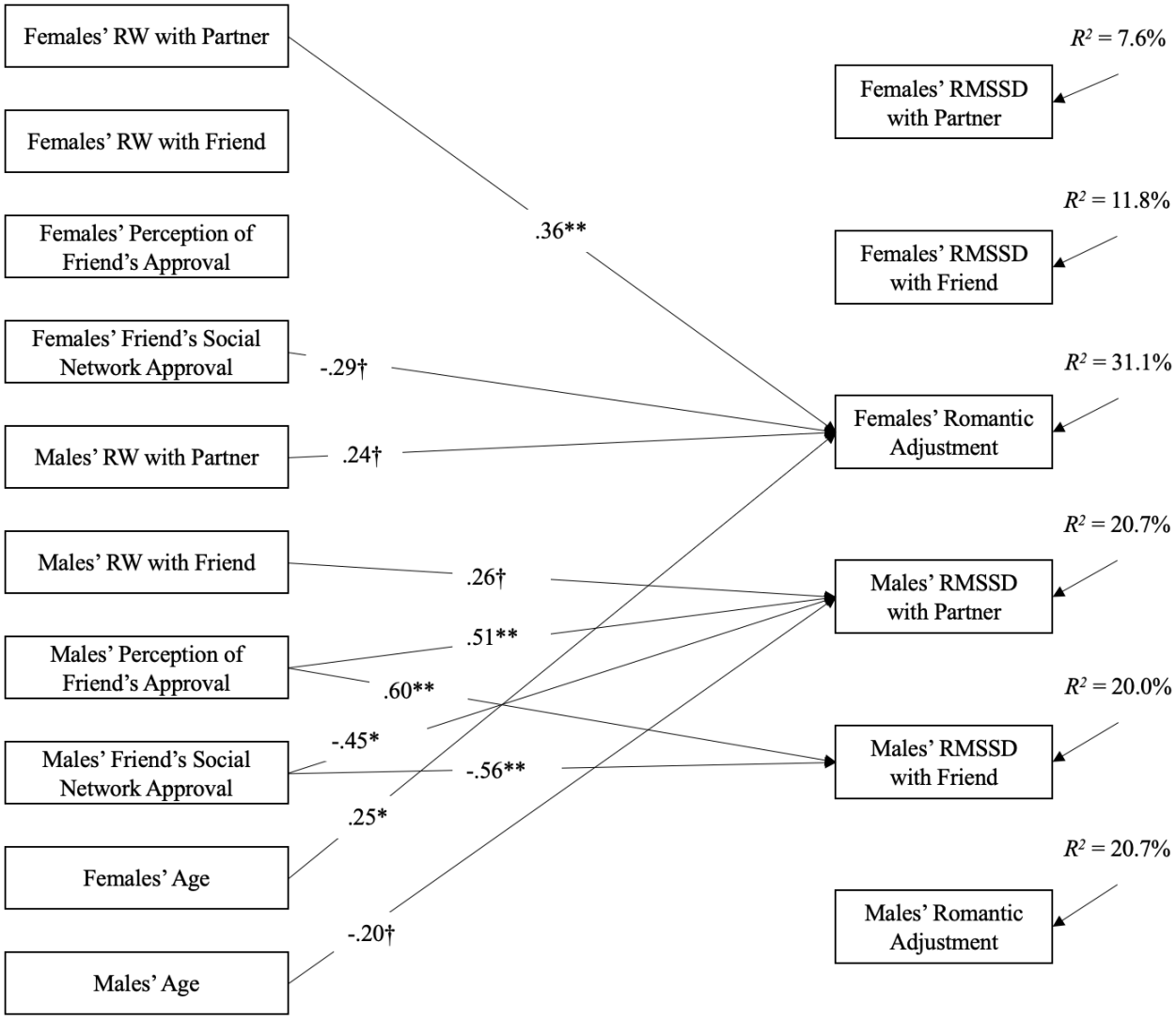
Note: Rom Rel = Romantic Relationship; F = Female, M = Male; RDAS = Revised Dyadic Adjustment Scale (Sum score provided); RW = Relationship Work; Perc = Perception; Approv = Approval; RMSSD = Root Mean Square of Successive Differences; Romantic Relationship Length is in months; †$p \leq .10$; *p < .05, **p < .01.

Figure 2.
Fully Saturated Actor-Partner Interdependence Model of Links Among Males' and Females' Romantic, Social, and Psychophysiological Measures, Controlling for Age and Relationship Length (n = 284).



Note: Standardized path coefficients are shown. RW = Relationship Work; RMSSD = Root Mean Square of Successive Differences. Model fit statistics: $\chi^2 = 0.00$, CFI = 1.00, TLI = 1.00. *$p < .05$, **$p < .01$. Although all potential pathways were tested, only significant pathways are depicted.

Figure 3.
Actor-Partner Interdependence Model of Links Among Males' and Females' Romantic, Social, and Psychophysiological Measures, Controlling for Age (n = 284).



Note: Standardized path coefficients are shown. RW = Relationship Work; RMSSD = Root Mean Square of Successive Differences. Model fit statistics: $\chi^2 = 6.51$, $p = .36$, df = 6, CFI = .99, TLI = .97, RMSEA = .04.
†$p \leq .10$, *$p < .05$, **$p < .01$. Although all potential pathways were tested, only significant pathways are depicted.

DISCUSSION

Relationships do not exist in isolation (Felmlee, 2001). When partners enter a romantic relationship, the opinions of those around them can have lasting effects on how the relationship progresses (Jenson et al., 2021), the values partners hold (Bartel et al., 2020; Manning et al.,

2011), and problems they may experience (Zak et al., 2002). By understanding the consequences social networks can have on a relationship, clinicians can expand their knowledge regarding how to effectively help couples navigate a variety of relationship challenges (Blair & Pukall, 2015; Manning et al., 2011; Milardo, 1982). Researchers may benefit from investigating how social networks influence a relationship through examining how partners perceive the social network's approval, or lack thereof.

We set out to expand upon previously existing research to investigate the impact of social network approval on emerging adults' relationships, along with possible correlations between relationship adjustment and heart rate variability (HRV) when engaging in relationship work (RW) during conversations with partners and friends. Certain results, including those that point to the importance of partners turning toward one another to discuss romantic challenges, were consistent with existing RW literature (Jensen & Rauer, 2015, Proulx et al., 2004). Conversely, other findings, including those surrounding actual versus perceived approval from friends of a couples' romantic relationship, merit additional nuanced discussion.

Relationship Adjustment and Social Network Approval

Social network approval has been found to play a role in romantic relationships by affecting factors such as relationship longevity (Lehmiller & Agnew, 2007), stability (Felmlee, 2001), and affection-sharing behavior (Blair et al., 2023). Furthermore, previous research has indicated that perceived support for the relationship may have a greater effect than actual approval (Felmlee, 2001). Due to previous findings, we sought to first explore whether relationship adjustment was associated with either perceived or actual social network approval. We hypothesized that greater social network approval would be positively associated with relationship adjustment. When examining the results, males reported greater relationship

adjustment when their perception of their friend's approval, and when their friend's actual approval, were higher. Consistent with our hypothesis, this indicates that males were more likely to feel satisfied in their relationship if those around them were approving of the relationship. This is similar to previous findings that men are more likely to positively perceive their partner if their social network approves of the relationship (Busby et al., 2017). The male's friend's actual approval was also shown to be higher when females' relationship adjustment was higher, indicating that the male's friends are more likely to approve of the relationship if the female is satisfied in it. No other social network approval factor was found to influence females' relationship adjustment. However, subsequent path analyses, described in greater detail below, also suggested that the female's friend's social network approval was linked to female relationship adjustment. The lack of correlative variables for females is noteworthy and somewhat unexpected given that women are often described as being socialized to see themselves in relation to others within their social networks to a greater extent than their male counterparts (Gilligan, 1982; Torres & Garcia, 2019). They also tend to be more apt than men to disclose relationship details to friends and family (Busby et al., 2017). Therefore, we anticipated that other variables captured in the study, such as the female friend's perceived and actual approval, may have been more intricately tied to females' romantic adjustment.

Relationship Work (RW) and Social Network Approval

Relationship work (RW) is defined as discussing romantic challenges with someone, most commonly a partner or friend (Jensen & Rauer, 2016). Previous research has examined how RW may relate to individual functioning including physiological stress (Jensen et al., 2019). Continuing to examine our first research question, we aimed to determine any potential links between social network approval and RW with partners and friends. We hypothesized that

greater social network approval would be associated with greater RW with partners and friends. We found males' friend's social network approval, both perceived and actual, to be associated with greater levels of females' RW with partners. Given that social network approval can be a mediating factor for behavior in relationships (Plamondon & Lachance-Grzela, 2018), females may perceive more security in the relationship if the male's friends approve. Therefore, females may be more likely to bring up potential conflicts with their partner and engage in increased amounts of RW with them when receiving feedback from friends that the partner is a worthwhile or trustworthy mate. Likewise, males' self-reported RW with a partner was positively connected with greater levels of males' friend's actual approval of the relationship. Males' RW with friends was also found to be linked with males' perception of their friend's approval. This indicates males may be more likely to engage in RW, with partners or friends, when their social network approves of the relationship. This supports previous findings that social network approval increases expectations for longevity of the relationship (Lehmiller & Agnew, 2007; Parks et al., 1983). Therefore, partners may be more willing to engage in conversations around contentious topics if they feel confident that they are staying in the relationship with the approval of those around them.

Perceptions of Approval Versus Actual Social Network Approval

While social networks are commonly considered, most assess partners' perceptions and do not include third-party members in the study design (Blair & Pukall, 2015; Sprecher & Felmlee, 2000; Zak et al., 2002). Therefore, in answering our second research question and extending beyond existing literature, it was important to analyze how perceptions of approval may differ from actual approval ratings by those outside the relationship. Results revealed moderate concordance between the perceived approval score and the actual score reported by the

friends. Surprisingly, males were found to have slightly greater alignment than females, which suggests that male partners may more accurately perceive their friend's approval rating. This was unexpected, considering females have been found to engage in more frequent conversations about their relationships with close friends (Proulx et al., 2004) and receive support from these relationships (Proulx et al., 2009). Perhaps since men have been found to disclose less frequently to friends about their relationship (Crapo et al., 2020), such disclosures carry more importance, and males' friends' opinions may be more aligned with what they believe it to be, given fewer conflating factors (e.g., hearing multiple stories about a partner or venting).

Gender Differences During Relationship Work (RW) and Physiological Stress

Measuring physiological stress is an objective way to gauge how individuals react when under relational distress (Levenson & Gottman, 1983; Wilson et al., 2018). Past research has shown that heart rate variability (HRV) can be used as a metric when judging psychophysiological stress (Coutinho et al., 2017; Levenson & Gottman, 1983; Schwerdtfeger & Gerteis, 2014). In addressing our third research question, we found that results supported the idea that HRV is linked with relational factors. Surprisingly, we found this to be true only for males. HRV was measured by the root mean square of successive differences (RMSSD). It was found to be higher, and therefore, indicative of less emotional stress (Shaffer & Ginsberg, 2017) when males reported their friend as more supportive of the relationship. Males' HRV was measured to be more favorable during RW with their friend or partner when their perception of their friend's approval was higher. Considering a perception of greater social network approval has been linked to greater stability of the relationship (Blair et al., 2023; Felmlee, 2001), males may feel calmer during RW conversations when they perceive their friends as approving. However, males' relationship adjustment was not found to be tied to RW with their partner or friend.

Interestingly, males' friend's actual social network approval was lower when males showed more favorable RMSSD values during RW with a friend and partner. However, this finding was surprising as it suggests that when friends disapprove of the relationship, males exhibit more favorable RMSSD during RW with their friend and partner. This was not what we anticipated as it appears to contrast with previous research demonstrating that social network approval is linked to an increase in the stability of the relationship (Blair & Pukall, 2015; Sprecher & Felmlee, 2000; Zak et al., 2002). However, when examining previous studies, data collected typically represented partners' perceptions of approval as opposed to actual self-reports from members of the social network. Perhaps results revealed this unexpected finding because perceptions of social network approval may matter more than what friends or family actually believe. Considering previous findings that individuals rate their own relationships as higher quality (Agnew et al., 2001) and their friends as more approving (Etcheverry et al., 2008) than their social networks actually report, partners may carry a perception bias. This could help explain why perceiving a friend as more approving was linked to more favorable HRV data, but actual approval was found to have the opposite connection. Future research should continue to investigate this surprising finding through replicated studies examining similar constructs. When examining females, they were found to report more RW with a partner when they listed higher relationship adjustment. This supports previous findings that, for females, discussing problems with a partner can lead to greater satisfaction in a relationship (Jensen & Rauer, 2016).

Strengths and Limitations

The current study has several strengths including its mixed method design, which included both self-report and objective psychophysiological assessments. To our knowledge, the investigation of physiological stress in the form of heart rate variability (HRV), specifically

measured as the root mean square of successive differences (RMSSD), in the context of relationship discussions, had not been previously examined. Also, RMSSD has been proven to be a reliable metric for HRV (Penttilä et al., 2001). Investigating the difference between how perceived social network approval contrasts with actual approval and the correlations with relationship adjustment and physiological stress highlights the nuances of social networks' effects. Furthermore, we assessed dyadic data when examining romantic relationship variables, as opposed to others who only considered RW among one member of the couple (Jensen & Rauer, 2015, Proulx et al., 2004). Moreover, we accounted for friends' self-reported approval of romantic functioning, adding a triadic data component to the literature – something no other study considering psychophysiological functioning has done.

Despite these strengths, there were several limitations that merit attention and should be addressed in the future. Although the sample size was justifiable given our hypotheses, future studies examining similar constructs should aim to increase the number of couples. Specifically, greater diversity within the sample should be sought as our sample contained only heterosexual couples. Given that same-sex couples rely significantly more on their social networks than heterosexual couples, it would be beneficial to extend the research beyond male-female relationships (Blair & Pukall, 2015). Another potential limitation of this study includes the possibility of the observer effect, which is a form of reactivity in which the influence of being observed alters the participants' behavior in an experiment (Yantz & McCaffrey, 2009). Despite our attempts to address this challenge through the use of a baseline assessment of physiology, some participants may have felt uncomfortable being observed and this may have altered their HRV data. Additionally, partners' perceptions of social network approval were captured using a single-item measure, whereas actual social network approval was assessed using a six-item scale.

The use of a multi-question assessment may have more thoroughly captured social network approval and provided a more comprehensive understanding of this construct, as opposed to the single-item measure we utilized. Furthermore, the reliability scores for the 14-item Revised Dyadic Adjustment Scale (RDAS; Busby et al., 2007) were lower than expected and should be interpreted with caution. One final limitation to consider is the cross-sectional nature of the data collected. This does not allow us to comment on the direction of effects. Thus, future studies should consider collecting time series data.

Clinical Implications and Conclusion

Romantic relationships exist within the confines of robust and complex social networks. As such, it is important that researchers account for the social network when examining romantic relationships. Our findings point to the importance of the effect that perceived and actual social network approval has on discussing romantic problems with partners and friends, as well the psychophysiological response that can occur during conversations about romantic conflict. This is especially important as it further clarifies the meaningful influence of the social network on romantic functioning described by Huston (2000) in his socioecological model of romantic functioning.

Based on the results of this study, perceptions of social network approval, in comparison to actual approval, appear to be more influential in reducing physiological distress during RW conversations with partners and friends. This aligns with previous studies where positive perceptions of social network approval were found to have a positive effect on relationships (Blair & Pukall, 2015; Sprecher & Felmlee, 2000; Zak et al., 2002). Reducing physiological distress during conversations may help make couples more resilient in their relationships (Afifi et al. 2018) and improve health long-term (Weber et al., 2022). Considering that perception was

found to have a greater positive effect, clinicians should account for how supported each partner feels by their larger social network through assessment measures. These results can be utilized to make thoughtful conclusions about the potential impact of clients' external relationships, and those relationships may in turn be discussed in treatment. While most consider the effect parents and immediate family members can have, assessing for friend support, or lack thereof, may be important in developing a more accurate perception of couple functioning beyond the therapy room. By thoroughly investigating the role of friends and third-party social connections on the relationship, individuals who have a significant influence on the relationship may be identified. Clinicians can discuss ways to involve friends in romantic conflict in healthy and productive ways without causing detriment to the relationship. Given previous findings that engaging with friends in RW does not affect the level of relationship satisfaction provided that RW with partners takes place as frequently (Helms et al., 2003), partners should not be dissuaded from discussing problems with their friends so long as discussions are also occurring between partners. Instead, they should be encouraged to be thoughtful about whom to discuss these issues with, and how such discussions can prioritize the health of the relationship (Blair & Pukall, 2015; Plamondon & Lachance-Grzela, 2018). Clinicians should also consider expanding the therapeutic system by inviting friends into therapy with the couple. Given that partners often discuss romantic conflict with friends (Proulx et al., 2009), this may prove valuable in addressing romantic communication issues. Communication issues may also be able to be more effectively mitigated by engaging in more RW with their partner (Helms et al., 2003), given both male and female partners reported more relationship adjustment when higher amounts of RW were performed with each other. Clinicians should encourage the sharing of problems and willingness to engage in conversations about romantic conflict. Healthy strategies for these conversations

should be emphasized, such as sharing underlying emotions, utilizing "I-statements," and active listening (Flavia & Enachi-Vasluianu, 2016; Rogers et al., 2018). As researchers and clinicians continue to educate couples on how to engage in productive and effective RW, we are hopeful that relationship outcomes will improve and create healthy and long-lasting partnerships.

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APPENDIX A: IRB APPROVAL

EAST CAROLINA UNIVERSITY
University & Medical Center Institutional Review Board Office
4N-70 Brody Medical Sciences Building· Mail Stop 682
600 Moye Boulevard · Greenville, NC 27834
Office **252-744-2914** · Fax **252-744-2284** · **www.ecu.edu/irb**

Notification of Continuing Review Approval: Expedited

From: Social/Behavioral IRB
To: Jake Jensen
CC: Matthew Fish
Date: 3/7/2017

Re: CR00005621
UMCIRB 15-000679
Relationship Work in Young Adults Study

The continuing review of your expedited study was approved. Approval of the study and any consent form(s) is for the period of 3/7/2017 to 3/6/2018. This research study is eligible for review under expedited category #7. The Chairperson (or designee) deemed this study no more than minimal risk.

Changes to this approved research may not be initiated without UMCIRB review except when necessary to eliminate an apparent immediate hazard to the participant. All unanticipated problems involving risks to participants and others must be promptly reported to the UMCIRB. The investigator must submit a continuing review/closure application to the UMCIRB prior to the date of study expiration. The Investigator must adhere to all reporting requirements for this study.

Approved consent documents with the IRB approval date stamped on the document should be used to consent participants (consent documents with the IRB approval date stamp are found under the Documents tab in the study workspace).

The approval includes the following items:

Document	Description
Areas of Disagreement Survey(0.01)	Additional Items
Classroom Recruitment Script(0.01)	Recruitment Documents/Scripts
Friend Questionnnaire(0.01)	Surveys and Questionnaires
Informed Consent: No More Than Minimal Risk Research(0.01)	Consent Forms
Original Research Prospectus (0.01)	Study Protocol or Grant Application
Partner Questionnaire(0.01)	Surveys and Questionnaires
Recruitment Flyer(0.01)	Recruitment Documents/Scripts
Research Protocol(0.01)	Interview/Focus Group/Scripts/Questions
Revised Recruitment Flyer(0.01)	Recruitment Documents/Scripts
Study Protocol(0.01)	Study Protocol or Grant Application
Video/Photo Release Form(0.01)	Consent Forms

The Chairperson (or designee) does not have a potential for conflict of interest on this study.