EFFECTS OF THE RELATIONSHIP CHECK UP ON EARLY ADULTS' ROMANTIC RELATIONSHIP ADJUSTMENT AND SUBSTANCE USE: A PILOT STUDY

by

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Title: Effects of the Relationship Check-Up on Early Adults' Romantic Relationship Adjustment and Substance Use: A Pilot Study.

Early adults pursue romantic relationships at differing rates and in varying patterns than previous generations. Successful negotiation of intimate partnerships and family development are essential for long-term health of early adults and that of their families. Formation of a healthy romantic relationship is also a positive factor in reducing risky behavior and promoting successful social adaptation among early adults (Bachman et al., 2002; D'Amico et al., 2005; Schulenberg et al., 2005). Preventive interventions to help early adult couples form healthy relationships could have substantial public health impact. This pilot study introduces the Relationship Check Up (RCU) (Chronister, Nagra, & Dishion, 2013), a preventive, three-session intervention that utilizes individual and couple assessments, feedback, and motivational interviewing techniques to reduce couples' risk for substance use and partner violence and increase overall romantic relationship adjustment and individual wellbeing. Thirty-six high-risk couples (n=18 control, n=18 intervention) between the ages of 18 and 30, from the Pacific Northwest region of the United States, participated in a randomized control treatment study. Study findings did not reveal treatment main effects on early adult target adults' or their romantic partners' reports of substance use, individual wellbeing, relationship quality, intimacy or conflict at follow-up. Significant interaction effects of treatment group and time for target adults' report of relationship

conflict and partners' report of relationship quality were found. In addition, study findings suggest that the Relationship Check-Up is an intervention format that is of interest and relevance for early adults. Findings also add to the dearth of intervention research with early adult couples, specifically, and the use of brief, indicated prevention intervention programs for this population.

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Finally, I dedicate this dissertation to my mother, Manjit Bahia, whose formal education was stopped after primary school because she was female. I pursued higher education as an act of rebellion against socio-cultural systems that deny females the right to a proper education. With the completion of this dissertation, I can proudly say that I have achieved the education I craved and have turned my mother's dream for her daughter into reality.

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CHAPTER I

INTRODUCTION

Early adults initiate and pursue romantic relationships and parenting responsibilities at differing rates than previous generations (Arnett & Tanner, 2006; Carver, Joyner, & Udry, 2003; Cote, 2000; Meier & Allen, 2009; Wood, Avellar, & Goesling, 2008). Cohabitation, intercourse, and long-term relationships without social commitment are now more common than marriage as an outcome of romantic pursuit (Arnett, 2001; Michael, Gagnon, Laumann, & Kolata, 1995; Meier & Allen, 2009; Nelson & Barry, 2005; Owen & Fincham, 2011; Wood, Avellar, & Goesling, 2008). Unique family contexts that include partners from a previous or current relationship agreeing to collectively parent a child without legal or social pressures are prevalent (Whisman, Beach, & Snyder, 2008). Successful negotiation and adaptation to intimate partner and family relationship transitions occur in numerous, embedded contexts and predict early adults' health and adjustment, and that of their children, over time (Capaldi, Kim, & Owen, 2008; Dishion & Stormashak, 2007a; Linville, Chronister, Dishion, et al., 2010). Despite the increasing diversity of early adults' romantic relationship experiences, scholarly attention has been limitedly devoted to studying the validity of current couple-focused interventions and developing preventive interventions that enhance early adults' selection of intimate partners and formation of healthy intimate and family relationship contexts. A preventive intervention focused on promoting healthy intimate partner selection and relationship intimacy during early adulthood has the potential to decrease couples' risk for romantic relationship distress, violence, and dissolution, and improve developmental and health outcomes for these adults and their families.

Most couple-focused interventions, to date, have been developed for adults in more established, committed relationships who are actively seeking treatment. Findings indicate that participation in such interventions result in improvements in couples' relationship satisfaction, interpersonal conflict, and commitment levels (Le, Dove, Agnew, Korn, & Mutso, 2010; Gallaty & Zimmer-Gembeck, 2008; Whitton & Kuryluk, 2012; Whitton, Stanley, & Markman, 2007). What has not yet been explored is the feasibility and effectiveness of preventive interventions that are designed to improve romantic relationship quality and adjustment for early adults. The premise of this dissertation study is that couple-focused preventive interventions for early adult couples must attend to the key developmental risks that occur during this developmental phase of adulthood (e.g., substance use, intimate partner violence, and crime) and the diversity of couples' intimate relationship contexts (e.g., cohabitation, intercourse without commitment) and family formation experiences.

The purpose of this dissertation study was to experimentally test the effectiveness of the Relationship Check Up (RCU; Chronister, Nagra, & Dishion, 2013), a preventive intervention with a community sample of early adult couples (*N*=36). The RCU is a three-session, preventive intervention, designed specifically for early adult couples age 18-30, based on the Family Check-Up model (Dishion & Kavanagh, 2003). The RCU is assessment driven and adapted to reduce early adults' risk for substance use, negative romantic relationship dynamics, and violence and improve relationship adjustment and individual well being. The RCU focuses on the contexts and couple interaction dynamics associated with early adult couples' risk to (a) foster couples' development of relationship strengths and skills and identification of problematic relationship dynamics and (b) enhance early adult couples' motivation to make changes that promote safe, healthy intimate relationships. It was hypothesized that RCU participation, in comparison with

participants assigned to a no-treatment control group would result in (a) higher levels of individual wellbeing, and relationship intimacy and quality and (b) lower levels of substance use, and relationship conflict/intimate partner violence (IPV). The RCU aimed to mitigate factors contributing to negative romantic relationship adjustment and risk among early adult couples and build upon factors that promote healthy early adult intimate relationship and family contexts.

This dissertation is organized as follows: Chapter II provides a review of the literature on early adulthood, romantic relationship intervention, and need for preventive intervention, including a conceptual description of the RCU; Chapter III includes a detailed account of the study methods; and Chapter IV describes the treatment effects of the RCU pilot intervention on substance use, individual well-being, relationship quality, intimacy, and conflict. Finally, Chapter V is a discussion of the results, related clinical and research implications, and next steps.

CHAPTER II

REVIEW OF THE LITERATURE

This chapter uses the Dynamic Developmental System (DDS; Capaldi et al., 2005) model as a backdrop to conceptualize the developmental contextual variables impacting early adults' romantic relationships. Based on the DDS model, literature on the following concepts is reviewed: 1) developmental risks posed by the early adulthood time period, 2) proximal and contextual factors impacting early adult romantic relationships, and 3) existing research on early adults' romantic relationship outcomes. Gaps in the existing intervention research are reviewed, followed by a presentation of the Relationship Check Up intervention design (Chronister, Nagra, & Dishion, 2013).

For the purpose of this study, the phrase, "early adulthood," describes the non-linear, multi-faceted experience of individuals ages 18-30. This term was selected based on Arnett's (2007) discussion of an appropriate term to describe the 18-30 developmental period. The literature describes 18-25 year olds as "emerging adults." Those individuals who are 25-30 are often left undescribed or referred to as "early adults" or "adults." Arnett (2007) made the argument that the term "young adulthood" is misleading because it covers too wide of a range, including preteens ("early adult" books) to persons age 40 ("early adult" social organizations). He further asks that if individuals 18-25 are "young adults," then what term can be used to describe people age 30, 35, or 40? He argues that "young adulthood" is best left to describe the experiences of persons age 30 to 45 because by age 30, most people in industrialized societies have settled into their matured roles and responsibilities (e.g., stable work, marriage, parenthood). In the present study, early adulthood will be used to describe the experiences of adults ages 18-30. Using Arnett's (2007) definition of "early adulthood" (age 30-45), conceptually, it was theorized that if

persons between the ages of 25-30 were in a romantic relationship with an emerging adult (age 18-25), that those persons may be developmentally more similar to an emerging adult than an early adult. While reviewing the literature, distinctions in age will be made explicit when deemed necessary.

Developmental-Contextual Theory of Romantic Relationship Development

Developmental-contextual theory is the umbrella theory for the Dynamic Developmental Systems (DDS) model (Capaldi, Short, & Kim, 2005). Developmental-contextual theorists focus on how the interconnected set of social systems in which the early adult grew up in influences romantic relationships. As first proposed by Urie Bronfenbrenner (1979), the ecological model indicates that individuals are influenced by different layers of their social environment, from their more immediate experiences with friends and family to the broader messages that they receive from the sociocultural groups to which they belong. Developmental-contextual theorists state that romantic relationships are shaped by processes in the family and the peer group, as well as by cultural beliefs about the nature of love, the correct age at which to begin dating, and the gender roles partners ought to play in romantic relationships.

Dynamic developmental systems (DDS) model. A developmental-contextual model has been proposed for romantic relationships. The dynamic developmental systems (DDS) model of romantic relationships (Capaldi, Short, & Kim, 2005) is a comprehensive and empirically validated developmental model that states that behavior in the romantic dyad is inherently interactive and responsive to developmental characteristics of each of the partners and to both broader and more proximal contextual factors. The model has been tested in a series of studies, predominantly using the Oregon Youth Study sample. The model was developed to understand the progression of partner violence within romantic relationships and is summarized in Figure 1 within

the context of partner aggression.

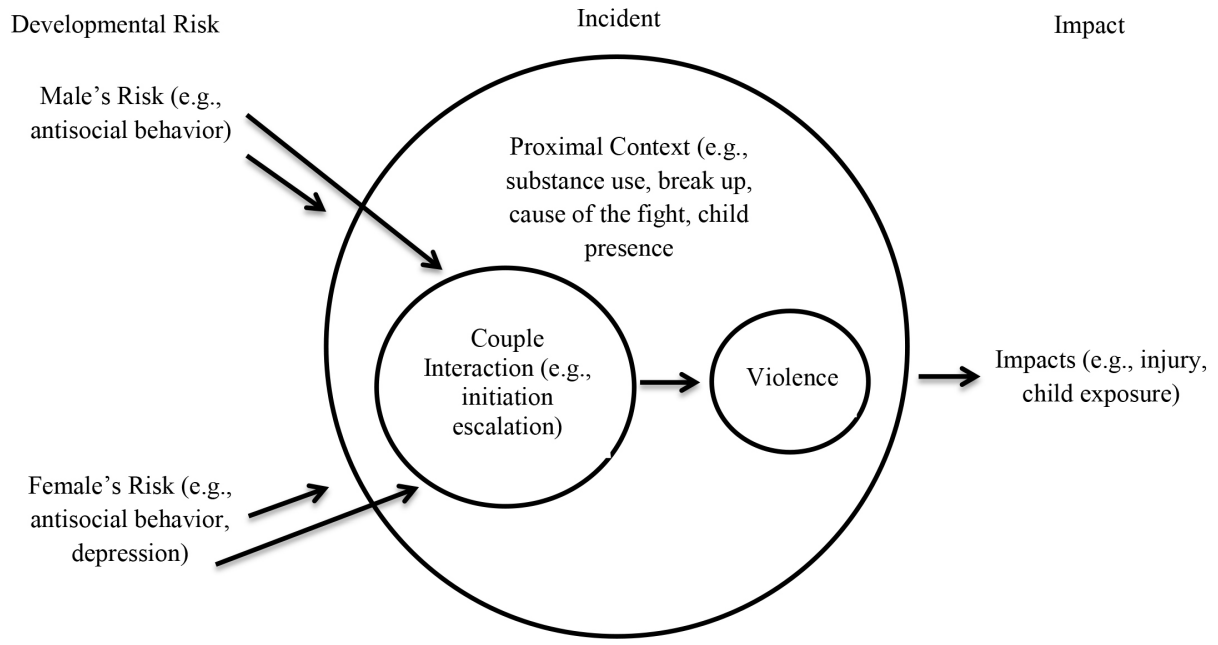

Figure 1: Dynamic Developmental Model (DDS; Capaldi, Short, & Kim, 2005)

The model, as it stands, provides a framework that aids in understanding the bidirectional influence on couples' behavior and course in relation to experiencing partner aggression. First, the significance of considering characteristics of both partners as they enter and move through the relationship, including personality, psychopathology, ongoing social influences (e.g., peer associations) and individual developmental stage is considered. Then, the risk context and contextual factors that affect aggression toward a partner are considered. Finally, the nature of the relationship itself, primarily the interaction patterns within the dyad as they are initially established and as they change over time, as well as factors affecting the relationship context are evaluated.

Each model area identifies important intervention targets, as to their role and impact on violence, and, for potentially malleable prevention points. For instance, programs to reduce prior psychopathology may help prevent aggression toward a partner. Contextual factors may also provide key information. If the couple is breaking up, then treatment could focus around coun-

seling for negotiating such factors as child custody and property division. If the couple is staying together, then counseling for the couple on avoiding violence in the future is indicated, including strategies for nonviolent problem solving, avoiding escalation toward violence, and allowing partner to take time out (Capaldi et al., 2006). For some couples, drinking behavior is tightly associated with partner violence (Feingold, Kerr, & Capaldi, 2008). Therefore, substance use treatment may promote positive change. There is evidence that interventions that reduce alcohol use for male alcoholic patients are associated with reduced violence (O'Farrell, Murphy, Stephen, Fals-Stewart, & Murphy, 2004). Capaldi et al., (2006) found that children are frequently present during violent incidents—education for couples as to the negative consequences of violence for the child may provide motivation toward behavior change. These examples describe the value that contextual variables contribute to the broader understanding of the couples' dynamic.

Moreover, the DDS model emphasizes the importance of studying behaviors of *both* partners over time to gain an adequate understanding of the phenomena. For example, developmental studies have indicated that females' depressive symptoms had significant effects over time on early adult males' psychological aggression approximately two years later (Kim & Capaldi, 2004). There was also a significant interactive effect of the males' and females' antisocial behavior over time on the early adult males' psychological aggression (Kim & Capaldi, 2004). Such studies demonstrate the contribution made by each partner in the bidirectional dynamic.

The model also takes into account multiple levels of developmental time in conceptualizing couples' relationships over time. As discussed, couples' aggression appears to be related to the age of each partner as well as to the relationship length (Capaldi & Crosby, 1997), making it important to consider the potential effects of multiple levels of time on the couples' behaviors, including each partner's developmental time, relationship length, and chronological time. De-

velopmental time may be multi-faceted (e.g., social maturity, career status) and may differ for partners even when the partners are the same chronological age. Developmental time includes some periods of rapid change and others of greater stability. The developmental stage of the couples' relationship itself—related to the relationship length, not dependent on chronological time—may strongly affect the couple's interactions. For example, early stages may be more marked by insecurity and vulnerability to jealousy, and later stages by more concerns about division of labor and lower satisfaction levels. Studies have indicated that early adults who are at a higher level of identity formation (e.g., knowing personal values), report higher relationship quality (Beyers & Seiffge-Krenke, 2010). The couples' experience of their relationship and sequencing of events, among other factors, are considered to be experienced in real or chronological time. Such variations in time considerations allow for a comprehensive understanding of the romantic relationship.

DDS model applied to early adulthood romantic relationships. To adequately conceptualize early adult romantic relationship experiences, the DDS model was applied to the early adult context to best capture the diverse, dynamic status of early adult romantic relationships. The developmental risk factor was considered to be the early adulthood developmental period,. The "incident" was considered to be the romantic relationship status (e.g., transitioning from casual dating to committed partnership, from dating to engaged, engaged to married, or married to raising children). And, the impact of the developmental risk and the broader and proximal contextual risk factors were evaluated on well-established romantic relationship health outcomes. Figure 2 provides a summary of the application of the DDS model to the early adult romantic relationship context. The following sections provide literature on each of the three model areas in greater detail.

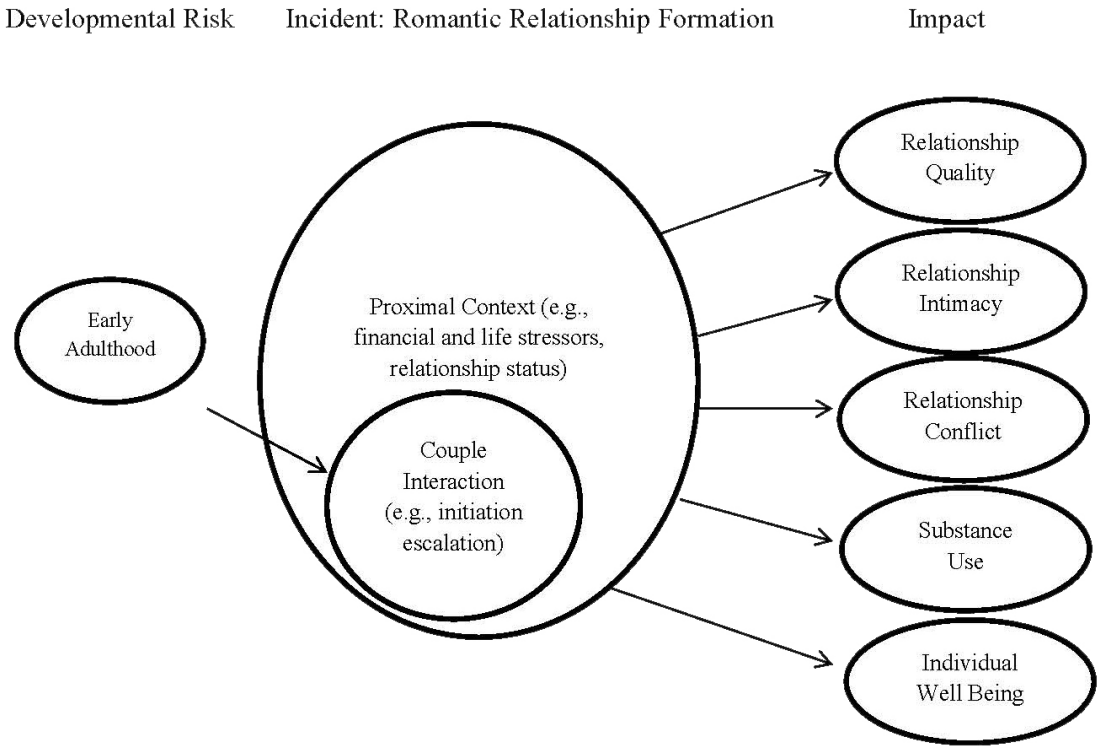

Figure 2: Dynamic Developmental Systems Model Adapted to Early Adulthood Context

Early Adulthood as a Stage of Developmental Risk

Successful negotiation of intimate partnerships and family development are essential for long-term health of early adults and that of their families. Negotiation appears to be a non-linear process that occurs at varying rates (Kroger, Martinussen, & Marcia, 2010), and may be the source of psychological distress among early adults (Arnett, 2007).

A number of developmental variables complicate the early adults' successful negotiation of milestones, including engagement in developmentally appropriate tasks, and risk behaviors. Broadly, emerging adulthood (ages 18-25) involves intense changes and transitions in several key developmental areas including identity, residence, peer and romantic relationships, and employment and career paths (Arnett & Tanner, 2006; Arnett, 2007). Developmental maturation may occur within affiliative (e.g., connecting with peers and romantic partners), achievement

(e.g., education and career) and identity related tasks (e.g., clarification of religious and political values) (Arnett & Tanner, 2006; Cote, 2000, Schulenberg, Bryant, & O'Malley, 2004; Steger, Oishi, & Kashdan, 2009). Affiliation tasks, for example, are characterized as engagement in multiple peer social networks, numerous romantic pursuits (Arnett & Tanner, 2006; Arnett, 2006c), and engagement in risky sexual behavior (Owen & Fincham, 2011; Riehman, Wechsberg, Francis, Moore, & Morgan-Lopez, 2006; Wells & Twenge, 2005). Societal norms regarding affiliation tasks for early adults have shifted. For instance, marriage may no longer be an end-goal of romantic relationships (Arnett, 2006c; Arnett & Tanner, 2006), as suggested by the increasing age at which marriage is pursued (age 29 for males, age 27 for females; U.S. Census Bureau, 2014), if, at all. The National Center for Health Statistics noted that the likelihood that an unmarried early woman (age 15-24) who gets pregnant will get married before the baby is born has decreased from 22% in 1992 to 11% in 2002 (Child Trends, 2006). Such affiliative trends may persist throughout early adulthood. Previously held personal, political, and religious values may shift during this developmental period and positively or negatively affect negotiation of social adaptation (Arnett; 2007; Arnett & Tanner, 2006; Nelson & Barry, 2005). The next two sections describe evidence-based promoters and disruptors in negotiation of developmental tasks and describe successful adaptation during early adulthood.

Promotive factors of developmental adaptation

Diverse arrays of empirically driven factors promote healthy emotion regulation and navigation of early adults' transitional states. Factors include positive familial and peer support, vocational achievement, and healthy, stable romantic relationships (Capaldi, Dishion, Stoomiller, & Yoerger, 2001; Chronister, Marsiglio, Linville, & Lantrip, 2013; Dishion & Stormshak, 2007b; Shortt, Capaldi, Dishion, Bank, & Owen, 2003; Wang, Dishion, Stormshak, & Willett, 2011).

Social support. Peers and family members may foster a sense of community and belonging for the early adult. For example, in a large US cohort-sequential longitudinal study, positive peer support aided in building early adults' self-esteem, self-efficacy, and other positive social support, leading to a general sense of individual wellbeing as measured by physical and emotional health (Schulenberg et al., 2004). Relatedly, in a longitudinal national study of Dutch early adults, parental support and a positive parent-child bond was found to increase early adult wellbeing and considered equally as important as peer and romantic connections (van Wel et al., 2002). Common forms of peer and familial support include assisting early adults with problem solving (e.g., advice from elder family members; normalizing and validating the early adults' concerns) and finances, as well as providing recreational and creative responses to stress (Ravert, 2009).

Academic and vocational pursuit. Early adults' vocational commitment, which may be initiated during adolescence, also plays a significant role in general adaptation during the early adult developmental period. Scales et al., (2006) showed that, after controlling for initial academic levels, students who were more connected to their communities (i.e., composite factor including students' participation in youth programs, religious involvement, service to others, creative activities, and reading for pleasure) during early adolescence were more likely to have positive academic outcomes three years later. For adolescents who were soon to be emerging adults, positive academic success earned during adolescence carried into their emerging adult years. McGraw et al., (2008) found that school connectedness was moderately associated with wellbeing during the final year of high school (mean age 17 years), but continued to predict wellbeing one year after leaving high school. Viewing school positively increased adolescent individual wellbeing and positive academic outcomes after graduation, and into emerging adulthood. In

essence, the vocational skills and successes gained during adolescence promoted pro-social vocational behavior and overall adaptation into early adulthood.

Romantic relationships. Healthy and stable romantic relationship dynamics may also assist early adults in negotiating the multiple transitions they face during this developmental period. Studies show that early adult couples who marry during their early 20s and who report positive romantic relationship dynamics are less likely to engage in risky behaviors such as substance use and promiscuous sexual behavior (Arnett, 1998; D'Amico et al., 2005); especially early marriage for men, for whom drastic decreases in negative lifestyle habits have been noted post marriage (Flora & Chassin, 2005). Opposite-sex married couples report better mental and physical health compared to single individuals (Lamb, Lee, & DeMaris, 2003); however, some of these health benefits may be due to lowered overall engagement in health compromising behaviors after marriage (Arnett, 1998). The Monitoring the Future project found that transitioning to marriage significantly increased psychological wellbeing as well as decreased use of alcohol, marijuana, and cocaine (Bachman et al., 2002; Schulenberg et al., 2005). Studies completed in the 1990s indicate that the nature and quality of the affectional bond or relationship quality between romantic partners is more predictive of risk than relationship status (Farrington, 1995; Farrington & West, 1995; Sampson & Laub, 1993). Empirical data suggest that healthier romantic relationships dynamics, at times in the context of marriage, reduce substance use and participation in risk behaviors and increase psychological wellbeing and positive mental health among couples (Bachman et al., 2002; Farrington & West, 1995; Sampson & Laub, 1993; Schulenberg et al., 2005).

In sum, peer and familial support, vocational success, and positive intimate partnerships foster early adults' successful transition and social adaptation. Receiving support from one's

communities and engaging in a supportive romantic partnership also promotes individual wellbeing and enhances progress toward healthy individual adjustment during early adulthood.

Disruptive factors of developmental adaptation

Although early adulthood is described as a window of opportunity for positive change in life course trajectories (Masten et al., 2006), multiple disruptors may inhibit healthy development and adaptation including substance use, engagement in risky sexual behavior, and association with deviant peers and deviant intimate partners (Capaldi, Dishion, Stoomiller, & Yoerger, 2001; Smith, Dishion, Shaw, & Wilson, 2013; Wang, et al., 2011). Early adults report higher rates of substance use (Substance Abuse and Mental Health Services Administration, 2007), risky sexual behavior (Billings, Hauser, & Allen, 2008), and reckless driving incidents (Steger, Oishi, & Kashdan, 2009) than any other age group, compelling researchers to study this distressful developmental state.

Substance use. Substance use is an evidence-based disruptor for early adult social adaptation. For early adults, prolonged engagement in risk behavior and poor mental health, for example, may evoke negative coping mechanisms such as substance use. Substance use rates are higher among emerging adults than any other age group (Arnett, 2002; Park, Mulye, Adams, Brindis, & Irwin, 2006). Compared to youth age 12 to 17 (7.7%) and adults age 26 and older (7.2%), emerging adults age 18 to 25 indicate highest substance dependence rates (20.7%; Substance Abuse and Mental Health Services Administration, SAMHSA, 2007). Potential consequences of substance use and dependence include continued deterioration of mental (Degenhardt & Hall, 2003) and physical health (Adams, 2002), unstable marital and familial relationships (Homish & Leonard, 2007), and possible onset of substance use disorders in later adulthood (Patrick, Schulenberg, O'Malley, Johnston, & Bachman, 2011; Tucker, Ellickson, Orlando, Martino,

& Klein, 2005). Alcohol and other drug use greatly affect early adults' physical and emotional wellbeing, limiting development of self-regulation skills, healthy peer and romantic relationships, and positive connections with prosocial peers (Degenhardt & Hall, 2003; Homish & Leonard, 2007; Tucker et al., 2005).

Risky sexual behavior. The incidence of risky sexual behavior is also relatively high among early adults (Kessler & Walters 1998; National Health and Medical Research Council, 2001). More than 70% of men and women approve of premarital sex (Wells & Twenge, 2005), making premarital sex one of the most normalized risk-taking behaviors for early adults (Feigenbaum, Weinstein, & Rosen, 1995; Wells & Twenge, 2005). Early adults are commonly known to engage in "friends with benefits" type of relationships, which are a blend of friendship and physical intimacy outside of a committed romantic relationship, and are often spurred by alcohol use and psychological distress (Owen & Fincham, 2011). Early adults report higher rates of sexually transmitted infection contraction and reproductive health problems than any other age group (Arnett, 2002; Park, Mulye, Adams, Brindis, & Irwin, 2006; Scott, Steward-Streng, Manlove, Schelar, & Cui, 2011). Approximately, half of all new HIV infections in the US occur among early adults under age 25, the majority of who are infected sexually (CDC, 2012). Rates of sexually transmitted infections (STIs), which are indicators of risk behaviors for human immunodeficiency virus (HIV), are highest among those aged 15 to 24 (CDC, 2012). Moreover, greater relationship conflict has been associated with inconsistent condom use in committed early adult partnerships, further increasing risk for STIs and sexually transmitted diseases (STDs) (Riehman, Wechsberg, Francis, Moore, & Morgan-Lopez, 2006). Prevalence of these high-risk sexual behaviors pose concerns for physical, mental, and romantic relationship health and exacerbate chances of poor social adjustment.

Deviant peer networks. Deviant and antisocial behavior and peer networks also contribute to disruptions in social adjustment for early adults. Early adults typically form romantic relationships with partners who also engage in deviant behavior and who come from similar, higher-risk backgrounds (Kandel, Davies, & Baydar, 1990; Krueger, Moffitt, Caspi, Bleske, & Silva, 1998). Given that social behaviors are learned primarily within the family environment, children from higher risk backgrounds may be socialized into coercive exchanges and poor family management behaviors (e.g., poor monitoring and supervision, inconsistent, ineffective discipline) with few to no role models who demonstrate positive social skills (Patterson, 1982; Simons et al., 1991). Adding to this context of risk, individuals who experience intergenerational transmission of partner violence or exposure to intimate partner violence in the family of origin (Saunders, 2003), parent – to – adolescent psychological violence, psychologically abusive parenting (Allen et al., 1994; Coley, 2003; Nix et al., 1999; Shek, 2005), and family and interparental stress (Neff et al., 1995; Slep et al., 2010) report an increased likelihood of teen intimate partner violence (IPV) and adult IPV (Markowitz, 2001; McCloskey & Lichter, 2003; Moretti et al., 2006; Renner & Slack, 2006).

Early adults are currently most at risk for nonfatal partner violence (Arriaga & Foshee, 2004; Capaldi, Shortt, & Crosby, 2003; Kim & Capaldi, 2004; Renzetti, Edleson, & Bergen, 2001), with individuals from socially and economically marginalized communities reporting highest rates of IPV during early adulthood (Carver, Joyner, & Udry, 2003; Cascardi, Avery-Leaf, O'Leary, & Smith-Slep, 1999; Jouriles, McDonald, Garrido, et al., 2005; Lewis & Fremouw, 2001). Nonfatal partner violence includes psychological aggression (e.g., insults or intimidation, controlling or "passive aggressive" behaviors) and relational aggression (e.g., manipulation of social relationships such as rumor spreading, ostracism) (Crick, 1995). Nonfatal part-

ner violence has been associated with mental health concerns and concerns with peer relationships (Crick & Grotpeter, 1996; Goldstein, Chesir-Teran, & McFaul, 2008; Prinstein, Boergers, & Vernberg, 2001; Storch & Masia-Warner, 2004). Physical aggression is also remarkably common among early adults. Moffitt and Caspi (1999) compared the findings of three studies with large samples in order to determine rates of IPV in late adolescence and early adulthood (under age 25). Across these studies, physical violence perpetration rates ranged from about 36-51% for girls/women and from 22-43% for boys/men. These rates may be even higher in high-risk samples such as in couples with a partner with a substance abuse problem (Feingold et al., 2008). Given the number of social sanctions against physical aggression (Archer, 2000a), nonfatal partner violence may be a more socially accepted and prevalent method of harm in romantic relationships (Goldstein, Chesir-Teran, & McFaul, 2008).

Mental health. Given that early adulthood is a highly unstructured time of life, some early adults indicate great enjoyment during this period while others report great difficulty. During childhood, life is structured by families and school, during adulthood, life is structured by family roles and work commitment. Early adults typically have left their families of origin and are in the process of forming their new immediate families. Schulenberg & Zarrett (2006) describe the variation in mental health reports in great detail. For some early adults, individual wellbeing increases, depressive affect decreases, and a wide variety of problems decrease. For others, major depression spikes (Schulenberg & Zarrett, 2006). For example, early adults' experiences of unemployment and underemployment have been reported to increase depression (Dooley, Prause, & Ham-Rowbottom, 2000; Hartnagel & Krahn, 1995) and reduce self-esteem (Goldsmith, Veum, & Darity, 1997; Prause & Dooley, 1997). Galambos, Barker, and Krahn (2006) found, for example, that 18-year-olds who had left school and reported six or more

months of unemployment were at significantly higher risk of experiencing a psychiatric disorder (e.g., major depression, substance abuse, anxiety disorders) than their employed counterparts. The presence of psychiatric diagnoses further contributes to increased risk for social maladjustment.

Summary

Multiple disruptors in early adult adjustment exist including engagement in substance use, risky sexual behavior, association with deviant peers and intimate partners, partner violence, and poor mental health. Each of these disruptors inhibits the development of appropriate self-regulation skills and evolution toward adulthood. Of significant concern are the considerably high rates of substance use, risky sexual behavior, and intimate partner violence reported among early adults. Particularly, the increased risks that engagement in such behaviors poses for self-harm and harm to others (e.g., partner, children) well into adulthood. Utilizing known promoters of positive social adaptation to supplement intervention may enhance early adults' ability to negotiate this transitional state with ease. Romantic relationships, which are part of key developmental milestones for early adults, provide an opportunity for intervention during this time period.

Romantic Relationships

As noted earlier, formation of a healthy romantic relationship is a positive factor in reducing risky behavior and promoting successful social adaptation (Bachman et al., 2002; D'Amico et al., 2005; Schulenberg et al., 2005). Thus, preventive interventions to help early adult couples form healthy relationships could have substantial public health impact. For example, early adult couples are the highest at risk for intimate partner violence (IPV) (Kim et al., 2008; Nocentini et al., 2010; O'Leary et al., 2008). A preventive intervention targeting early

adult couples at risk for IPV may reduce the physical and mental health impact of partner violence (Breiding et al., 2008; Coker et al., 2002). Previous studies demonstrated that addressing IPV may positively impact difficulties associated with increased probability of being involved in the legal system (Jordan, 2004), loss of income and work productivity (Rothman & Corso, 2008), and financial costs associated with medical and psychological treatment and recovery (Bonomi et al., 2009; Brown & Bulanda, 2008).

Moreover, less relationship and family disruption has been associated with more father involvement in child-rearing, increased social and financial support for single parents during the transition to parenthood, fewer "fragile" families, and health promotion and well-being of adults and the children being raised (Whisman, Beach, & Snyder, 2008). The potential for public impact of preventive interventions on individuals, couples, and families is considered high.

Romantic Relationship Development

The varying stages of early adult romantic relationship formation and development may provide ample opportunity for intervention. Relationship formation and development may be conceptualized as consisting of three stages: (1) selecting an intimate partner, (2) building a mutually supportive partnership in which both parties share similar values and goals, and (3) movement toward childrearing.

Early adult research indicated that romantic relationship health and growth may be determined by multiple variables including *commitment level* (Le, Dove, Agnew, Korn, & Mutso, 2010; Van Lange et al., 1997; Whitton, Stanley, & Markman, 2007), *relationship quality* (intimacy or the affectional bond; Farrington, 1995; Farrington & West, 1995; Gallaty & Zimmer-Gembeck, 2008; Sampson & Laub, 1993; Whitton & Kuryluk, 2012), and *problem-solving or communication skills* on topics of conflict (e.g., co-parenting; Rusbult et al., 1998). First, com-

mitment level is considered to be the strongest and most proximal factor of whether relationships persist or break up (Le, Dove, Agnew, Korn, & Mutso, 2010). Commitment level also has been identified as a promotive factor that serves to strengthen and maintain relationship quality, including healthy sacrifice (Van Lange et al., 1997; Whitton, Stanley, & Markman, 2007), and determines constructive responses to negative partner behavior (Rusbult et al., 1998). Historically, researchers recorded marriage, commonly used to demonstrate commitment, as a protective factor against risky behavior among youth (Flora & Chassin, 2005; Lamb, Lee, & DeMaris, 2003), with the protective factor being measured solely as the "status" of being married. Researchers during the 1990s and to date have begun to show, however, that the nature and quality of the affectional bond or relationship quality between romantic partners is more predictive of risk (Farrington, 1995; Farrington & West, 1995; Sampson & Laub, 1993). A study of 500 delinquent and 500 non-delinquent males revealed that marital cohesiveness was more important than marriage status *per se* in predicting low offending behavior (Sampson & Laub, 1993). As early adults engage in alternate forms of romantic partnerships that do not encompass marriage as an ultimate goal, the nature of relationship quality as protective sparks curiosity.

Second, romantic relationship quality also impacts romantic relationship growth. Studies indicate that romantic relationship quality has a bidirectional inverse relationship with early adults' emotional wellbeing (Remen & Chambless, 2001; Whitton & Kuryluk, 2012). This is reflected in studies wherein positive emotional wellbeing is correlated with higher relationship quality and low relationship quality contributes to poorer emotional wellbeing (Remen & Chambless, 2001; Whisman, 2001). In one study among 17- to 22-year-olds, researchers found that daily romantic hassles and positive relationship events were found to be associated with same day ratings of mood, suggesting that daily relationship health may be linked with early

adult emotional wellbeing (Gallaty & Zimmer-Gembeck, 2008). Whitton and Kuryluk (2012) found a negative relationship between couple outcomes (i.e., couple satisfaction, couple support, relationship security) and depressive symptoms for dating couples age 18 to 25 years old; a finding similar to what has been well documented with married adults (Kessler, Walters, & Forthofer, 1998; Whisman, 2001; Wade & Kendler, 2000). Relatedly, females appear to become more psychologically affected by relationship quality than males. Whitton and Kuryluk's (2012) study indicated that across varying commitment levels, including investment of few resources into the relationship, early females reported more depressive symptoms at times of relationship distress than males (Whitton & Kuryluk, 2012). In addition, Whitton and Kuryluk (2012) found that relationship satisfaction accounted for 14% of the variance in the emerging adult women's depressive symptoms compared to only 3% among the emerging adult men. These results indicated that even when the relationship was short-lived or had low commitment from both parties, the level of relationship intimacy affected female emotional wellbeing more than males (2012). In sum, extant research highlights that relationship quality may impact early adult emotional and physical wellbeing on a daily basis, at any commitment level and differently, depending on the sex of the early adult.

Finally, relationship health and growth may also be affected by a couple's communication and problem solving skills (Rusbult et al., 1998). For example, child rearing presents parents with multiple opportunities for practicing problem solving and communication skills. Numerous studies show a significant decrease in relationship satisfaction post the birth of a child (Belsky & Kelly, 1994; Feeney, Hohaus, Noller, & Alexander, 2001; Schulz, Cowan, & Cowan, 2006). Shapiro, Gottman, and Carrere (2000) found that overall marital satisfaction decreased for 43% of couples, 45% of males, and 58% of the females post birth of a first child. Meta-

analysis findings indicate that mean relationship adjustment scores are significantly lower for parents of early infants than other couples at any other developmental life stage (Twenge, Campbell, & Foster, 2003).

Parenting and related financial stresses also increase risk for relationship conflict and negative coping behaviors such as substance use (Caetano et al., 2007; Probst et al., 2008; Jasinski & Kantor, 2001). For example, the transition to childrearing represents a major developmental milestone for most new parents, but may be particularly stressful for early parents who are simultaneously struggling to cope with the normative developmental changes (e.g., identity formation) associated with early adulthood. Compared to 1970, when approximately 11% of all births occurred out-side of marriage, most recent figures indicate that about two of every five births in the US (41% in 2009) are non-marital births—including more than half of all births to women under the age 30 (Wildsmith, Steward-Streng, & Manlove, 2011). A large percentage of early, unmarried parents terminate their romantic relationship following the birth of their first baby (Gee & Rhodes, 2003). New partners may become father figures to the mothers' children and mothers may have children with their new partners. Involvement with a new partner has been negatively associated with continued father involvement with the baby's mother (Gee & Rhodes, 2003; Gee, McNerney, Reiter, & Leaman, 2007). Gavin and colleagues (2002) found that, among low-income, urban, African American mothers, the strongest predictors of father involvement during the postpartum period were the quality of the romantic relationship between the baby's mother and father. Parental relationship quality is an important determinant of continuity of father involvement. Identifying preventive strategies to improve relationship quality for early adult couples may improve the romantic relationship and family dynamics within which children reside.

Additionally, among early adult contexts, even moderate substance use or other risk behavior (e.g., IPV) may disrupt co-parenting harmony and introduce harsh and effortful parenting practices (e.g., monitoring and limit setting), which, in turn, negatively affect child outcomes (Chassin, Pitts, DeLucia, & Todd, 1999; Hussong & Chassin, 2002; Krueger, Moffitt, Caspi, Bleske, & Silva, 1998; Magdol, Moffitt, Caspi, & Silva, 1998). Separation and divorce following the birth of a child is common; as such, many adults become single parents, seek new romantic partnerships, and begin new, complex family transitions. The number of family transitions has been found to have a linear relationship to child adjustment problems, with relationship disruptions and parenting serving as primary and secondary mediators, respectively (Capaldi & Patterson, 1991). Thus, early childrearing places stress on early adult relationships, resulting in decreased relationship satisfaction, effective problem-solving and communication skills, relationship health and growth, and child health outcomes.

Overall, romantic relationship growth and development is impacted by multiple relationship-based factors including commitment level, relationship quality, and problem-solving or communication skills (e.g., co-parenting; Rusbult et al., 1998). Contextual family variables such as parenting or financial stress may pose additional challenges that may benefit from support.

Couple-Centered Intervention Research

There are no current indicated preventive interventions designed specifically to address relationship distress among early adults (for an example of premarital distress prevention among adults see Gordon & Durana, 1999). Relatedly, much of the professional help available to early adults presently is within the context of couples' therapy or post-marriage in the form of marital therapy. The following section reviews the state of couples-based intervention programs including relationship education programs, couples therapy, and abbreviated couples' interventions.

Relationship education programs. Meta-analytic summaries of relationship education programs show moderate effects on relationship quality and communication skills immediately post-assessment and at short-term follow-ups, which typically occurred three to six months following the intervention (Hawkins, Blanchard, Baldwin, & Fawcett, 2008). Such effects have been found in experimental and quasi-experimental studies, but the latter found smaller effects. For example, positive effects for communication skills appear to be limited to observational measures, and are not found for self-reports of communication (Blanchard, Hawkins, Baldwin, & Fawcett, 2009). A large random survey among adults in four middle American states found that participation in premarital education was associated with decreased odds of divorce, lower levels of self-reported conflict, higher levels of marital satisfaction, and higher commitment of spouses (Stanley, Amato, Johnson, & Markman, 2006). One randomized controlled study found that expectant parents who participated in a skills-based relationship intervention during the final trimester of pregnancy exhibited more stable marital satisfaction over time than control group parents (Schulz, Cowan, & Cowan, 2006). A more recent experimental study among expectant parents showed no main effects on relationship satisfaction at the child's third birthday (Feinberg, Jones, Kan, & Goslin, 2010). Educational programs improve communication skills in the short term for couples with moderate levels of distress prior to treatment (Blanchard et al., 2009) and Halford and colleagues (2001) showed that high-risk couples undergoing a self-directed skills-based intervention displayed less negative nonverbal behavior at 1-year follow-up and decreased less in relationship satisfaction at 4 year follow-up than low-risk couples. Limitations of this couples' intervention type include that couples with diverse ethnic and economic backgrounds and sexual orientations are not well understood or represented in relationship education programs (Hawkins et al., 2008).

Couples therapy. Few efficacious and well-recognized models of couple therapy exist. The two most popular models include the Gottman and Johnson models of couple therapy (Bradley, Friend, & Gottman, 2011; Gottman, 1993; Gottman & Gottman, 2008; Johnson, 2008; Halchuk, Makinen, & Johnson, 2010). The Gottman model is based on the Sound Relationship House Theory (Gottman, 2002; Gottman, Driver, & Tabares, 2002; Gottman & Gottman, 2008), which states that marital relationships are distressed when they experience a cascade of escalating conflict, negative reactivity, distancing, and isolation in the relationship. The goal of treatment becomes strengthening the emotional connection, developing the friendships, improving conflict management, and increasing shared meaning in the couples' lives (Gottman & Silver, 1999). Treatment includes assessment of the couple's emotional connection and conflict, enhancement of the emotional connection in the relationship, improvement of the conflict resolution in the relationship, and reinforcement of the progress made in therapy and counteracting the various forms of resistance that emerged while implementing the previous stages. The Gottman model is geared to be completed in an average of 15-20 sessions (Gottman & Gottman, 2008).

The Johnson model is based on the premise that when a secure bond is not established or is disrupted, emotional dysregulation occurs in a manner that reinforced negative interactions within the romantic relationship (Johnson, 2004). Johnson's model, also known as Emotion Focused Therapy (EFT) is organized into four separate stages: 1) assessment of the couple's attachment and cycles of negative interaction, 2) de-escalation of the negative cycles of interaction in the relationship, 3) enhancement of the attachment in the relationship, and 4) consolidation and integration of the changes that have taken place. The model is time-limited, with the expectation that 10-20 sessions will produce relationship changes (Johnson & Zuccarini, 2010).

Both models use humanistic-existential principles and are considered short-term, empirically validated, couples-centered approaches that emphasize the dynamic interplay in intimate relationships (Johnson, 2008; Gottman & Gottman, 2008). The Integrated Couple Therapy (ICP) model (16-22 sessions) utilizes the strengths of both the Johnson and the Gottman models to focus on 1) assessment/alliance building with the therapist, 2) stabilization of any relationship conflict, 3) enhancement of the closeness of the relationship to help partners become more secure and responsive to one another, 4) problem solving with the couple to identify areas of conflict that are resolvable and unresolvable, and 5) integration of the positive changes into their day-to-day life (David, 2015).

Several concerns arise when thinking about the prospect of early adults utilizing such therapies. First, these therapy interventions may be outdated or may not apply to the early adults' way of thinking about romantic relationships. Second, existing therapies are based on extensive intervention occurring over the course of multiple sessions based on heterosexual viewpoints and dated social norms with minimal consideration for the evolving nature of early adult relationships (e.g., open relationships, dating, cohabitating, extended stepfamilies with multiple parental figures). A need exists to update the psychology that informs couples' interventions and to address the myriad relationship contexts and experiences that early adults engage in to foster their successful negotiation of key developmental transitions that define early adulthood.

Abbreviated couples' interventions. Previous attempts to provide abbreviated relationship interventions for high risk, non-treatment seeking couples have been well documented but, again, with adult couples. For example, the "Marriage Check-Up" (MC; Cordova, Warren, & Gee, 2001) was the first indicated intervention program designed to attract and successfully in-

tervene with at-risk couples that were not otherwise seeking treatment. The MC was a two-session check-up for married adults at risk for future relationship distress. Results of the MC indicated that partners' marital satisfaction improved significantly from pre- to post check-up and remained improved at 1-month follow up. At the end of the pilot study, partners were no longer significantly different from a non-distressed comparison group.

Other marital interventions have also been known to be effective therapies for distressed couples; however, the interventions were developed only with couples that were actively seeking treatment. Scholars compared a three-session assessment/feedback protocol to a standard 12-15 session traditional behavioral couples therapy and found that both treatments resulted in significant increases in relationship satisfaction, with neither treatment outperforming the other (Halford & Osgarby, 1996). With another study, scholars used the three-session marital intervention format with distressed couples actively seeking therapy but focused on reframing and restraining as interventions (Davidson & Horvath, 1997). Results demonstrated a decrease in self-reported conflict and target complaints, and an increase in marital satisfaction, which remained intact at six-week follow up when compared to a wait-list control group (Davidson & Horvath, 1997). Worthington et al., (1995) investigated the effects of a three-session assessment and feedback intervention as a relationship-enrichment procedure with well-functioning university student couples. Results indicated a positive effect on couple satisfaction and commitment compared with an assessment-only condition (Worthington et al., 1995).

Therapeutic intervention is often considered a last resort for many couples. Most distressed couples used to seek consult from clergy, medical doctors, and family members, rather than professionals trained in couples therapy (Doherty, Lester, & Leigh, 1986; Veroff, Douvan, & Kulka, 1981). Those couples, who do seek treatment, often put it off until it is too late for

such interventions to be effective. Multiple reasons may exist for this reluctance to seek help including the significant investment of time and money required, the social and cultural stigma associated with psychotherapy, and the challenge of self-identifying as a distressed couple with a relationship impaired enough to seek professional help.

Provided that couples' therapy is often too little, too late, preventing experiences of relationship distress in the first place may be a more effective long-term strategy for early adults who are in the early stages of partner selection, commitment, and family development. It is theorized that before couples become severely distressed, they pass through an "at-risk" stage in which one or two problems are key issues but have not caused irreversible damage (Cordova, Warren, & Gee, 2001). Such couples may even still rate their relationship as highly satisfactory (Cordova, Warren, & Gee, 2001); however, to date, these couples have received little attention. By intervening during these "at-risk" stages, the intervention aim will be to reduce the negative impact endured by couples and their future children. At-risk couples are natural targets for an indicated preventive intervention, and yet, to date, no indicated preventive intervention programs exist for early adult couples at-risk for high relationship distress.

Relationship Check-Up (RCU)

Previous empirical research. The RCU model (Chronister, Nagra, & Dishion, 2013) was developed based on empirically supported models including the Drinker's Check-Up (Miller & Sovereign, 1989), Family Check-Up (Dishion & Kavanagh, 2003), and Marriage Check-Up (Cordova, Warren, & Gee, 2001). The Drinker's Check-Up (Miller & Sovereign, 1989) was the first check-up to use the two-session assessment and feedback format, designed to assess individuals' alcohol usage and provide educational feedback about the known effects of usage. Results of the Drinker's Check-Up revealed that people who referred themselves were, almost

without exception, significantly impaired by their alcohol usage and had rarely, if ever, considered treatment. These individuals were labeled as non-treatment seeking. The study revealed that participants demonstrated significant improvements in their drinking problems. The check-up format was chosen for the RCU because of its success as an intervention and in attracting a non-treatment seeking but at-risk population.

The RCU model (Chronister, Nagra, & Dishion, 2013) was a modification of the Family Check-Up (FCU; Dishion & Kavanagh, 2003). The FCU was designed to help families identify necessary changes in family functioning, and to enhance family motivation to make such changes. The FCU has shown seven-year effects associated with random assignment to the FCU family-centered intervention. Analyses of intervention effects reveal that random assignment to the family intervention group reduced AOD use among youth at high risk and prevented AOD use among typically developing youth (Dishion, Kavanagh, Schneiger, Nelson, & Kaufman, 2002). The effectiveness of the FCU model has been established across a number of randomized trials and has been associated with a variety of promising outcomes, including reductions in problem behavior, AOD use, early childhood problem behavior (e.g., Jones, 2004; O'Leary, 2001; Shaw, Dishion, Supplee, Gardner, & Arnds, 2006). The FCU model provides a foundation for addressing the romantic couple relationship context for early adults at risk.

Building on the FCU model, the RCU (Chronister, Nagra, & Dishion, 2013, 2013) focused on the ecological contexts and couple interaction dynamics associated with early adult AOD use, relationship functioning, and IPV risk (see Figure 3). The RCU fostered couples' identification of relationship strengths and skills as well as problematic relationship dynamics, and enhanced their motivation to make changes that promoted healthy family environments. Interventions that focus on the ecological contexts in which AOD use and aversive couple dynam-

ics occur are the most effective for reducing subsequent risk (e.g., Capaldi & Owen, 2001; Sullivan, Bybee, & Allen, 2002). In addition, trans-theoretical models of change and interventions that use motivational interviewing are widely used with individuals and couples who are abusing AOD and are involved in IPV situations (Burman, 2003; Frasier, Slatt, Kowlowitz, & Glowa, 2001). It was anticipated that reductions in early adult couples' AOD use and IPV risk would be mediated by changes in couples' interaction dynamics and skills, which was targeted by the RCU.

RCU intervention model. The RCU (Chronister, Nagra, & Dishion, 2013) comprised of three meetings with each couple that included an initial interview, an ecological assessment, and a feedback session (see Figure 3).

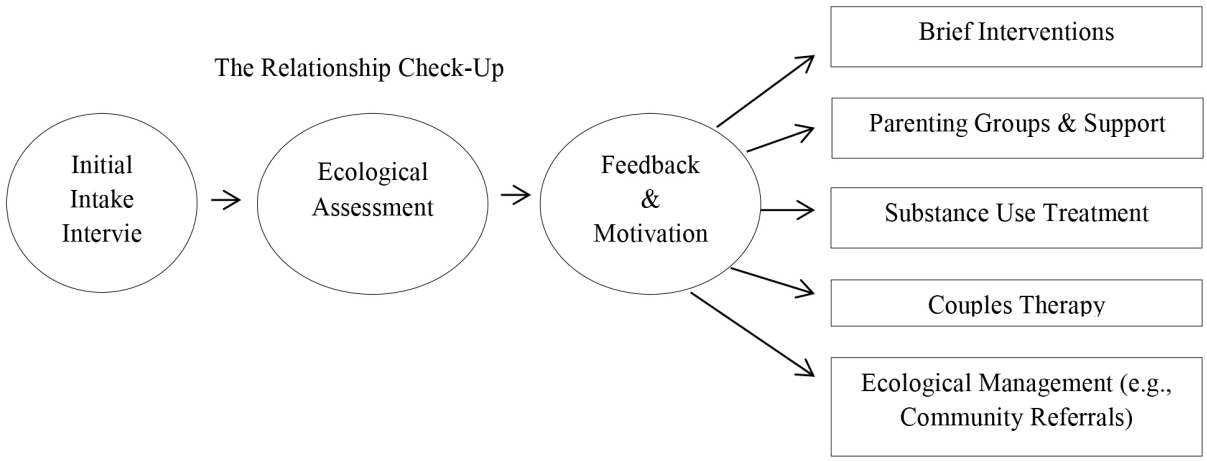

Figure 3: The Relationship Check-Up (RCU) (Chronister, Nagra, & Dishion, 2013)

The goal of the *initial interview* was to use motivational interviewing techniques to strengthen the couple's identification of their relationship concerns and enhance motivation for change. The initial interview was semi-structured and allowed the interventionist to focus on process strategies (e.g., build rapport) and content goals (e.g., the couple's relationship history). Specific interview methods were used for couples that reported or demonstrated IPV during the

initial interview. The *ecological assessment* included comprehensive assessment of each partner's and the couple's strengths and weaknesses across multiple levels of the ecology, using multi-method and multi-informant data. Semi-structured interviews, self-report survey, and couple observational data was collected. Each partner was interviewed separately, and both partners were interviewed together to answer survey and interview questions about themselves, their partner, and their relationship. A comprehensive ecological assessment was the basis for clinical conceptualization, decision-making, and direction for the intervention (Dishion & Stormshak, 2007). During the *feedback session***,** the ecological assessment information was delivered in such a way that it (a) attempted to change the couple's perspective about one or both partner's AOD use, couple dynamics, problem solving, and conflict management skills; and (b) fostered the couple's decision to make changes. Based on Miller and Rollnick's (1991) research and FCU research, the RCU feedback session was guided by five behavior change principles that are captured in a model designated as FRAMES (see Table 1).

Table 1

*Conceptual and Theoretical Framework for the Relationship Check-Up (RCU) (*Chronister, Nagra, & Dishion, 2013*)*

Main FCU components	**Specific FCU components** (Dishion & Kavanagh, 2003)	**RCU modifications**
Initial interview & population	Children, adolescents, and families	Early adult couples and expectant parents
Ecological assessment: (Structured approach, across contexts, to drive use of various interventions)	**Multiple contexts assessed:** School, home, research environment	**Multiple contexts assessed:** Early adult home, school, work environments
	Multiple reporting sources: Youth, family, teachers, peers	**Multiple reporting sources:** Early adult and partner
	Multiple assessment methods: Questionnaires, direct observation, videotaping of family interactions;	**Multiple assessment methods:** Questionnaires, direct observation, videotaping of couple interactions
Outcomes measured: (Individual and couple functioning across contexts)	Parent–youth relationship; Mental health; Alcohol and drug use; Chronic antisocial behavior; HIV/AID risk behavior	**Add** assessment of couple relationship dynamics, including early adult and couple effortful control, affective expression, problem solving, communication and interaction dynamics, and couple functioning and IPV.

Table 1

Main FCU components	**Specific FCU components** (Dishion & Kavanagh, 2003)	**RCU modifications**
Feedback session: Based on trans-theoretical model of behavior change & motivational interviewing Behavior change is "triggered" by focusing on motivation to change using the **FRAMES** model.	**F**eedback: provided to parents regarding child development and family dynamics **R**esponsibility: communicating family's responsibility for behavior-change process **A**dvice: provide parents with expert advice about where to direct behavior change efforts **M**enu: provide parents with behavior change options **E**mpathy: expressed empathy for parents' situation	**Change in Focus: Feedback** AOD use patterns, dependence signs & symptoms, and consequences, relationship adjustment & IPV, and impact of relationship functioning on well-being, AOD use, couple relationship functioning, IPV. **Responsibility** of both partners enhanced by increasing partners' recognition of influence of AOD use, couple dynamics, and individual & contextual factors contributing to couple adjustment.

Table 1

Main FCU components	**Specific FCU components** (Dishion & Kavanagh, 2003)	**RCU modifications**
Feedback session (continued)	**S**elf-efficacy: collaborate with and support parents in selecting behavior-change goals	**Advice** about steps to decrease AOD use, aversive couple dynamics & IPV, enhance couple effortful control behaviors, affective expression, problem solving, communication. **Menu** includes individual and couple intervention options designed to reduce AOD use and IPV. **Empathy** for both partners and recognition that both can make changes is expressed. **Self-efficacy** for selecting individual, couple, and parent behavior-change goals.

Scholars at the University of Oregon created the Relationship Check-Up (Chronister, Nagra, & Dishion, 2013) to provide a context-based assessment approach to early adults' romantic relationship intervention and treatment. Several unique features of the RCU warrant attention including our strategy to adapt and tailor interventions to meet each early adult couples' needs, the brevity and introduction of the intervention during a time of developmental need, and that motivation to change was actively and explicitly addressed at all stages of the intervention process. Although all empirically supported intervention programs targeting couples adapt interventions to meet the couple's needs, in the RCU, contextual assessments were strategically used to identify individual and couples' strengths and weaknesses and collaborated with early adult couples to identify change priorities. We propose that this strategy of acknowledging the context to which the early adult belongs, reduces the number of sessions needed and engages a wider range of early adults and relationship types in interventions that improve romantic relationship dynamics.

A second characteristic of the RCU is the introduction and use of the brief intervention during developmental times of contextual transition. In addition to the developmental transitional period discussed earlier, early adults are witness to the effects of mainstream and social media. For instance, a social shift in romantic relationships has occurred within the last 20 years with the arrival of social media (e.g., online dating) marking a transformation in how romantic partnerships initiate, mature, and terminate (Coyne et al., 2011). Assessments that take into consideration the use of media as a regular form of couple communication and problem solving tool are much needed. Furthermore, the portrayal and glorification of relational aggression (e.g., using or manipulating the relationship to harm one's romantic partnership) is now seen trending in popular shows such as *Desperate Housewives* or *The O.C.* (Coyne et al., 2011). Media exposure to

relational aggression is known to increase use of relational aggression in real life by both males and females (Coyne et al., 2011). The introduction of the RCU intervention during emerging early adulthood may allow individuals to better conceptualize the romantic relationship dynamics they wish to pursue and avoid.

A third unique element of the RCU (Chronister, Nagra, & Dishion, 2013) is that motivation to change is actively addressed at all stages of the intervention process (Miller & Rollnick, 2002). For example, during the feedback session of the RCU, we discussed motivation-related concerns for each identified goal and skill and addressed resistance to change. Motivational interviewing (MI) is a therapeutic approach designed to help people increase their intrinsic approach to work toward change. MI is considered most useful when the participants do not yet consider change necessary or are ambivalent about change. MI seems most appropriate for work with early adult couples who are not distressed enough yet to contemplate change or who have become stuck in the "wait and see" stage, hoping that time will resolve their problems. We assumed that for many couples, MI would be all that was needed to help them move forward in their relationship. Many couples may only need a brief motivational boost to help them become unstuck, from which they would use their own skills and strengths to improve their relationship and keep it on track (Miller & Rollnick, 1991). Others may have used the momentum from the boost to get themselves into further therapy. This movement toward change is conceptualized as proceeding through several stages of change. Additionally, we provided brief motivational support for early adult couples to reinforce persistence and maintenance of change.

According to the transtheoretical stages of change model (Prochaska & DiClemente, 1984), people who change a problem (independently or with help) pass through several stages: (1) Precontemplation, (2) contemplation, (3) determination, (4) action, (5) maintenance, and ei-

ther (6) relapse (during which they cycle through stages 1-5 again) or (7) permanent exit. MI is designed not to move participants from sick to well or from distressed to nondistressed but, rather, to help them progress through the stages of change. If a participant was in the contemplative stage, then facilitating a move to the determination stage would create enough momentum to continue into the action and maintenance stages. For example, a couple may have been in the precontemplation stage during which a relationship problem requires change, but the couple may have neither identified the problem nor recognized the benefits from change. MI provided informational feedback to promote problem recognition as well as potential solutions as a means to facilitate movement from pre-contemplation to contemplation, determination, and so on.

MI was intended to be reflective and encouraging, not argumentative. The mechanism of change was the presentation of objective assessment information as a means of educating the couple about potential relationship problems identified during the assessment session. The information is presented in a way that clearly allows the couple to choose whether to act on that information or not. Motivation was promoted by providing information – the indicators of relationship deterioration – and it was assumed that such information would be sufficient to motivate efforts to address potential problems. For a thorough review of motivational interviewing, see Miller and Rollnick (1991).

This ecologically sensitive intervention acknowledges the importance of considering the early adult couples' needs with respect to a variety of social and community resources. For example, if an individual in a romantic relationship indicates being unable to articulate their own individual values, we would actively provide this person with community resources (e.g., counseling, support groups, meetup groups). Or if a couple would like to collaboratively address one

partners' growing mental health concerns (e.g., panic attacks), we shared websites, local therapeutic referrals, support groups, and books to help them both cope with the related stress.

Cultural sensitivity is an inherent strength of the RCU intervention's ecological perspective. The RCU intervention addresses both cultural and regional contexts, and it incorporates the specific needs of African American, American Indian, European American, Latino, biracial, and low income couples who live in suburban, urban, and rural communities. The intervention design incorporates the distinct aspects of the romantic relationships as part of the treatment approach. The RCU is the cornerstone for tailoring and adapting the intervention to the couple and the point in which cultural issues can be addressed in terms of treatment goals. By building the intervention around couples-identified needs and goals, cultural and personal perspectives of the early adults become central to the intervention.

In summary, the RCU model (Chronister, Nagra, & Dishion, 2013) was designed for two purposes: (1) to motivate early adult couples to change their romantic relationship dynamics and (2) to tailor interventions to best meet the needs of couples, taking into account their strengths and weakness within their romantic relationship, their current available resources, and their motivation to change. The RCU was modeled on the Family Check-Up (Dishion & Stormshak, 2007a), the Drinker's Check-Up (Miller & Sovereign, 1989), and the Marriage Check-Up (Cordova, Warren, & Gee, 2001), following the principles of motivational interviewing developed by Miller and colleagues (Miller & Rollnick, 2002). The RCU consisted of three sessions: (1) an initial "get-to-know-you" session, (2) an assessment session that that included direct observation of couples' interaction, and (3) a feedback session in which the therapist reviewed with the couple the assessment results and collaborated with the early adults to identify appropriate change targets in their romantic relationship. This collaborative process with couples was designed to

enhance motivation, to use assessment to help couples engage in decision making, and to evaluate the focus and intensity of the intervention on a case-by-case basis.

Study Purpose and Objective

The purpose of this study was to test the main effects of the RCU (Chronister, Nagra, & Dishion, 2013) in comparison to a no-treatment control group, on early adult wellbeing, alcohol and other drug use, relationship intimacy, conflict, and relationship quality at one-, two-, and three-week follow up. It was hypothesized that the diverse, community sample of early adult couples assigned at random to the RCU intervention group would report higher levels of individual wellbeing, relationship intimacy, and relationship quality and lower levels of substance use and relationship conflict at one, two, and three week follow up in comparison to the no-treatment control group.

Chapter III

METHODS

Participants

Inclusion criteria for participation were: (a) involvement in a romantic relationship with a partner of the opposite sex who is at least 18 years of age, (b) either married, engaged, or living together at the time of study participation, (c) one or both partners engaged in alcohol or other drug use within the past three months, and (d) available to participate in person. Exclusion criteria for the proposed study were: (a) current, severe physical abuse occurring between partners, (b) current restraining order filed by one partner against the other, or (c) if the RCU interventionist assessed that the couple should not complete the intervention because of risk for serious relationship conflict or violence. Physical abuse was characterized by injury, persistent threat of injury and maltreatment, and coercive control, and included at least one partner reporting abuse in the range of moderate to severe physical abuse on the Modified Conflict Tactics Scale (Straus & Douglas, 2004).

Data collection occurred from August 2014 to November 2015. The early adult who made the initial contact was identified as the "target adult" while the consenting partner was identified as the "partner." Figure 4 describes recruitment and sample size at each study phase. The final sample included 36 opposite-sex couples (ages 18-30; M=23.68; SD=3.02) recruited from the Eugene and Portland, Oregon communities. See Table 2 for additional demographic participant data and Table 3 for relationship demographic data.

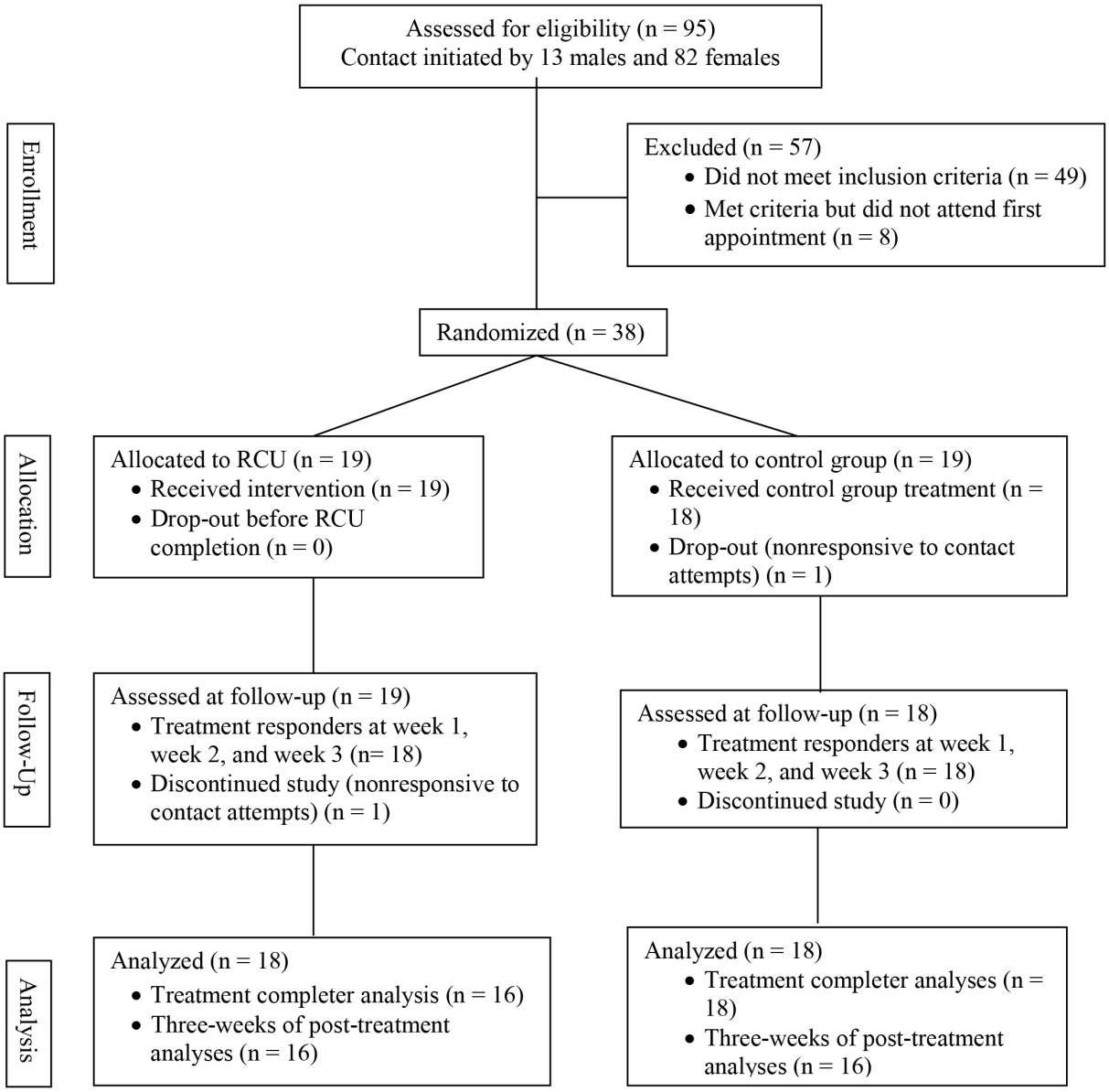

Figure 4: Study flow chart. Note: From Schulz, K.F., Altman, D.G., Moher, D., for the CONSORT Group. CONSORT 2010 Statement: updated guidelines for reporting randomized trials. BMJ 2010;340:c332. For more information, visit: www.consort-statement.org. RCU = Relationship Check Up.

Table 2

Demographic and Clinical Characteristics of the Sample

	Control (*N*=36 individuals; *N*=18 couples) *M/SD*; *N/%*		Intervention (*N*=36 individuals; *N*=18 couples) *M/SD*; *N/%*		Total Sample(*n*=72) *M/SD; N/%*	X^2 or *t*
	TA	*Partner*	*TA*	*Partner*		
Age (mean years)	23.33 (2.47)	25.39 (3.45)	22.61 (2.66)	23.39 (2.89)	23.68 (3.02)	.71
Gender						
Male	2 (11.1%)	5 (27.8%)	16 (88.9%)	13 (72.2%)	36 (50.0%)	1.59
Female	16 (88.9%)	13 (72.2%)	2 (11.1%)	5 (27.8%)	36 (50.0%)	
Ethnicity						.24
European American/White	11 (30.6%)	14 (38.9%)	10 (27.8%)	13 (36.1%)	48 (66.7%)	
Hispanic American/Latino	0 (0.0%)	0 (0.0%)	0 (0.0%)	3 (8.3%)	3 (4.2%)	
African American	1 (2.8%)	0 (0.0%)	1 (2.8%)	0 (0.0%)	2 (2.8%)	
Asian/Asian American	1 (2.8%)	2 (5.6%)	1 (2.8%)	0 (0.0%)	4 (5.6%)	
Native American/Alaskan	0 (0.0%)	0 (0.0%)	0 (0.0%)	1 (2.8%)	1 (1.4%)	
Biracial or Multiracial	5 (13.9%)	2 (5.6%)	6 (16.7%)	1 (2.8%)	14 (19.4%)	

Table 2

	Control (*N*=36 individuals; *N*=18 couples) *M*/*SD*; *N*/%		Intervention (*N*=36 individuals; *N*=18 couples) *M*/*SD*; *N*/%		Total Sample(*n*=72) *M*/*SD; N*/%	X^2 or *t*
	TA	*Partner*	*TA*	*Partner*		
Residential Status						9.68*
Alone	3 (16.7%)	3 (16.7%)	0 (0.0%)	0 (0.0%)	6 (6.5%)	
Parents	3 (16.7%)	2 (11.1%)	4 (22.2%)	2 (11.1%)	11 (11.8%)	
Relatives	1 (2.8%)	0 (0.0%)	0 (0.0%)	1 (2.8%)	2 (2.15%)	
Children	2 (11.1%)	3 (16.7%)	0 (0.0%)	0 (0.0%)	5 (5.4%)	
Partner/Spouse	13 (72.2%)	12 (66.7%)	12 (66.7%)	12 (66.7%)	49 (52.7%)	
Partner/Spouse's Family	1 (2.8%)	1 (2.8%)	0 (0.0%)	1 (2.8%)	3 (3.2%)	
Friends/Roommates/Other	0 (0.0%)	2 (5.56%)	7 (19.44%)	8 (44.4%)	17 (23.61%)	
Mental Health						
Depression	2.05 (.90)	1.81 (.65)	2.15 (.88)	1.80 (.68)	2.88 (1.92)	4.66**
Anxiety	2.00 (.93)	1.69 (.58)	2.00 (.91)	1.79 (.67)	1.87 (.78)	15.61

Note. *$p < .05$, **$p < .001$.

Table 2

	Control (*N*=36 individuals; *N*=18 couples) *M/SD*; *N*/%		Intervention (*N*=36 individuals; *N*=18 couples) *M/SD*; *N*/%		Total (*n*=72) *M/SD; N*/%	X^2 or *t*
	TA	*Partner*	*TA*	*Partner*		
Education						9.07
Some HS/HS Diploma	2 (11.1%)	6 (33.3%)	3 (16.7%)	6 (33.3%)	17 (23.6%)	
Some College/ Associate/College	11 (61.1%)	10 (55.6%)	11 (61.1%)	7 (38.9%)	39 (54.2%)	
Graduate School	5 (27.8%)	2 (11.1%)	4 (22.2%)	5 (27.8%)	16 (22.2%)	

Table 3

Relationship-Related Demographic and Clinical Characteristics of the Sample

	Control (*N*=18 couples)	Intervention (*N*=18 couples)	Total Sample (*N*=36)	
	N/%	*N*/%	*N*/%	X^2 or *t*
Relationship Status				-.87
Married	4 (22.2%)	1 (5.6%)	5 (13.9%)	
Engaged	1 (5.6%)	2 (11.1%)	3 (8.3%)	
Living Together	7 (38.9%)	10 (55.6%)	17 (47.2%)	
Dating Same Person	5 (27.8%)	2 (11.1%)	7 (19.4%)	
Dating	1 (5.6%)	3 (16.7%)	4 (11.1%)	
Relationship Length				1.39
4-6 months	2 (11.1%)	6 (33.3%)	8 (22.2%)	
7months-1year	2 (11.1%)	1 (5.6%)	3 (8.3%)	
1-2 years	4 (22.2%)	5 (27.8%)	9 (25%)	
2+ years	10 (55.6%)	6 (33.3%)	16 (44.4%)	

Note. *p=.05, **p =.001

Table 3

	Control (*N*=18 couples)	Intervention (*N*=18 couples)	Total Sample (*N*=36)	
	N/%	*N*/%	*N*/%	X^2 or *t*
Children				-1.98
Yes	4 (22.2%)	1 (5.6%)	5 (13.9%)	
No	14 (77.8%)	17 (94.4%)	31 (86.1%)	
Pregnant/Trying	0 (0.0%)	2 (11.1%)	2 (5.6%)	

Note. *p=.05, **p =.001

Measures

Demographics. The Project Alliance Youth Survey (PYAS; Child and Family Center, 2007) was used to gather demographic information from the target early adult and partner. The PYAS is a multi-component survey that assesses early adults' individual, family, and relationship demographics, financial stress, education and career interests/engagement, physical and emotional health, life stressors, substance use, sexual behavior, personal relationships, parenting, and the ways in which participant time is spent.

Substance use. A total of three PYAS items were used to create the composite baseline substance use score for the target early adult and partner: (a) How often did you drink alcohol in the last 3 months? (b) How often did you use marijuana in the last 3 months? and (c) How often did you use any other drugs in the last 3 months? Participants had the option to respond by identifying their frequency of use: "never," "once or twice," "once a month," "once every 2-3 weeks," "once a week," "2-3 times a week,"4-6 times a week," "once a day" or "2-4 times a day." Responses were coded to reflect frequencies of use. Higher scores indicated higher frequency of substance use. The three items were summed to create a composite substance use score. Cronbach's alphas were as follows: target adult (α = .37) and partner (α = .30).

Individual wellbeing. Three PYAS items were used to create the composite baseline individual wellbeing score for the early adult and partner: (a) How many hours did you spend working at a job for pay? (b) How many hours did you spend in structured educational activities such as vocational school, college, or university? and (c) How many hours did you spend hanging out with friends? Participants had the option to respond with a double-digit number ranging from 00 to 99 hours. Cronbach's alphas were as follows: target adult (α = .79) and partner (α =1.04).

Intimate relationship information. The Couple Demographic Survey (CDS) was used to collect information on relationship-related demographic information from each individual partner, and took approximately 15-20 minutes to complete. The CDS is a 16-item questionnaire inquiring about the couple's financial stress (e.g., in the past 3 months, who was primarily responsible for making decisions about how to spend money? Response options: me, my partner, or we shared fairly equally in the decision making process), relationship length (e.g., how long have you been in the relationship? Response options: less than a month, 1-3 months, 4-6 months, 7months-1year, 1-2 years, more than 2 year, if more, how many?), sexual behavior (e.g., how satisfied are you with the amount of warmth and affection you express toward your partner? Response options: very unsatisfied to very satisfied), and relationship commitment (e.g., how many times have you broken up or separated? Response options ranged from 0 to 5 or more). This information was not used in data analyses but was collected to inform clinical case conceptualization for the intervention couples.

Three separate relationship variables were used to assess treatment effects: Relationship quality, relationship intimacy, and relationship conflict. The questionnaires used to assess each variable are described next.

Relationship quality. A subscale from the 32-item Dyadic Adjustment Scale (DAS; Spanier, 1976), which was administered as part of the PYAS survey, was used to assess relationship quality. The DAS assesses the extent of agreement or disagreement between the respondents and his/her partner for each item. The DAS is divided into four subscales: (1) dyadic consensus, (2) dyadic satisfaction, (3) dyadic cohesion, and (4) affectional expression. The Dyadic Satisfaction subscale was used to assess relationship quality as self-reported by the participants. The complete list of items within the Dyadic Satisfaction subscale is provided in Table 4. Re-

spondents answered questions such as, "Did you ever regret that you married (or lived together) with your partner?" or "How often did you discuss or did you consider divorce, separation, or terminating the relationship?" Respondents provided answers on a 5-point Likert type scale with the following options: "all the time," "most of the time," "sometimes," "hardly ever," or "never." The remaining DAS subscales were used to assess relationship intimacy as described in the next section.

Dyadic satisfaction measures the amount of relationship tension present and the extent to which the respondents have considered the tension within their overall relationship satisfaction (α =.70 to .96; Graham, Liu, & Jeziorski, 2006). Higher scores on this scale indicate higher satisfaction with the present state of the relationship and commitment to its continuance. Total DAS score reliability estimates, calculated with samples of married and divorced adults, range from .58 to .96, with a mean score reliability of .92 (Graham, Liu, & Jeziorski, 2006). Partial correlations revealed that participants' age, educational attainment, number of children, relationship duration, or the length of the test-retest interval do not influence stability of the DAS (Carey et al., 1993). Using the present study sample, Cronbach's reliability alpha on the Dyadic Satisfaction scale calculated at α = .65 for target adults and α = .68 for partners.

Relationship intimacy. The relationship intimacy construct consisted of items from the remaining DAS subscales including Dyadic Affection, (target adults: α = .47; partners: α = .69), Dyadic Cohesion (target adults: α = .62; partners: α =.75), and Dyadic Consensus (target adults: α = .84; partners: α =.88). Affectional expression assesses an individual's satisfaction in the expression of affection and sex in the relationship (α = .50 to .80; Graham, Liu, & Jeziorski, 2006). Dyadic cohesion measures the common interests and activities shared by the couple (α = .58 to .89; Graham, Liu, & Jeziorski, 2006). Dyadic consensus assesses extent of agreement on rela-

tionship matters of religion, recreation, friends, household tasks, and time spent together (α = .73 to .93; Graham, Liu, & Jeziorski, 2006). Higher scores on each subscale indicate more cohesive dyadic functioning, or fewer relationship concerns. The complete items list is provided in Table 4. Respondents provided answers on a 5-point Likert type scale with the following options: "all the time," "most of the time," "sometimes," "hardly ever," or "never."

The Romantic Partner Dynamic Scale (RPDS; Chronister, 2004) that was administered as part of the PYAS was also used to measure the intimacy between the early adult and partner. The RPDS is a 12-item questionnaire measuring the frequency with which partners turn to each other for emotional intimacy. Each respondent answers questions about their romantic partner's positive relationship behaviors (8 items) and their partner's emotionally, physically, and sexually abusive behaviors (4 items). Response options range along a Likert-type scale from 0 (never) to 5 (very frequently). Sample items included, "I feel safe with my romantic partner, even when we argued" and "My romantic partner hurt me physically or threatened me physically." Total scores are calculated by reverse scoring the four abusive experiences items and then summing all item means. Higher scores indicate more positive relationship adjustment. A Cronbach's alpha of .69 was calculated for early adults and .55 for partners in the present study.

Scores from the three DAS subscales and the total RPDS score were summed to create the relationship intimacy construct. Higher scores on the relationship intimacy construct reflect the state of relationship adjustment as measured by the participant's self-report of relationship affection, consensus, cohesion, and emotional intimacy.

Relationship conflict. Relationship conflict was measured using the Modified Conflict Tactics Scale (MCTS; O'Leary, Slep, Avery, Leaf, & Cascardi, 2008). The MCTS is an 18-item instrument measuring an individual's means of resolving conflict during the course of a disa-

greement with his/her partner. Item examples include "discuss an issue calmly," "insult you or swear at you," "cry because of a disagreement" (see Table 4 for complete item list). Participants provided responses using a 5-point Likert-type scale that ranged from *never*, *once or twice*, *3-5 times*, *6-10 times*, to *11 or more times*. Internal consistency reliability cannot be obtained for the Conflict Tactics Scale because there is no total score available (Straus & Douglas, 2004). The instrument consists of separate scales that are not intended to be summed to obtain a total score (Straus & Douglas, 2004). There are four subscales on the MTCS: 1) verbal reasoning, 2) verbal aggression, 3) minor physical violence, and 4) severe physical violence. Items from the minor to severe physical violence scales were used to highlight discussion topics during the individual meeting and the feedback session with the couple, and screen for couples who experienced minor to severe physical violence who may not have been appropriate for the current study. Items from the verbal reasoning and the verbal aggression subscales were used to measure the relationship conflict construct in data analysis. Using the verbal reasoning and verbal aggression items, a Cronbach's alpha of .78 was calculated for early adults and .81 for partners in the present study.

Table 4

Description of Items and Measures per Construct at Baseline

Construct	Items
Substance Use	"How often did you drink alcohol in the last 3 months?"
	"How often did you smoke marijuana in the last 3 months?"
	"How often did you use other drugs in the last 3 months?"
	(The third item was removed during data analysis due to no report of other-drug use at follow-up).
Individual Wellbeing	"For the average week, how many hours did you spend working at a job for pay?"
	"For the average week, how many hours did you spend in structured educational activities such as vocational school, college, or university?"
	"For the average week, how many hours did you spend hanging out with friends?"
Relationship Quality	From the Dyadic Adjustment Scale—Dyadic Satisfaction subscale: During the last 3 months…
	"How often did you discuss or did you consider divorce, separation, or terminating your relationship?"
	"How often did you or your partner leave the house after a fight?"
	"In general, how often did you think that things between you and your partner were going well?"
	"Did you confide in your partner?"
	"Did you ever regret that you married your partner (or lived together)?"

Table 4

Construct	Items
Relationship Quality (continued)	"How often did you and your partner quarrel?" "How often did you and your partner "get on each other's nerves?" "Did you kiss your partner?"
Relationship Intimacy	*Dyadic Adjustment Scale—Dyadic Consensus* subscale items: In the last 3 months, how much agreement or disagreement was there between you and your partner on these topics: "Handling family matters," "Matters of recreation," "Religious matters" "Friends," "Sex relations," "Conventionality (Correct or proper behavior)" *Dyadic Adjustment Scale —Dyadic Affection* subscale items: In the last 3 months, how much agreement or disagreement was there between you and your partner on these topics: "Demonstrations of affection," "Sex relations," "Being too tired for sex," "Not showing love (Yes/No)" *Dyadic Adjustment Scale —Dyadic Cohesion* subscale items: "Did you and your partner engage in outside interests together?" "Had an interesting chat?" "Laughed together?" "Calmly discussed something?" "Worked together on a project?"

Table 4

Construct	Items
Relationship Intimacy (continued)	*Relationship Partner Dynamic Scale*: "My partner lifted my spirits when I was feeling down."
	"I had an enjoyable time, had fun, or laughed with my romantic partner."
	"My romantic partner treated me with respect and kindness."
	"I felt safe with my romantic partner, even when we argued."
	"My romantic partner put me down, insulted me, or verbally threatened me."
	"My romantic partner hurt me physically or threatened me physically."
	"My partner made me do things that I didn't want to do."
	"My partner yelled or shouted at me."
	"My romantic partner supported my ideas, dreams, and goals."
	"My romantic partner listened to me and respected my opinions."
	"I had a say in making decisions with my romantic partner."
	"My partner complimented me when I did things well."
	"My romantic partner listened to me and respected my opinions."
	"I had a say in making decisions with my romantic partner."

Table 4

Construct	Items
Relationship Conflict	During your entire relationship, how many times did you: *Reasoning*: "Discuss an issue calmly?" "Get information to back up your side of things?" "Brought in, or tried to bring in, someone to help settle things?" *Verbal Aggression*: "Insult or swore at him/her?" "Sulk or refuse to talk about an issue?" "Stomp out of the room or hour or yard?" "Cry because of a disagreement?" "Did or said something to spite him/her?" "Threaten to hit or throw something at him/her?" "Threw or smashed or hit or kicked something?" *Minor Violence*: "Throw, hit, or kick something?" "Throw something at your partner?" "Try to physically restrain your partner?" *Severe Violence:* "Push, grab, or shove your partner?" "Slap your partner?" "Kick, bite, or hit your partner?" "Choke your partner?" "Beat up your partner?" "Threaten your partner with a knife or gun?"

Follow-up phone assessments. Each phone assessment comprised 16 questions about each participant's experience in the relationship and individual behavior during the past 24 hours including substance use, individual wellbeing, relationship quality, relationship intimacy, and relationship conflict. An interventionist and/or a trained research assistant on the research team conducted the phone assessments, which involved making the phone call to each participant, confirming the participant was alone and in a safe, confidential space during the assessment to allow them to respond in an uninhibited manner, and reading the questions while the participant provided responses in numbers or comments. Each phone assessment was completed in approximately 7-10 minutes. Response options included a Yes or No choice or a 10-point Likert type scale ranging from 1 (not at all) to 10 (a lot). One item was open-ended and asked only if the couple had broken up. The item stated: "You may have little contact now, but we are interested in your feelings and behavior towards this person at this point in time." Only one couple discontinued their relationship by week two of the follow-up phone assessments, however, they still completed the study. They were in the control group.

Other sample items included, "In the past 24 hours, how many alcoholic drinks have you had?" and "In the past 24 hours, how much were you afraid/ worried that [your partner] was upset with you? The instrument consisted of five separate scales (e.g., substance use, individual wellbeing, relationship intimacy, conflict/tension, and adjustment) that were not intended to be summed to obtain a total score. Higher scores on individual well-being, relationship intimacy, and relationship quality reflected were reflective of positive adjustment. Higher scores on substance use and relationship conflict were indicative of concerns with substance use and relationship tension. The following item was reverse scored: "On a scale of 1 (none or a little) to 10 (a

lot), in the past 24 hours, how sad, irritable, or depressed were you?" Table 5 lists the items that were used to create the composite scores for each construct of interest.

Consumer satisfaction survey. The Consumer Satisfaction Survey was a 9-item questionnaire used to measure participants' reactions to the RCU (Chronister, Nagra, & Dishion, 2013) immediately post intervention. Participants used a 5-point Likert scale ranging from 1(*strongly disagree*) to 5 (*strongly agree*) to label their experience with the interventionist. Example of items include, "gave me new ways of thinking about our relationship goals," "respected me," and "understood our situation."

RCU Case Conceptualization Data

The following data were collected and used to formulate case conceptualization on each participating couple; however, these data were not formally used to test the main intervention effects.

Semi-structured interview. A ten-question semi structured interview was used to collect data on early adult couples' relationship strengths, strains, conflict resolution tactics, and goals. Semi-structured interview questions were adapted from The Gottman Institute's couples' manual (Gottman & Gottman, 2000). Examples include, '*When did you know you were in love with this person? Was it an easy decision?'* and *'What do you remember from the first time you met?*' Reliability and validity values are not available for the semi-structured interview format.

Video observation tasks. The 40-minute video observation task was developed by scholars at the Child and Family Center (Chronister & Dishion, 2013), who adapted the tasks for couples from the Family Check Up (Dishion & Stormshak, 2007c). The video observation calls for couples to engage in six five-to-seven minute discussion tasks designed to elicit couples' communication dynamics, problem solving skills, and intimacy/ connection. The six discussion

tasks (see Appendix B) included: (1) planning a fun activity to do together within the next week, (2) completing the Partner Issue Checklist, followed by two discussions on the challenges and stress within their relationship based on their responses, (3) talking about how they met, (4) discussing how they parent together as a team (if applicable); (5) how alcohol and drug use affect their relationship; and (6) how they manage jealousy within their relationship.

Table 5

Items by Study Constructs Used in Follow-Up Phone Assessments

Construct	Items
Substance Use	"How many alcoholic drinks have you had?"
	"Have you used marijuana?"
	"Have you used any other drugs to get high or buzzed?" (The third item was removed during data analysis due to no report of other-drug use at follow-up).
Individual Well-Being	"In the past 24 hours, how many hours did you spend working or going to school? Please reply with a number between 0 and 24."
	"In the past 24 hours, how many hours did you spend interacting with friends (in person, phone, text, and social media)? Please reply with a number between 0 and 24."
	"In the past 24 hours, how sad, irritable, or depressed were you? Please reply with a number between 1 (none or a little) to 10 (a lot)."
	"In the past 24 hours, how happy/cheerful were you? Please reply with a number between 1 (none or a little) to 10 (a lot)."

Table 5

Construct	Items
Relationship Intimacy	Describe your relationship with the person you started the study with. Please reply with a number between 1 (totally broken up) to 10 (totally committed). (If 3 or less) You may have little contact now, but we are interested in your feelings and behavior towards this person at this point in time. In the past 24 hours, how much did you trust him/her to be completely honest with you? Please reply with a number between 1 (none or a little) to 10 (a lot).
Relationship Quality	11) In the past 24 hours, how many hours did you spend interacting with him/her? Please reply with a number between 0 and 24. 12) In the past 24 hours, how much warmth and affection was there between you and him/her? Please reply with a number between 1 (none or a little) to 10 (a lot). 13) In the past 24 hours, how much did your partner help you cope with daily life? Please reply with a number between 1 (none or a little) to 10 (a lot).

Table 5

Construct	Items
Relationship Conflict	In the past 24 hours, how much conflict or tension was there between you and him/her? Please reply with a number between 1 (none or a little) to 10 (a lot). (If more than 1) Was there physical conflict between you and him/her? Please reply with a Yes or No. In the past 24 hours, how much were you afraid/worried that he/she was upset with you? Please reply with a number between 1 (none or a little) to 10 (a lot).

Procedures

Recruitment. Early adults in the Pacific Northwest area were notified about study availability by posting hard copy flyers at popular early adult community sites (e.g., Starbucks, community colleges, universities, gyms) in Eugene and Portland, Oregon, and distributing study information word-of-mouth, listserve emails, and social media websites (e.g., Facebook, Craigslist). See Appendix E for study flyer. Details of what happened when potential participants saw the flyer and contacted the primary investigator are detailed in the next section. See Table 6 for number of participants recruited and retained for further data analysis. One control couple and one intervention couple did not complete the phone assessment portion of the study; the data from both couples was not used for analysis of treatment effects.

Table 6

Recruitment Location and Retention by Group

	Control (*N*=18)	Intervention (*N*=18)	Total (*N*=36)
	n/%	*n*/%	*n*/%
Venues			
Craigslist/Facebook/Email	19 (105.5%)	16 (88.9%)	35 (97.2%)
Community College	0 (0.0%)	2 (11.1%)	2 (5.6%)
Word of Mouth	0 (0.0%)	1 (5.6%)	1 (2.8%)
Location			
Eugene	6 (33.3%)	15 (83.3%)	21 (58.3%)
Portland	13 (72.2%)	4 (22.2%)	17 (47.2%)

University of Oregon's IRB board approval was obtained prior to the start of data collec-

tion. Consent procedures used previously by partner violence and couples therapy researchers using clinical trials to examine the effectiveness of couple interventions were used (Fals-Stewart & Kennedy, 2005; Fals-Stewart, O'Farrell, Birchler, Córdova, & Kelley, 2005; Stith et al., 2002, 2003). Verbal and written consent for the RCU study was confirmed at the beginning of the pilot effectiveness trial when each partner was provided with a written consent form, verbal clarification of each section of the consent form by the primary investigator (PI), and time to ask questions. The written consent form described, at minimum, (a) inclusion and exclusion research criteria, (b) the fact that participation or withdrawal from the study did not affect their relationship with the university or receipt of current services with any other agency, (c) all limits of confidentiality, (d) storage and destruction of all data, (e) risks and benefits associated with study participation, and (f) service referrals that were to be provided at the end of the trial. Subsequent to the start of the study, consent was confirmed with each individual at the start of every intervention session. For both the intervention and the control group, consent was requested on an individual participant basis, rather than with both partners in the room at the same time, to allow each participant to confirm that s/he felt safe and wanted to proceed with the study (Stith, Rosen, & McCollum, 2002, 2003; Stith, Rosen, McCollum, & Thomsen, 2004). These consent procedures helped protect both partners' safety and confidentiality should either partner have felt that his/her partner's behavior (e.g., substance use or relationship aggression) had become severe enough to jeopardize his/her safety, the partner's safety, and/or another person's safety.

Initial inquiry. When a participant contacted the primary investigator (PI) via email or phone, the PI shared study details, clarified study procedures by answering study-related questions, obtained verbal and written consent from both romantic partners, and screened the early-adult couple for appropriate inclusion and exclusion study criteria. Screening questions includ-

ed: 1) Are you and your partner between the ages of 18-30? 2) Are you in a committed relationship with a partner who is of a different sex from you? 3) What is the status of your committed relationship? 4) Is your partner comfortable participating in this study? 5) May we contact your partner prior to the study to obtain their written and verbal consent for participation? 6) Do you have any children? If the couple met eligibility criteria, the couple was then randomly assigned to either the control or the RCU intervention group using the assignment sheet derived from the randomizer.org website.

Participating couples were assigned randomly either to the RCU experimental condition (n=18) or the no-treatment control group (n=18). If the couple was assigned at random to the RCU intervention group, the PI confirmed participation interest and obtained verbal consent from both partners during the initial screening phone call and written consent prior to the pre-assessment session. The pre-assessment and all following sessions were completed at one of the two Child and Family Center clinics, located in Eugene and Portland.

Control group procedures. If the couple was assigned to the control group, they completed the pre-assessments and were paid $15 per partner for their participation. Control couples completed the post assessments (see Appendix D) via phone at 1-, 2- and 3- weeks after they had completed the pre-assessments. Each partner was compensated $5 for each post-assessment completed. Control group couples were paid a total of $30 per partner.

Intervention group procedures. If the couple was assigned to the intervention group, they completed preassessments, a semi-structured clinical interview, video observation, feedback session, and follow-up phone assessments. The RCU interventionist met individually with each partner to obtain voluntary consent for study participation. Additionally, standard domestic violence safety screening questions were asked of each partner during the intervention session.

Standard screening questions included but are not limited to, "Every couple fights at times—what are your fights like at home? Do the fights ever become physical?" "Does your partner ever hit, kick, or threaten you?" And, "do you feel safe in your relationship" (Guidelines for the Health Care of Intimate Partner Violence, 2004). If one partner chose not to participate, both partners became ineligible to participate, at any time during the course of the RCU intervention. Intervention couples earned a total of $75 per partner for completing all RCU treatment intervention activities.

First intervention meeting: get-to-know you session. The get-to-know-you session consisted of a clinical semi-structured interview with the couple. The aim of this initial meeting was to gather more information about the couple, their romantic relationship dynamics and goals, and to answer participants' questions about the RCU intervention study (Chronister, Nagra, & Dishion, 2013). Motivational interviewing techniques were used to strengthen the couple's identification of their individual and relationship concerns and enhance motivation for change (Miller and Rollnick, 2002). The session consisted of introductions among the interventionist and the couple, discussion of the type of feedback provided to the couple at the end of the RCU intervention, confidentiality terms, gathering information from each partner's perspective, individual check-ins with the interventionist to ensure no partner was coerced into the intervention, and a conclusion with the couple that foreshadows the feedback the couple will receive. The semi-structured interview questions were adapted from the initial intake couples assessments distributed by the Gottman Institute (Gottman & Gottman, 2000; see Appendix A) and followed the structure of the original Family Check Up (Dishion & Kavanaugh, 2003), allowing the interventionist to focus on process strategies (e.g., build rapport) and content goals (e.g., individual values and life goals, the couple's relationship history). Specific interview methods were used for

couples who reported or demonstrated partner violence. The get-to-know-you session took about an hour to hour and a half to complete. Each partner received $15 for completing this first session.

Second intervention meeting: couples video observation tasks. Couples provided consent to be videotaped and participated in a videotaped discussion. Couples were asked to participate in six different videotaped discussion tasks with one another without the presence of the researcher, including: (1) planning a fun activity that they could do together within the next week (five minutes), (2) filling out the Partner Issue Checklist and having a discussion about challenges and stress in their relationship based on their answers (seven minutes per partner), (3) talking about how they met (five minutes), (4) discussing how they parent together as a team (if applicable; five minutes); (5) how alcohol and drug use affected their relationship (five minutes); and (6) how they managed jealousy within their relationship (five minutes). The videotaped discussion tasks took approximately 40 minutes to complete. Couples received another $15 per partner for participation in this session.

Third intervention meeting: feedback session. The purpose of the feedback session was to reflect back to the couple the relationship dynamics observed during the course of the study in a non-threatening and empathic manner, identify areas of strength and strain on their relationship using the contextual assessment, and provide a menu of options consisting of community resources to aid in continued progression toward their self-identified goals. Prior to the feedback session, the PI met with the co-PI to discuss the "story" they planned on sharing with the couple. The "story" was a conceptualization of the couple's presentation to the clinical team throughout the RCU intervention. The conceptualization contained areas of strength, growth, as well as positive strategies to move toward shared goals. The feedback was presented using the rainbow Re-

lationship Check Up feedback form (see Appendix C). Under the headline of *Relationship Health and Growth*, feedback was provided to couples on their reported relationship satisfaction, relationship stability, parenting (if applicable), problem-solving, spending time, connection to others, work and financial wellbeing, physical and emotional health, and substance use. Each participant was represented with his or her initials on the feedback form. The PI shared couples' strengths and challenges by highlighting the congruence and/or incongruence in the placement of the individuals' initials on each subsection of the rainbow RCU feedback form. The information collected from their pre-assessments, semi-structured clinical interview and video observation was delivered to the couple in a way that (a) reframed the partner's perspective about his/her own or his/her partner's substance use, relationship dynamics, problem solving, and conflict management skills; and (b) fostered the couple's decision to make changes.

Based on Miller and Rollnick's (1991) research and Family Check Up research (Dishion & Stormshak, 2004c), the feedback session was guided by five behavior change principles that are captured in a model designated as FRAMES. A "menu of options" that lists community resources for continued relationship support followed this discussion. The visit took approximately 1.5 hours. At the end of the feedback session, each member of the couple was given a short survey (see "Consumer Satisfaction Survey") to identify satisfaction with interventionist and the services received. The couple received another $15 per partner for participation in this session.

Control group procedures may be noted in Figure 5; intervention group procedures are noted in Figure 6.

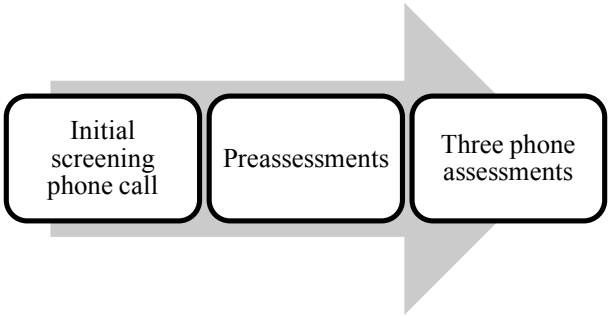

Figure 5: Control Group Procedure

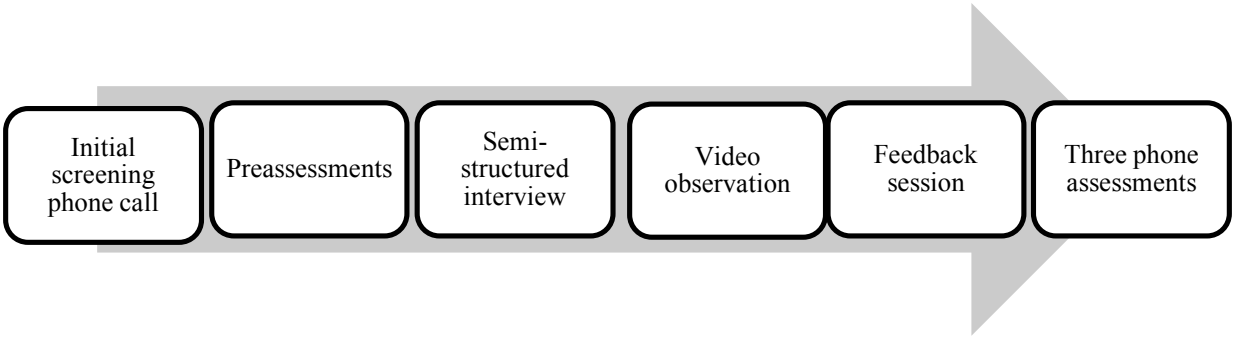

Figure 6: RCU Intervention Group Procedure

RCU Interventionists and Implementation Fidelity

RCU (Chronister, Nagra, & Dishion, 2013) interventionists (a) were advanced clinical and counseling psychology graduate students, and (b) had completed at least one practicum in which they worked with adults. Five female interventionists were selected, as male interventionists were unavailable. Interventionists were randomly assigned to the couples. The PI and co-PI reviewed video and discussed clinical cases on a weekly basis. The PI met individually with the remaining interventionists individually on a weekly basis and as needed for clinical supervision. Treatment fidelity focused on RCU training and implementation *contexts* and RCU interventionist *competence* and *compliance* (Forgatch, Patterson, & DeGarmo, 2005). *Contexts:* Interventionists received initial training on the RCU model by means of group training sessions. The in-

terventionists were previously trained on the FCU model for at least six months. The PI conducted the initial training, who had been trained in and had used the FCU model for more than 10 years. *Competency*: RCU interventionists met a minimum level of competency before providing the RCU to participants. The PI used video review for ongoing assessment of minimum competency levels. *Compliance*: Thereafter, interventionists began providing the RCU to couples and received weekly supervision from the PI to ensure that participants received all RCU components and to reduce interventionist drift.

Research Design

A quasi-experimental design with one qualitative independent variable (i.e., treatment or control condition) and five quantitative dependent variables, with random selection were used to examine the effectiveness of the RCU intervention (Chronister, Nagra, & Dishion, 2013). Couples were randomly assigned to the RCU intervention or no treatment control group. The number of couples in each group was evenly split, with 18 couples assigned to the treatment condition and 18 couples assigned to the no-treatment condition. Post hoc power analyses were completed using G*Power (Faul, Erdfelder, Lang, & Buchner, 2007) with $\alpha = .05$, one-tailed, and $N = 36$. Power ($1 - \beta$) was indicated at .43, which is considered a moderate effect size (Cohen, 1992) for a robust treatment.

Research questions. 1) At pre-test, were there significant group differences between treatment conditions on participants' reports of substance use, individual well-being, relationship intimacy, relationship quality, and relationship conflict? 2) At post-test, what are the RCU main effects on participants' overall posttest substance use, individual wellbeing, relationship intimacy, relationship quality, and relationship conflict? 3) Are there interaction effects of group and time from baseline to week one, week two, and week three of follow-up on reports of substance

use, individual well-being, relationship intimacy, relationship quality, and relationship conflict? 4) Research question four: Are there within-group differences on participant's outcome variables at week one, week two, and week three of follow up?

Data Analysis Plan

In order to test the proposed hypotheses and to describe the study sample, the Statistical Package for the Social Sciences: IBM SPSS Version 22 (IBM SPSS, 2014) was utilized. Participants were categorized as "Target Adult" (TA) or "Partner," (P) with the term "target adult" (TA) referring to the individual who initially expressed interest and made contact for study participation. The "partner" referred to the consenting romantic partner. The analyses consisted of the following steps:

Data screening. Preliminary descriptive analysis included examining the data for outliers (Stevens, 1984) and missing values (Johnson & Early, 2011; Schafer & Graham, 2002). Descriptive analyses (mean scores, standard deviation, skewness, kurtosis, and correlations) were conducted for each of the variables (Howell, 2007) to detect univariate and multivariate outliers. Pearson correlations among all variables were computed to confirm the hypothesized relationships. In addition, the data was checked to verify that assumptions of multivariate analysis were met.

The pretest participant differences in each treatment group with respect to age, gender, education, employment status, ethnicity, residential status, education, mental health, relationship status, relationship length, and raising children were analyzed using chi-square tests of associations and independent samples t-tests for each of the sociodemographic variables. The chi-square test determined whether two variables measured on nominal or categorical variables were associated with each other by comparing the difference between the observed frequency distribu-

tion and the expected distribution (Kerr, Hall and Kozub, 2002). The contingency tables provided the observed and the expected frequencies, and the Pearson's chi-square test of significance, assessed the association between the two variables.

Composite scores were created for each of the variables of interest by participant type (TA and P): Substance Use, Individual Well-Being, Relationship Intimacy, Relationship Quality, and Relationship Conflict. Because measures differed from pre-test to post-test, standardized z-scores were created for each outcome variable at baseline.

Testing research question one. Pretest differences in each treatment group with respect to substance use, individual wellbeing, relationship quality, relationship intimacy, and relationship conflict were analyzed using multivariate analysis of variance (MANOVA). This statistical test finds the significant differences in the set of dependent measures across the treatment groups. Therefore, two separate MANOVA tests were conducted to assess for the significant differences on each of the dependent variables, separately by participant type (TA vs. P). MANOVA evaluates differences among centroids for a set of dependent variables. The significance of the multivariate F was assessed by the Wilks' lambda reported by SPSS MANOVA. According to Tabachnick and Fidell (2001), Wilks' lambda is a likelihood ratio statistic that is most commonly used criteria for significance inference. "It tests the likelihood of the data under the assumption of equal population mean vectors for all groups against the likelihood under the assumption that population mean vectors are identical to those of the sample mean vectors for different groups. Wilks' lambda is the pooled ratio of effect variance to error variance" (Tabachnick & Fidell, 2001, p.348).

Testing research question two. A series of repeated measures analyses of covariance (ANCOVA) were completed on follow up scores, across all three time points (e.g., week one,

week two, and week three) to identify significant between and within group differences as well as interaction effects across treatment groups and to identify change over time on each outcome variable: Substance Use (SU), Individual Well-Being (IWB), Relationship Intimacy (RI), Relationship Quality (RQ), and Relationship Conflict (RC). Baseline data from each specific outcome variable was used as a covariate. The repeated-measures ANCOVA is used to test effects of a continuous dependent variable measured several times while controlling for the effect of other continuous variables which co-vary with the dependent variable. The *F*-test of significance is used to assess the effects of the covariate(s) and time. If significance is found, comparison of the original and adjusted means can provided information about the role of covariates. Because predictable variances known to be associated with the dependent variable are removed from the error term, ANCOVA increases the power of the *F* test for the main effect or interaction. Essentially, it removes the undesirable variance in the dependent variable. The assumptions of ANCOVA include: the dependent variable must be continuous/interval and normally distributed, which will be checked with skewness and kurtosis values; the relationship between the covariate(s) and the dependent variable should be linear, which was assessed by a scatterplot; and sphericity, which was assessed through Mauchly's Test of Sphericity.

Testing research question three. If significance is found on any comparisons of the original and adjusted means about the interaction effect of treatment group and time, paired samples t-tests will be completed to investigate the temporal relationships by group. Paired samples t-tests will be used to identify within-subjects differences across the three follow-up weeks of phone assessments.

CHAPTER IV

RESULTS

Study findings are presented in three sections. The process of cleaning data and testing assumptions are discussed first, followed by the multivariate analysis of variance (MANOVA) approach to understand baseline differences, and the Repeated Measures Analysis of Covariance (RM-ANCOVA) to understand treatment effects over time.

Initial Analyses

Data were reviewed for accuracy and missingness using frequencies and descriptive statistics. Each item that was later used to create the composite outcome variables was assessed for missing data using Little's (1988) MCAR (missing completely at random) test. Results showed that there were no missing data on the two items that comprised the substance use outcome variable and the three items that comprised the individual wellbeing outcome variable. There were missing data for items comprising the relationship quality, relationship intimacy, and relationship conflict outcome variables. Little's (1988) MCAR tests were not statistically significant for any of the variables, indicating that data were MCAR [relationship quality: χ^2 (50) =44.50, p = .69; relationship intimacy: χ^2 (33) =23.03, p = .90; and relationship conflict: χ^2 (34) =41.85, p = .17].

The prevalence of missing data also was low in count (missing counts ranged from 1 to 5 with 5 being the highest number of missing scores for an item) because the PI checked for missing data during data collection (e.g., PI and other interventionists reviewed skipped questionnaire items with participants during their individual sessions). Due to the lack of identifiable pattern in missing data, missing indicator data were replaced with the series mean for that item. Although mean substitution is perceived to increase bias and create deflated standard errors (McDonald, Thurston, & Nelson, 2000; Pigott, 2001; Streiner, 2002), mean substitution is considered an ap-

propriate strategy when there are only a small number of missing cases and when the overall sample size is small (Saunders, Morrow-Howell, Spitznagel, Dore, Proctor, & Pescarino, 2006).

Assumptions testing. Data were tested for univariate and multivariate outliers, multivariate normality, homoscedasticity, homogeneity of variance, homogeneity of variance-covariance matrices, and multicollinearity and singularity. Univariate outliers were identified by examining *z* scores and histograms. The Mahalanobis distance test, box plots, and standard deviations were used to identify multivariate outliers for each outcome variable. Critical cut off values for the outliers were computed using the Mahalanobis Distance critical chi-square values with the appropriate group sample size and an alpha level of .01.

Scores from one intervention couple were excluded from all analyses because the target adult's baseline scores on the individual wellbeing and relationship quality indicator variables were more than three standard deviations higher than the sample mean for couples in the intervention group, and the partner's baseline report of relationship intimacy indicator scores were three standard deviations lower than the sample mean. For post-test relationship intimacy, data from one intervention target adult were removed because the partner's score was four standard deviations above the sample mean, suggesting that the partner may have been responding in an unreliable manner. For post-test substance use, data from two partners assigned to the intervention group were removed because their scores were three standard deviations above the sample mean.

Normality was tested by reviewing the skewness, kurtosis, and Shapiro-Wilk test of normality (Shapiro & Wilk, 1965) for each indicator and composite variable. The following transformations were used based on the degree of skewness: Square root (moderate skewness), Log10 (substantial skewness), and Inverse method (severe skewness). See Table 7 for transformed in-

dicator means, standard deviations, skewness, and kurtosis. The TA Relationship Quality composite score also was transformed using square root transformation. Homoscedasticity was assessed and confirmed using scatterplots. Homogeneity of variance was tested and confirmed using Levene's test of variance. Homogeneity of variance-covariance matrices was tested and confirmed using Box's M test.

Bivariate correlations among baseline indicators are provided in Table 8. Baseline correlations among the indicators revealed there were no correlations above .90, rejecting the presence of multicollinearity and singularity. Baseline correlations on the substance use indicators were small ranging from .02 to .26 indicating no correlation, however, to give priority to using the most similar baseline and follow up items, these items were kept. Also, the substance use composite comprised originally three indicators, but target adults and their partners at baseline and follow-up (no use reported) made nominal reports of other drug use. The third indicator of "how often did you use other drugs in the last three months," therefore, was not included in further analyses due to zero reports of other drug use at follow up. Moderate to strong correlations among the relationship quality, intimacy, and conflict indicators suggest that the indicators were related to one another at least to a moderate degree and appropriate for creating the composite variables.

Correlations for the remaining indicators were as follows: correlations among the individual well-being composite variable indicators ranged from -.02 to -.30; correlations among the relationship quality indicators ranged from .21 to .75; relationship intimacy indicator correlations ranged from .47 to .66; and correlations among the relationship conflict indicators ranged from .50 to .77. The moderate to strong correlations among the relationship quality, intimacy, and

conflict indicators suggest that the indicators were related to one another at least to a moderate degree and appropriate for creating the composite variables.

Table 7

Means, Standard Deviations, Skewness, and Kurtosis of Each Composite Variable Indicator

Outcome Variable by Indicators	*M*	*SD*	Skewness	S.E.	Kurtosis	S.E.
Substance Use						
TA: How often did you drink alcohol in the last 3 months?	4.18	1.75	-1.12	.40	.38	.79
TA: How often did you use marijuana in the last 3 months?	3.09	2.88	.22	.40	-1.69	.79
Partner: How often did you drink alcohol in the last 3 months?	3.38	1.92	-.20	.40	-1.15	.79
Partner: How often did you use marijuana in the last 3 months?	3.00	3.03	.24	.40	-1.82	.79
Individual Well Being						
TA: # of hours working at a job for pay?	23.29	14.90	-.04	.40	-1.12	.79
TA: # of hours in structured educational activities such as vocational school, college, or university?	5.38	8.23	1.14	.40	-.29	.79
TA: # of hours hanging out with friends?	8.62	14.16	**4.12**	.40	**20.26**	.79
Partner: # of hours working at a job for pay?	23.35	19.74	.16	.40	-1.21	.79
Partner: # of hours in structured educational activities such as vocational school, college, or university?	4.26	9.33	**3.16**	.40	**11.90**	.79
Partner: # of hours hanging out with friends?	6.12	8.48	2.45	.40	7.27	.79
Relationship Quality						
TA: Dyadic Satisfaction Subscale	38.92	5.97	-1.38	.40	3.75	.79
Partner: Dyadic Satisfaction Subscale	40.86	4.26	.04	.40	.44	.79

Note. Scores in bold were transformed using Log10 transformation. S.E. = Standard Error.

Table 7

Outcome Variable by Indicators	*M*	*SD*	Skewness	S.E.	Kurtosis	S.E.
Relationship Intimacy						
TA: Dyadic Consensus Subscale	49.46	7.28	-.45	.40	.34	.79
TA: Dyadic Affection Expression Subscale	9.09	2.32	-1.05	.40	1.12	.79
TA: Dyadic Cohesion Subscale	17.94	3.07	-.68	.40	.27	.79
TA: Romantic Partner Dynamic Scale	3.62	.41	-1.13	.40	.39	.79
Partner: Dyadic Consensus Subscale	48.61	8.35	-.11	.40	-.41	.79
Partner: Affection Expression Subscale	9.25	2.38	-.70	.40	-.31	.79
Partner: Dyadic Cohesion Subscale	17.42	3.73	-.13	.40	-.99	.79
Partner: Romantic Partner Dynamic Scale	3.41	.51	-1.04	.40	.54	.79
Relationship Conflict						
TA: Self-Reasoning	9.62	2.67	-.06	.40	-.18	.79
TA: Partner-Reasoning	8.70	2.25	.30	.40	.99	.79
TA: Self-Verbal Aggression	15.86	6.84	.73	.40	-.31	.79
TA: Partner-Verbal Aggression	13.91	6.27	.84	.40	-.13	.79
Partner: Self-Reasoning Sum	9.50	2.64	-.24	.40	-.27	.79
Partner: Partner-Reasoning	9.37	2.75	-.22	.40	-.50	.79
Partner: Self-Verbal Aggression	13.85	6.22	.98	.40	.16	.79
Partner: Partner-Verbal Aggression	15.50	7.07	.66	.40	-.25	.79

Note. TA refers to the target adult who initiated study participation while Partner refers to the consenting partner. Scores in bold were transformed using Log10 transformation. S.E. = Standard Error.

Table 8

Baseline Correlations by Indicator

	1	2	3	4	5	6	7	8	9	10	11	12	13	14
1	1													
2	.26	1												
3	.25	.02	1											
4	-.09	.19	.02	1										
5	.19	.01	.19	-.31	1									
6	-.12	.00	.05	-.13	-.02	1								
7	-.07	.17	.08	.07	-.30	-.16	1							
8	-.17	-.12	-.10	-.14	**.37***	-.14	.05	1						
9	.27	-.25	**.45****	.15	-.28	-.05	-.05	**-.40***	1					
10	.21	.22	.26	-.18	.01	.29	.06	-.17	-.13	1				
11	-.03	-.06	-.14	.12	-.21	.02	.27	-.10	-.03	.12	1			

Note. *$p < .05$. **$p < .01$. TA refers to the target adult who initiated study participation. Partner refers to the consenting partner. **Substance Use** 1. TA: How often did you drink alcohol in the last 3 months? 2. TA: How often did you use marijuana in the last 3 months? 3. Partner: How often did you drink alcohol in the last 3 months? 4. Partner: How often did you use marijuana in the last 3 months? **Individual Well Being** 5. TA: # of hours working at a job for pay? 6. TA: # of hours in structured educational activities such as vocational school, college, or university? 7. TA: # of hours hanging out with friends? 8. Partner: # of hours working at a job

for pay? 9. Partner: # of hours in structured educational activities such as vocational school, college, or university? 10. Partner: # of hours hanging out with friends? **Relationship Quality** 11. TA: Dyadic Satisfaction 12.Partner: Dyadic Satisfaction Relationship Intimacy. **Relationship Intimacy** 13.TA: Dyadic Consensus 14. TA: Dyadic Affection Expression 15. TA: Dyadic Cohesion 16. TA: Romantic Partner Dynamic Scale 17. Partner: Dyadic Consensus 18. Partner: Affection Expression 19. Partner: Dyadic Cohesion 20. Partner: Romantic Partner Dynamic Scale. **Relationship Conflict** 21. TA: Self-Reasoning 22. TA: Partner-Reasoning 23. TA: Self-Verbal Aggression 24. TA: Partner-Verbal Aggression 25. Partner: Self-Reasoning Sum 26. Partner: Partner-Reasoning 27. Partner: Self-Verbal Aggression 28. Partner: Partner-Verbal Aggression.

Table 8

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
12	.08	-.04	.06	.02	-.07	-.25	.26	-.14	.09	-.00	**.55***	1			
13	.02	-.07	-.19	-.09	-.02	.08	.09	-.16	.17	-.04	**.48***	**.56****	1		
14	-.11	.04	-.10	.11	**-.42***	.21	.20	-.28	.04	.26	**.69***	**.44****	**.47****	1	
15	**.35***	.24	-.05	.11	.06	-.15	.13	.17	-.04	.11	**.40***	**.42***	.27	.29	1
16	.15	.06	-.16	-.05	-.20	.05	.20	-.20	.13	.22	**.72****	**.53****	**.60****	**.54****	**.58****
17	.28	.18	-.17	-.13	.08	-.29	-.06	-.01	.14	-.03	.22	**.53****	**.66****	.12	**.38***
18	.22	.23	-.31	.21	**-.43***	.01	.10	-.27	.23	.04	**.39***	**.40***	**.57****	**.51****	**.47****
19	-.01	-.03	-.23	.06	.07	-.17	.11	.12	.18	-.22	.33	**.53****	**.55****	.29	**.39***
20	.30	.13	**-.36***	-.30	-.08	-.20	.00	-.05	.08	.01	.17	.30	**.49****	.15	.25
21	-.04	-.18	.09	.00	.22	-.02	-.30	.20	.18	-.23	-.13	-.30	**-.42***	-.23	-.00
22	.11	-.14	.19	.03	.31	.06	-.22	.16	.19	-.10	-.11	-.20	-.24	-.13	-.02

Note. *$p < .05$. **$p < .01$. TA refers to the target adult who initiated study participation. Partner refers to the consenting partner. **Substance Use** 1. TA: How often did you drink alcohol in the last 3 months? 2. TA: How often did you use marijuana in the last 3 months? 3. Partner: How often did you drink alcohol in the last 3 months? 4. Partner: How often did you use marijuana in the last 3 months? **Individual Well Being** 5. TA: # of hours working at a job for pay? 6. TA: # of hours in structured educational activities such as vocational school, college, or university? 7. TA: # of hours hanging out with friends? 8. Partner: # of hours working at a job for

pay? 9. Partner: # of hours in structured educational activities such as vocational school, college, or university? 10. Partner: # of hours hanging out with friends? **Relationship Quality** 11. TA: Dyadic Satisfaction 12.Partner: Dyadic Satisfaction Relationship Intimacy. **Relationship Intimacy** 13.TA: Dyadic Consensus 14. TA: Dyadic Affection Expression 15. TA: Dyadic Cohesion 16. TA: Romantic Partner Dynamic Scale 17. Partner: Dyadic Consensus 18. Partner: Affection Expression 19. Partner: Dyadic Cohesion 20. Partner: Romantic Partner Dynamic Scale. **Relationship Conflict** 21. TA: Self-Reasoning 22. TA: Partner-Reasoning 23. TA: Self-Verbal Aggression 24. TA: Partner-Verbal Aggression 25. Partner: Self-Reasoning Sum 26. Partner: Partner-Reasoning 27. Partner: Self-Verbal Aggression 28. Partner: Partner-Verbal Aggression.

Table 8

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
23	.11	-.07	.17	.15	.16	-.03	-.13	.16	.01	-.15	**-.41***	**-.43***	**-.67****	**-.48****	-.09
24	.23	.15	.14	.07	.11	-.02	-.02	.24	.03	-.03	**-.51****	**-.50****	**-.65****	**-.47****	-.12
25	.16	-.24	.13	-.24	.21	-.20	-.07	**.45****	.16	-.27	-.05	-.09	-.32	-.25	.02
26	.12	-.27	.29	-.32	.32	-.13	.01	**.43***	.12	-.15	-.07	-.11	-.32	-.27	-.17
27	.20	.12	.32	-.23	.22	-.04	.04	.29	.01	.02	-.32	-.30	-.31	-.19	-.26
28	-.03	-.13	.18	-.10	.26	.09	-.13	.33	-.11	-.12	-.24	-.27	**-.46****	**-.38***	-.29

Note. *$p < .05$. **$p < .01$. TA refers to the target adult who initiated study participation. Partner refers to the consenting partner. **Substance Use** 1. TA: How often did you drink alcohol in the last 3 months? 2. TA: How often did you use marijuana in the last 3 months? 3. Partner: How often did you drink alcohol in the last 3 months? 4. Partner: How often did you use marijuana in the last 3 months? **Individual WellBeing** 5. TA: # of hours working at a job for pay? 6. TA: # of hours in structured educational activities such as vocational school, college, or university? 7. TA: # of hours hanging out with friends? 8. Partner: # of hours working at a job for pay? 9. Partner: # of hours in structured educational activities such as vocational school, college, or university? 10. Partner: # of hours hanging out with friends? **Relationship Quality** 11. TA: Dyadic Satisfaction 12.Partner: Dyadic Satisfaction Relationship Intimacy. **Relationship Intimacy.** 13.TA: Dyadic Consensus 14. TA: Dyadic Affection Expression 15. TA: Dyadic Cohesion 16. TA: Romantic Partner Dynamic Scale 17. Partner: Dyadic Consensus 18. Partner: Affection Expression 19. Partner: Dyadic Cohesion 20. Partner: Romantic Partner Dynamic Scale. **Relationship Conflict** 21. TA: Self-Reasoning 22. TA: Partner-Reasoning 23. TA: Self-Verbal Aggression 24. TA: Partner-Verbal Aggression 25. Partner: Self-Reasoning Sum 26. Partner: Partner-Reasoning 27. Partner: Self-Verbal Aggression 28. Partner: Partner-Verbal Aggression.

Table 8

	16	17	18	19	20	21	22	23	24
16	1								
17	**.43***	1							
18	**.51****	**.53****	1						
19	**.39***	**.54****	**.39***	1					
20	.27	**.67****	**.62****	.30	1				
21	-.10	**-.40***	-.32	.01	**-.38***	1			
22	-.06	-.30	-.27	.07	**-.37***	**.77****	1		
23	**-.35***	**-.60****	**-.50****	**-.40***	**-.56****	**.62****	**.55****	1	
24	**-.43***	**-.44****	-.23	-.31	-.32	**.50****	**.52****	**.71****	1

Note. **p* < .05. ***p* < .01. TA refers to the target adult who initiated study participation. Partner refers to the consenting partner. **Substance Use** 1. TA: How often did you drink alcohol in the last 3 months? 2. TA: How often did you use marijuana in the last 3 months? 3. Partner: How often did you drink alcohol in the last 3 months? 4. Partner: How often did you use marijuana in the last 3 months? **Individual Well Being** 5. TA: # of hours working at a job for pay? 6. TA: # of hours in structured educational activities such as vocational school, college, or university? 7. TA: # of hours hanging out with friends? 8. Partner: # of hours working at a job for pay? 9. Partner: # of hours in structured educational activities such as vocational school, college, or university? 10. Partner: # of hours hanging out with friends? **Relationship Quality** 11. TA: Dyadic Satisfaction 12.Partner: Dyadic Satisfaction Relationship Intimacy. **Relationship Intimacy** 13.TA: Dyadic Consensus 14. TA: Dyadic Affection Expression 15. TA: Dyadic Cohesion 16. TA: Romantic Partner Dynamic Scale 17. Partner: Dyadic Consensus 18. Partner: Affection Expression 19. Partner: Dyadic Cohesion 20. Partner: Romantic Partner Dynamic Scale. **Relationship Conflict** 21. TA: Self-Reasoning 22. TA: Partner-Reasoning 23. TA: Self-Verbal Aggression 24. TA: Partner-Verbal Aggression 25. Partner: Self-Reasoning Sum 26. Partner: Partner-Reasoning 27. Partner: Self-Verbal Aggression 28. Partner: Partner-Verbal Aggression

Table 8

	16	17	18	19	20	21	22	23	24
25	-.11	-.10	-.25	.10	-.13	**.48****	**.41***	**.38***	**.42***
26	-.17	-.23	**-.47****	.02	-.32	**.44****	**.46****	**.39***	**.40***
27	-.31	-.20	-.31	-.13	-.21	.31	**.41***	**.36***	**.63****
28	-.32	**-.42***	**-.56****	-.22	**-.51****	**.49****	**.46****	**.69****	**.58****

Note. *$p < .05$. **$p < .01$. TA refers to the target adult who initiated study participation. Partner refers to the consenting partner. **Substance Use** 1. TA: How often did you drink alcohol in the last 3 months? 2. TA: How often did you use marijuana in the last 3 months? 3. Partner: How often did you drink alcohol in the last 3 months? 4. Partner: How often did you use marijuana in the last 3 months? **Individual Well Being** 5. TA: # of hours working at a job for pay? 6. TA: # of hours in structured educational activities such as vocational school, college, or university? 7. TA: # of hours hanging out with friends? 8. Partner: # of hours working at a job for pay? 9. Partner: # of hours in structured educational activities such as vocational school, college, or university? 10. Partner: # of hours hanging out with friends? **Relationship Quality** 11. TA: Dyadic Satisfaction 12.Partner: Dyadic Satisfaction Relationship Intimacy. **Relationship Intimacy** 13.TA: Dyadic Consensus 14. TA: Dyadic Affection Expression 15. TA: Dyadic Cohesion 16. TA: Romantic Partner Dynamic Scale 17. Partner: Dyadic Consensus 18. Partner: Affection Expression 19. Partner: Dyadic Cohesion 20. Partner: Romantic Partner Dynamic Scale. **Relationship Conflict** 21. TA: Self-Reasoning 22. TA: Partner-Reasoning 23. TA: Self-Verbal Aggression 24. TA: Partner-Verbal Aggression 25. Partner: Self-Reasoning Sum 26. Partner: Partner-Reasoning 27. Partner: Self-Verbal Aggression 28. Partner: Partner-Verbal Aggression

Table 8

	25	26	27	28
25	1			
26	**.89****	1		
27	**.53****	**.56****	1	
28	**.63****	**.66****	**.71****	1

Note. *$p < .05$. **$p < .01$. TA refers to the target adult who initiated study participation. Partner refers to the consenting partner. **Substance Use** 1. TA: How often did you drink alcohol in the last 3 months? 2. TA: How often did you use marijuana in the last 3 months? 3. Partner: How often did you drink alcohol in the last 3 months? 4. Partner: How often did you use marijuana in the last 3 months? **Individual Well Being** 5. TA: # of hours working at a job for pay? 6. TA: # of hours in structured educational activities such as vocational school, college, or university? 7. TA: # of hours hanging out with friends? 8. Partner: # of hours working at a job for pay? 9. Partner: # of hours in structured educational activities such as vocational school, college, or university? 10. Partner: # of hours hanging out with friends? **Relationship Quality** 11. TA: Dyadic Satisfaction 12.Partner: Dyadic Satisfaction Relationship Intimacy. **Relationship Intimacy** 13.TA: Dyadic Consensus 14. TA: Dyadic Affection Expression 15. TA: Dyadic Cohesion 16. TA: Romantic Partner Dynamic Scale 17. Partner: Dyadic Consensus 18. Partner: Affection Expression 19. Partner: Dyadic Cohesion 20. Partner: Romantic Partner Dynamic Scale. **Relationship Conflict** 21. TA: Self-Reasoning 22. TA: Partner-Reasoning 23. TA: Self-Verbal Aggression 24. TA: Partner-Verbal Aggression 25. Partner: Self-Reasoning Sum 26. Partner: Partner-Reasoning 27. Partner: Self-Verbal Aggression 28. Partner: Partner-Verbal Aggression.

Pearson *r* correlations among study composite variable baseline scores, for all participants, revealed that many composites were significantly correlated with one another at least to a moderate degree. The highest statistically significant correlation at baseline was the strong positive correlation between partners' report of relationship intimacy and target adults' report of relationship intimacy (r =.75, $p < .01$). The lowest statistically significant correlation at baseline was the negative moderate correlation between target adults' report of relationship quality and partners' report of relationship intimacy (r = -.35, $p < .05$). This negative correlation suggests that although partners may report engagement in behaviors that would promote relationship intimacy (e.g., displaying affection toward other, sharing project ideas with one another), target adults may still report low relationship quality (e.g., regretting living together or being married, rarely confiding in partner).

Table 9

Correlations Among Outcome Variables at Baseline for All Study Participants (n = 68 individuals)

Variable	1	2	3	4	5	6	7	8	9	10
1. TA Substance Use	__									
2. TA Individual Well Being	.13	__								
3. TA Relationship Quality	.04	-.14	__							
4. TA Relationship Intimacy	.09	.12	**-.57****	__						
5. TA Relationship Conflict	.05	.04	**.43***	**-.58****	__					
6. Partner Substance Use	.16	-.09	-.08	-.13	.18	__				
7. Partner Individual Well Being	-.10	.24	.00	.01	.23	-.01	__			
8. Partner Relationship Quality	.01	.04	-**.58****	**.61****	**-.47***	.04	-.10	__		
9. Partner Relationship Intimacy	.20	-.06	**-.35***	**.75****	**-.53***	-.17	.07	**.59****	__	
10. Partner Relationship Conflict	-.02	.18	.29	**-.44****	**.66****	-.04	**.39***	-.27	-.29	__

Note. TA refers to the target adult who initiated study participation while Partner refers to the consenting partner. Correlations are for baseline composite scores. *$p < .05$, **$p < .01$.

Main Data Analyses

The means and standard deviations for each outcome variable and for each of the factorial groups (*Group* by *Time*) are summarized in Table 10. Main study analyses are discussed by research question.

Research question 1. At baseline, were there significant experimental group differences on participants' reports of substance use, individual well-being, relationship intimacy, relationship quality, and relationship conflict?

Two MANOVAs were completed to: (a) identify experimental group differences in target adults' baseline responses on the outcome variables and (b) to identify experimental group differences in partners' baseline responses on the outcome variables. Outcome variables were substance use, individual wellbeing, relationship intimacy, relationship quality, and relationship conflict. Results indicated that target adults in the control and the RCU intervention group did not significantly differ on baseline reports of substance use, $F(1, 32) = 1.16$, $p = .29$, individual well-being, $F(1, 32)=2.92$, $p = .10$, relationship intimacy, $F(1, 32) = .01$, $p = .93$, relationship quality, $F(1, 32) = 2.92$, $p=.10$, or relationship conflict, $F(1, 32) = .39$, $p = .54$. The overall baseline scores for target early adults were not significantly different by group type, Wilks' Lambda = .73, $F(5, 28) = 2.13$, $p = .09$. Results also indicated that early adult partners in the control and the RCU intervention group did not significantly differ on baseline reports of substance use, $F(1, 32) = 1.31$, $p = .26$, individual well-being, $F(1, 32) = .2.37$, $p = .13$, relationship intimacy, $F(1, 32) = .11$, $p=.74$, relationship quality, $F(1, 32) = .00$, $p = .96$, and relationship conflict, $F(1, 32) = .62$, $p = .44$. The overall pretest scores for early adult partners were not statistically different by group type, Wilks' Lambda = .90, $F(5, 28) = .64$, $p = .68$. In sum, there were no baseline score

differences between the control and the intervention groups on any outcome variable. See Table 11 for baseline analyses.

Table 10

Means and Standard Deviations for Each Outcome Variable by Group

Variable	Baseline *M* (*SD*)		Follow-Up 1 *M* (*SD*)		Follow-Up 2 *M* (*SD*)		Follow-Up 3 *M* (*SD*)	
	Control	RCU	Control	RCU	Control	RCU	Control	RCU
TA Substance Use	6.33	8.31	.67	.81	1.00	.88	1.06	.44
	(3.93)	(3.30)	(1.09)	(.91)	(1.14)	(1.15)	(1.83)	(.63)
TA Individual Well Being	42.56	31.37	18.22	18.97	17.28	18.66	16.67	18.25
	(11.39)	(22.13)	(3.69)	(4.79)	(5.14)	(5.46)	(4.64)	(3.92)
TA Relationship Quality	37.17	40.87	21.94	25.06	23.67	25.69	24.61	25.88
	(6.83)	(4.20)	(8.07)	(7.16)	(8.33)	(8.88)	(8.79)	(9.00)
TA Relationship Intimacy	69.55	69.29	17.72	17.69	18.83	18.19	19.06	19.06
	(9.20)	(7.36)	(2.35)	(2.24)	(1.82)	(2.43)	(1.16)	(3.55)
TA Relationship Conflict	49.67	46.31	6.44	5.50	5.50	4.81	4.06	4.94
	(16.06)	(15.12)	(5.06)	(4.53)	(5.14)	(4.20)	(3.37)	(3.87)

Note. TA refers to the target adult who initiated study participation. *Possible baseline score ranges*: Substance Use—0-8; Individual Wellbeing—0-99; Relationship Quality—0-50; Relationship Intimacy—0-105; Relationship Conflict: 0-104. *Possible follow-up score range*: Substance Use—1-10; Individual Well Being—0-68; Relationship Quality—0-44; Relationship Intimacy—0-20; Relationship Conflict—0-21. Higher scores on individual wellbeing, relationship intimacy, and relationship quality, and lower scores on substance use and relationship conflict indicate more positive adjustment.

Table 10

Variable	Baseline *M* (*SD*)		Follow-Up 1 *M* (*SD*)		Follow-Up 2 *M* (*SD*)		Follow-Up 3 *M* (*SD*)	
	Control	RCU	Control	RCU	Control	RCU	Control	RCU
Partner Substance Use	4.94	6.00	1.22	.75	1.56	1.25	.94	.94
	(3.65)	(2.90)	(1.31)	(.93)	(1.15)	(2.21)	(2.33)	(1.98)
Partner Individual Wellbeing	33.89	33.56	19.08	21.03	19.89	19.00	21.00	21.00
	(19.04)	(17.40)	(6.18)	(7.36)	(4.96)	(7.07)	(5.69)	(6.26)
Partner Relationship Quality	40.82	40.89	24.97	22.38	23.89	22.00	22.50	24.38
	(4.10)	(4.58)	(7.43)	(7.59)	(7.84)	(6.49)	(9.11)	(6.84)
Partner Relationship Intimacy	67.75	66.50	19.11	17.75	18.56	17.38	18.17	18.25
	(11.54)	(10.26)	(1.28)	(4.36)	(1.62)	(2.53)	(3.37)	(1.73)
Partner Relationship Conflict	50.31	45.87	6.11	5.69	5.78	5.81	5.83	5.50
	(16.36)	(16.30)	(3.85)	(4.00)	(3.86)	(3.89)	(4.46)	(3.81)

Note. Partner refers to the consenting partner. *Possible baseline score ranges*: Substance Use—0-8; Individual Wellbeing—0-99; Relationship Quality—0-50; Relationship Intimacy—0-105; Relationship Conflict: 0-104. *Possible follow-up score range*: Substance Use—1-10; Individual Well Being—0-68; Relationship Quality—0-44; Relationship Intimacy—0-20; Relationship Conflict—0-21. Higher scores on individual wellbeing, relationship intimacy, and relationship quality, and lower scores on substance use and relationship conflict indicate more positive adjustment.

Table 11

Multivariate Analysis of Variance for Baseline Differences Between Control and Intervention Group

Variable	Sum of Squares	*df*	*M* of squares	*F* (1, 32)	*p*	Partial η^2	Observed power
TA Substance Use	.16	1	.16	1.16	.29	.04	.18
TA Individual Well Being	811.38	1	811.38	2.92	.10	.08	.38
TA Relationship Quality	2.84	1	2.84	2.92	.10	.08	.38
TA Relationship Intimacy	.59	1	.59	.01	.93	.00	.05
TA Relationship Conflict	95.30	1	95.30	.39	.54	.01	.09
Partner Substance Use	.11	1	.11	1.31	.26	.04	.20
Partner Individual Well Being	862.52	1	862.52	2.37	.13	.07	.32
Partner Relationship Quality	.04	1	.04	.00	.96	.00	.05
Partner Relationship Intimacy	13.33	1	13.33	.11	.74	.00	.06
Partner Relationship Conflict	166.32	1	166.32	.62	.44	.02	.12

Note. TA refers to the target adult who initiated study participation. Partner refers to the consenting partner. There were no baseline differences among the control and the RCU intervention group on any outcome variable.

Research question 2: The following main and interaction affects were tested. Group main effect: Do participants' outcome scores differ by experimental group? Time main effect: Do participants' outcome scores differ at week 1, 2, or 3? Interaction between group and time: Do participants' outcome scores differ by experimental group at week 1, 2, or 3?

A two-way within-subjects analysis of co-variance (ANCOVA) was conducted to evaluate the effect of group type (control vs. intervention) and time of assessment on each of the outcome variables. The dependent variables were target adults' and partners' reports of substance use, individual wellbeing, relationship intimacy, relationship quality, and relationship conflict at follow up week 1, 2, and 3. The within-subjects factors were group type (control versus intervention) and time of follow-up assessment (week 1, 2, or 3). Baseline scores on each outcome variable were used as covariates. The main effects and interaction effects were tested using the multivariate criterion of Wilks' lambda (Λ).

Target adults' substance use. The Group main effect Λ=.98, F (1, 13) =.27, p = .62, the Time main effect Λ = .93, F (2, 12) = .49, p = .63, and the Group X Time interaction effect were all nonsignificant Λ = 3.52, F(2, 12) = 3.52, p = .06. These results indicate that target adults' reports of substance use did not differ by experimental group; by time – follow-up weeks 1, 2, or 3; or by experimental group across the follow-up time points, weeks 1, 2, and 3.

Partners' substance use. The Group main effect Λ=.91, F (1, 13) =1.24, p = .29, the Time main effect Λ = .68, F (2, 12) = 2.28, p = .10, and the Group X Time interaction effect Λ = .91, F(2, 12) = .61, p = .56 were nonsignificant. These results indicate that partners' reports of substance use did not differ by experimental group; by time – follow-up weeks 1, 2, or 3; or by experimental group across the follow-up time points, weeks 1, 2, and 3.

Target adults' individual wellbeing. The Group main effect Λ=.97, F (1, 13) =.41, p = .53, the Time main effect Λ = .96, F (2, 12) = .24, p = .79, and the Group X Time interaction effect Λ = .93, F(2, 12) = .45, p = .65 were all nonsignificant. These results indicate that target adults' reports of individual wellbeing did not differ by experimental group; by time – follow-up weeks 1, 2, or 3; or by experimental group across the follow-up time points, weeks 1, 2, and 3.

Partners' individual wellbeing. The Group main effect Λ=.91, F (1, 13) =1.14, p = .30, the Time main effect Λ = 1.00, F (2, 12) = 1.00, p = .97, and the Group X Time interaction effect Λ = .97, F(2, 12) = .14, p = .87 were all nonsignificant. These results indicate that partners' reports of individual wellbeing did not differ by experimental group; by time – follow-up weeks 1, 2, or 3; or by experimental group across the follow-up time points, weeks 1, 2, and 3.

Target adults' relationship intimacy. The Group main effect Λ=.98, F (1, 13) =.34, p = .57, and the Group X Time interaction effect Λ = .83, F(2, 12) = 1.26, p = .32 were nonsignificant. The Time main effect was not significant Λ = .64, F (2, 12) = 3.34, p = .07. These results indicate that target adults' reports of relationship intimacy did not differ by experimental group; by time – follow-up weeks 1, 2, or 3; or by experimental group across the follow-up time points, weeks 1, 2, and 3.

Partners' relationship intimacy. The Group main effect Λ=.99, F (1, 13) =.19, p = .67, Time main effect Λ = .78, F (2, 12) = 1.69, p = .23, and the Group X Time interaction effect Λ = .97, F(2, 12) = .16, p = .86 was nonsignificant. These results indicate that partners' reports of relationship intimacy did not differ by experimental group; by time – follow-up weeks 1, 2, or 3; or by experimental group across the follow-up time points, weeks 1, 2, and 3.

Target adults' relationship quality. The Group main effect Λ=.98, F (1, 13) =.30, p = .59, the Time main effect Λ = .79, F (2, 12) = 1.59, p = .24, and the Group X Time interaction effect Λ = .94, F(2, 12) = .36, p = .71 were nonsignificant. These results indicate that target adults' reports of relationship quality did not differ by experimental group; by time – follow-up weeks 1, 2, or 3; or by experimental group across the follow-up time points, weeks 1, 2, and 3.

Partners' relationship quality. Partialling out the baseline scores, the Group main effect Λ = .98, F (1, 13) = .37, p = .55, and the Time main effect Λ = .76, F (2, 12) = 1.87, p = .20 was nonsignificant. The Group X Time interaction effect Λ = .51, F (2, 12) = 5.79, $p < .05$ was significant. These results indicate that partners' reports of relationship quality did not differ by experimental group or by time – follow-up weeks 1, 2, or 3. But, partners' reports of relationship quality differed significantly by experimental group across the follow-up time points, weeks 1, 2, and 3.

Target adults' relationship conflict. The Group main effect Λ = 1.00, F (1, 13) = .03, p = .87, and the Time main effect Λ = .85, F (2, 12) = 1.09, p = .37 were nonsignificant. The Group X Time interaction effect was significant Λ = .60, F (2, 12) = 3.98, $p < .05$. These results indicate that target adults' reports of relationship conflict did not differ by experimental group or by time – follow-up weeks 1, 2, or 3. But, target adults' reports of relationship conflict differed significantly by experimental group across the follow-up time points, weeks 1, 2, and 3.

Partners' relationship conflict. The Group main effect Λ = .96, F (1, 13) = .51, p = .49, the Time main effect Λ = .72, F (2, 12) = 2.37, p = .14 and the Group X Time interaction effect Λ = .89, F (2, 12) = .73, p = .50 were not significant. These results indicate that partners' reports of

relationship conflict did not differ by experimental group; by time – follow-up weeks 1, 2, or 3; or by experimental group across the follow-up time points, weeks 1, 2, and 3.

Research question 3*:* Are there within-group differences on participant's outcome variables at week one, two, and three of follow up?

Three paired-samples *t* tests were conducted to follow up the significant interactions found on partners' report of relationship quality and target adults' report of relationship conflict. Familywise error rate across these tests was controlled by using Holm's sequential Bonferroni approach. Differences in mean ratings of partners' report of relationship quality between the two treatment groups were not significantly different between week 1 and 2, $t(15) = .43$, $p = .67$, week 1 and 3, $t(15) = 1.56$, $p = .14$, or week 2 and 3, $t(15) = 1.26$, $p = .23$. Differences in mean ratings of target adults' report of relationship conflict were not significantly different from week 1 to 2, $t(15) = 1.59$, $p = .13$, or from week 2 to week 3, $t(15) = 1.21$, $p = .25$, but were significantly different from week 1 to 3, $t(15) = 2.55$, $p < .05$. Table 10 shows that although target adults' relationship conflict scores for experimental both groups were decreasing across the three weeks of follow up, a significant decrease in target adults' relationship conflict reports did not occur until week 3.

Table 12

Repeated Measures ANCOVA: Between and Within Subjects Analyses of Time, Group, and Interaction Effects of Target Adults' Reports

Outcome Variable	Group				Time				Group*Time				Error		
	SS	*df*	*MS*	*F*	*SS*	*df*	*MS*	*F*	*SS*	*df*	*MS*	*F*	*SS*	*df*	*MS*
Substance Use	.02	1	.02	.27	.04	2	.02	.72	.18	2	.09	2.83	.81	26	.03
Individual Well-Being	14.63	1	14.63	.41	8.35	2	4.17	.33	13.69	2	6.84	.30	585.16	26	22.51
Relationship Quality	66.29	1	66.29	.30	93.11	2	46.55	.95	8.90	2	4.45	.16	727.78	26	27.99
Relationship Intimacy$^{\infty}$	7.16	1	7.16	.34	101.78	1	101.67	3.09	20.95	1	20.93	.46	597.221	26	22.97
Relationship Conflict	.00	1	.00	.03	.08	2	.04	.56	.34	2	.17	4.76*	.95	26	.04

Note. $^{\infty}$Greenhouse Geisser for Time = .50; Greenhouse Geisser for Group x Time = .50.

Table 13

Repeated Measures ANCOVA: Between and Within Subjects Analyses of Time, Group, and Interaction Effects Using Partners' Reports

Outcome Variable	Group				Time				Group*Time				Error		
	SS	*df*	*MS*	*F*	*SS*	*df*	*MS*	*F*	*SS*	*df*	*MS*	*F*	*SS*	*df*	*MS*
Substance Use◆	.03	1	.03	1.24	.78	2	.39	3.04	.05	2	.03	.41	1.70	26	.07
Individual Well-Being	85.51	1	85.51	1.14	.67	2	.34	.02	12.41	2	6.20	.23	704.88	26	27.11
Relationship Quality	93.94	1	93.94	.37	111.17	2	55.58	2.29	181.96	2	90.98	4.56*	518.91	26	19.96
Relationship Intimacy	.05	1	.05	.19	.10	2	.05	1.59	.01	2	.00	.10	.78	26	.03
Relationship Conflict	7.50	1	7.50	.51	23.86	2	11.93	1.88	6.64	2	3.32	.42	205.11	26	7.90

Note. Sphericity assumed unless noted here. ◆Greenhouse-Geisser for Time = .66. $p < .05$.

The results of the Consumer Satisfaction Survey were also analyzed. Responses ranged from 3 (neither agree nor disagree) to 5 (strongly agree), with higher scores indicating higher satisfaction with the interventionist and the RCU service offered. Item means and standard deviations are presented in Table 14. Paired samples *t*-tests were completed to assess differences in target adults' and partners' ratings. Significant differences were found between target adults' and their partners' responses on the following items, with partners rating these items more positively than did target adults: *Menu of Options was helpful* (t (15) = -4.39, $p < .001$), *helped me identify next steps to strengthen our relationship* (t (15) = -2.78, $p < .01$), *understood our situation* (t (15) = -2.78, $p < .01$), and *was someone I liked talking with* (t (15) = 2.24, $p < .05$).

Table 14

Means, Standard Deviations, and Paired Samples T-Test results on the Consumer Satisfaction Survey Items (n = 16 couples)

Item	TA *M* (*SD*)	Partner *M* (*SD*)	*t*
1. Gave me new ways of thinking about our relationship goals	4.25 (.68)	4.19 (.54)	.29
2. The Menu of Options was helpful	4.31 (.48)	4.88 (.34)	-4.39***
3. Let me focus on areas we wanted to work on	4.94 (.25)	4.69 (.48)	2.24*
4. Helped me identify our strengths as a couple	4.00 (.63)	4.25 (.45)	-1.07
5. Helped me to identify next steps to strengthen our relationship	3.81 (.54)	4.25 (.45)	-2.78*
6. Respected me	4.75 (.45)	4.81 (.40)	-.57
7. Understood our situation	4.25 (.45)	4.69 (.48)	-2.78**
8. Was someone I liked talking with	4.88 (.34)	4.63 (.50)	2.24
9. Helped motivate me to make changes to strengthen our relationship	3.94 (.44)	3.75 (.45)	1.15

Note. *$p < .05$, **$p < .01$, ***$p < .001$.

CHAPTER V

DISCUSSION

The purpose of this dissertation study was to conduct a pilot experimental trial to test the effectiveness of the Relationship Check Up intervention (Chronister, Nagra, & Dishion, 2013) at reducing early adult substance use, individual wellbeing, relationship quality, relationship intimacy, and relationship conflict. Participants included 37 early adult male-female couples at developmental risk for substance use and intimate partner violence. Study results showed no treatment group main effects, but revealed significant interaction effects of treatment group and time for target adults' report of relationship conflict and partners' report of relationship quality. In addition, study findings suggest that the Relationship Check-Up is an intervention format that is of interest and relevance for early adults. Dissertation study findings add to the dearth of intervention research with early adult couples, specifically, and the use of brief, indicated prevention intervention programs for this population.

Early Adult Couples Seeking Support

The Relationship Check Up (Chronister, Nagra, & Dishion, 2013) is a brief indicated preventive intervention designed to assist at-risk early adult couples with relationship concerns and/or who want to build healthier relationships. Pilot experimental trial results suggest that the RCU is attractive to a diverse, community-based sample of early adult couples at risk for substance use, partner violence and other negative developmental and relationship adjustment outcomes. A total of 95 couples initially expressed interest in study participation, but not all were able to participate because of study exclusion criteria. Participant demographic data show that couples represented a diverse array of races, ethnicities, relationship statuses, relationship transitions, and relationship goals. In addition, the fact that early adult couples' expressed interest in

seeking additional therapeutic support provides preliminary evidence that a preventive intervention like the RCU may be especially relevant and appealing to early adult couples who are experiencing distress and/or want to improve their relationships.

Successful recruitment waxed and waned between 2014-2015. Formal data on the recruitment pattern were not collected but interventionists noted that participants were more flexible and willing to engage in the participation time commitment required when they were reportedly not overwhelmed by day-to-day responsibilities. For example, during the summer months (e.g., June, July, August) of 2014 and 2015, eligible participants' follow-through with appointment attendance was higher by participants than during the remainder of the year. Interested and eligible participants would often cite lack of available time for both partners to attend sessions jointly due to preexisting work and academic schedules. Many couples shared that they often did not see their partners until late evening or weekends. For couples raising children, it was challenging to identify times to schedule study activities because of their limited availability and/or the financial burden of hiring a babysitter multiple times, which was often more costly than the monetary compensation that participants received for study participation. Some couples did not follow through simply because they did not remember the appointment, requiring numerous attempts to reschedule. No limits were set on the number of times an appointment could be rescheduled; however, couples often stopped responding after three contact attempts (e.g., phone calls or emails).

Study results also suggest that a nonthreatening, brief, therapeutic relationship-based health service such as the RCU can attract at-risk early adult couples that might not otherwise seek treatment, much less seek early intervention. Within the current sample, 84.2% of the partners and 65.8% of the target adults had not received any mental health for counseling services in

the past three months. Specific data on whether the counseling was related to individual versus relationship concerns was not collected. Only two couples (5%) dropped out of this RCU pilot study; a drastically decreased rate in comparison to 50% attrition rate estimates for traditional marital and couples therapy (Doss et al., 2012; Klann, 2011; Lundblad & Hansson, 2005). A total of 80% of study participants who responded to RCU advertisements and who met inclusion criteria continued the study to completion. These data suggest that the RCU was well tolerated by early adult couples, the monetary compensation was likely a big incentive, and that participants are motivated to complete the process once they have initiated it.

The three-session RCU preventive intervention model (Chronister, Nagra, & Dishion, 2013) was based on the Family Check Up (FCU: Dishion & Kavanagh, 2003): semi-structured interview, video observation, and feedback session using an adapted menu of options. An important difference between the RCU and FCU was noted early in the study. Parents completing the FCU often identify quite clearly and immediately the child behavior problems for which they are seeking help; their goals are specific, although not always comprehensive or in recognition of the contributions of their own behavior to family dynamics. Early adult couples participating in the RCU pilot seemed to have greater difficulty identifying specific relationship goals. Couples offered requests for general assessments of their relationship qualities versus a focus on a particular relationship goal or concern. There are several clinical observations related to this noted difference. First, the most obvious difficulty with identifying relationship goals and a RCU focus appeared to come from couples who were not married or cohabitating, but who were in a dating relationship and not yet engaged in a relationship transition. That is, clinical interview experiences revealed that many of the participating couples were at a transitional stage in their relationship and, consequently, appeared more motivated to seek help with determining whether or

not the transition was "right" for them and/ or how to make the relationship transition successfully. Transition from one form of commitment to another (e.g., dating to living together, engagement, marriage, rearing children) is an appropriate time for intervention as early adults are open and motivated to the idea of relationship intervention. Practitioners may capitalize on this period to engage in challenging conversations that may not otherwise be discussed (e.g., substance use, partner violence). It is possible that dating couples wanted to use the RCU to discover their relationship strengths and to explore how, and to what end, the relationship might grow, but were not experiencing serious distress and did not have specific goals to articulate. Second, it is also possible that parents participating in the FCU often feel more comfortable discussing their children's concerns, rather than their own parenting relationship concerns. Participants who had a clearer understanding of their relationship goals and challenges may have had different treatment experiences than those who did not, which may be worth exploring in future studies.

Study results also indicated that participating couples were representative of other larger national samples with regards to substance use and relationship conflict outcomes. For example, target adults and partners assigned at random to the control group reported using alcohol and marijuana an average of 4 to 6 times per week (M=6.33) and 2 to 3 times per week (M = 4.94) over the past three months, respectively. Target adults and partners assigned at random to the RCU intervention reported using alcohol and marijuana an average 2 to 3 times or more daily (M=8.31) and 4 to 6 times per week (M=6.00), respectively. Although no significant experimental group differences in these baseline substance use scores were found, these scores are indicative of a high level of early adult substance use across both the control and the intervention groups. These substance use reports are consistent with the extant literature documenting that substance use peaks during early adulthood (Patrick, Schulenberg, O'Malley, Johnston, & Bach-

man, 2011; Park, Mulye, Adams, Brindis, & Irwin, 2006; SAMHSA, 2007; Tucker, Ellickson, Orlando, Martino, & Klein, 2005).

The timing of this substance use peak coincides with a dramatic increase in romantic relationship exploration and experimentation (Billings, Hauser, & Allen, 2008; Park, Mulye, Adams, Brindis, & Irwin, 2006; Schulenberg et al., 2005; Wang, et al., 2011). Alcohol use, specifically, has been linked with lowered inhibition and altered decision-making processes, which increase the likelihood of early adults impulsively engaging in sexually risky behavior, such as hook-ups (Grello et al., 2006; Owen et al., 2008). Moreover, the timing of such dramatic increases in substance use and romantic relationship exploration during early adulthood places young adults at even greater risk for serious negative romantic relationship adjustment outcomes (Homis & Leonard, 2007). For example, partners may only relate to one another when they are in an intoxicated state, requiring constant re-intoxication to sustain the romantic relationship. Based on clinical interviews, this was a common occurrence for early adult couples. Discussion of romantic relationship dynamics while sober was uncomfortable and awkward, and further reinforced substance use while couples spent time with their partners. Relationships that initiated from a hook-up, which had sparked from substance use and psychological distress, appeared to be in greater distress, consistent with what was noted in the literature (Grello et al., 2006; Owen et al., 2008).

Relationship concerns that are representative of other, national samples were also indicated by the early adult couples who participated in this dissertation study. Target adults' and partners' reports of relationship conflict were high at baseline regardless of the treatment group. For example, target adults indicated high relationship conflict scores in both the control (M=46.31) and the RCU intervention group (M=49.67). Partners also shared high relationship conflict

scores in both the control (*M*=50.31) and the RCU intervention group (*M*=45.87). The relationship conflict scores suggest that couples had difficulties with verbal aggression (e.g., insulting or swearing at partner, doing or saying something to spite partner), which may be the result of existing relationship tension and failed attempts at reasoning (e.g., get information to back up your side of the story, bring in/try to bring in someone to help settle things) with the romantic partner. These findings of high relationship conflict are consistent with the literature, which suggests that young adults engaged in high conflict relationship dynamics are most at risk for nonfatal partner violence (Arriaga & Foshee, 2004; Capaldi, Shortt, & Crosby, 2003; Kim & Capaldi, 2004; Renzetti, Edleson, & Bergen, 2001).

Couples who reported physical and sexual partner violence in their present relationship were excluded from this study, but couples who reported psychological or emotional abuse were included. Psychological/emotional abuse, which refers to instances in which the perpetrator acts in offensive or degrading ways toward his or her partner, can include threats, ridicule, restrictions, and not being affectionate (Capaldi, Knoble, Shortt, & Kim, 2012). Early adults are more likely to experience nonfatal violence such as psychological abuse or relational aggression at the hands of their intimate partners than they are physical abuse (Forke et al., 2008; Goldstein, Chesir-Teran, & McFaul, 2008; Gover, Kaukinen, & Fox, 2008; Porter & Williams, 2011; Prospero & Vohra-Gupta, 2007; Rutter, Weatherill, Taft, & Orazem, 2012; Sabina & Straus, 2008). Moreover, studies of college students reveal high occurrences of "common couple violence" (Johnson, 1995), meaning that both partners engage in low levels of physical violence (e.g., pushing, grabbing) and psychological aggression. Consistent with this literature, the present sample reported low levels of physical violence but the high substance use and the relationship

dynamics in the room (e.g., discounting partners' ideas or wishes during video discussion tasks, body language, domineering verbal stance) suggested more aggressive behaviors.

Relationship Check-Up Treatment Effects

Although treatment main effects were not found, interaction effects between group and time were found on target adults' relationship conflict scores and partners' relationship quality scores. Multiple reasons may exist for the pilot trial failing to result in RCU intervention treatment effects. The discrepancy in data collection methods may have contributed to the lack of identified main effects. Data were collected at baseline using self-report questionnaires and collected at follow-up weeks 1, 2, and 3 via phone interviews. The written questionnaires used for data collection at baseline allowed for greater detail and nuance, but were not repeated at follow up. The follow up phone assessments were designed to capture more global/thematic changes and to increase the convenience of responding (e.g., no travel time to return to clinic for completing questionnaires; reduced time investment in follow-up measure—10-minute phone assessment versus hour-long written responses). The more global or thematic phone assessments may not have best captured subtler, more nuanced changes in romantic relationship dynamics that occurred during the follow-up period. It is also plausible that follow-up beyond three weeks is necessary to capture changes and/or that the 3-session RCU does not have an impact that can be captured with the thematic changes assessed with the phone assessments.

Recent studies comparing written, face-to-face, and computer-based intimate partner violence screening methods have revealed that survivors of partner violence preferred self-completed approaches to face-to-face questioning when screened at healthcare settings (MacMillan, et al., 2006). It may be hypothesized that RCU participants were less likely to share vulnerable information such as relationship conflict over the phone than while completing a question-

naire. This trend may also have existed with reports of other drug use. Participants disclosed other drug use while completing the written questionnaires but did not disclose any other drug use during the phone assessment. An additional hypothesis may be that couples were not comfortable talking with the follow-up phone assessor; that is, either the PI or a research assistant collected follow-up data, not the original interventionist with whom couples were originally assigned. Participants may have been less open and more reluctant to share concerns with the new individuals over the phone than with the original interventionist, responding in a socially desirable manner. It may behoove researchers to include a data collection method that allows for comparison between self-report questionnaire data and phone assessment data collected by an interventionist or research assistant.

Statistical analyses examining group differences between the control and the RCU treatment group indicated that participants' scores on individual well-being, relationship intimacy, relationship quality, and relationship conflict did not differ by treatment group. There are multiple reasons that significant main effects by treatment group were unfound. First, the small sample size contributes to low statistical power to detect a difference between the control and the treatment group. A recognition and consideration of these limitations is important when interpreting the study results. As noticed during recruitment, if both early adults are to be recruited, consideration of scheduling (e.g., full- and part-time employment, class schedules, babysitters) and motivation (e.g., participants report interest but do not follow up on appointments) barriers must be addressed. For example, all couples may have felt more motivated, hopeful, and/or engaged with regard to improving their relationship because they took the step to call the PI about the RCU study as well as completing the questionnaires, which required a notable time commitment from both partners.

Bradbury (1994) reviewed the only other two past research studies on the effects of research participation on relationships (Rubin & Mitchell, 1976; Veroff, Hatchett, & Douvan, 1992). According to his study, marital research, in the form of completing mail surveys or discussing a conflict within a laboratory setting has a positive effect for most couples. Bradbury and colleagues found that most participants reported small positive effects from completing surveys about their marriage or discussing their conflicts, but a few (3-5%) reported negative experiences. In the present study, relationship scores for target adults assigned to the control group and the RCU intervention significantly changed from week 1 to 3 (control group mean difference = 2.38 and RCU group mean difference = .56). It may be argued that these changes are due to the couples' own motivation to work on their relationship concerns, but motivation may have been enhanced simply by completing relationship-based questionnaires. The Hawthorne effect—the effect of attention to experimental participants—may partly contribute to the beneficial outcomes for the control group participants. That is, the attention given to the relationship by completing relationship based questionnaires or contact with the PI, which may have stimulated partners, to think about their relationship may have contributed to the noticeable changes in the control group. Clearly, however, mere experimental attention was not the sole active therapeutic ingredient. Couples who received semi-structured personal interviews, video observation, and a structured feedback report (with discussion) benefitted beyond merely reflecting on their relationship as evidenced by the high scores retrieved on the Consumer Satisfaction Survey. Both target adults and partners noted that participation in the RCU gave them new ways to think about their relationship goals (TA: *M*=4.25, PA: *M*=4.88), helped to identify strengths as a couple (TA: *M*=4.94; P: *M*=4.69), helped to identify next steps to strengthen the relationship (TA: *M*=3.81;

PA: *M*=4.25), and helped motivate to make changes to strengthen the relationship (TA: *M*=3.94; PA: *M*=3.75).

Treatment Fidelity. Another reason for the lack of effects identified may be variable treatment fidelity. No fixed dose of initial training is likely to produce consistent practitioner fidelity; rather ongoing feedback and coaching generally improve the quality of interventions (Miller, Sorensen, Selzer, & Brigham, 2006), and of MI in particular (Miller, Yahne, Moyers, Martinez, & Pirritano, 2004). For this dissertation study, interventionists were provided with 2-4 hours of overall study and RCU intervention training at the onset, and engaged in weekly supervision and video review thereafter. Therapists' MI competency levels at onset and ongoing MI and treatment protocol adherence were not assessed. Treatment adherence was assessed broadly by watching video recordings of RCU intervention sessions and providing interventionists with immediate feedback for continued improvement and RCU adherence. But, fidelity of implementation was not assessed using more formal assessments, and correspondingly, interventionists did not have to meet minimum implementation fidelity criteria prior to offering the RCU. Obviously, the lack of more intensive attention to treatment fidelity may have greatly impacted the quality and dosage of the RCU that participants received.

Measurement. The RCU also may not have been effective because of several measurement issues, including measurement reliability and validity and variable construction. First, the Cronbach alphas for the substance use composite variables were low. For example, the baseline substance use composite yielded an alpha of .37 using target adults' substance use scores and .30 for the partners' substance use scores. These low alphas indicate that the two items comprising the composite substance use score may not have reliably measured substance use and captured the full range of participants' substance use experiences. Despite the low alphas, priority was

given to using similar pre-test and post-test variables to reduce statistical error; but this priority may have resulted in the composite variables not accurately or adequately capturing participants' experiences. Similarly, bivariate Pearson correlations revealed that the correlations between item indicators and the corresponding composite variables ranged from no correlation to a small correlation. A review and potential revamping of the items used to assess outcome variables may be necessary.

Second, the correlations among the composite variables indicated that there may have been greater discordance between target adults and partners responses on some variables. For example, target adults' reports of relationship quality were negatively correlated with partners' reports of relationship quality (r = -.58, p < .01). These results suggest that target adults and partners were in disagreement at baseline on their relationship quality (e.g., how often divorce or separation was considered, how often TA or partner left house after a fight, how often did you regret that you married or started living together with partner). Similarly, target adults' reports of relationship quality and partners' report of relationship intimacy were negatively correlated (r=-.35, p < .05), which suggests that for partners who perceived that the couple was engaging in high intimacy behaviors (e.g., demonstrating physical affection, collaborating on projects or activities), the target adults reported low relationship quality. Concordance and discordance between target adult and partner scores were not measured, and may have been a key variable to detect RCU intervention effects. That is, although no significant differences were found at follow-up, a review of the means across the three weeks of follow up suggest that both relationship quality and relationship intimacy were trending in a positive direction, possibly toward greater concordance in ratings—a treatment effect that was not examined.

Study Implications

The primary objectives of this study were to determine if an indicated preventive intervention could attract early adult couples at risk for substance use and relationship conflict; to describe the development and structure of the RCU as an indicated preventive intervention; and to provide preliminary evidence for the feasibility, attractiveness, client tolerance, and safety of the RCU. It is noteworthy that the present dissertation study adds to the empirical research showing that at-risk couples are attracted to brief, indicated prevention intervention programs (Cordova, Warren, & Gee, 2001; Davidson & Horvath, 1997).

Practice

Screening for substance use is important among early adult couples seeking support with their romantic relationships. Substance use assessments should include frequency and duration but also the impact that the substance use has on romantic relationship dynamics (e.g., communication, problem-solving). Based on the present sample, some couples used substances to bond with each other while others used it to cope with daily and life stressors. A deeper investigation into the function the substance use for each couple may reveal additional relationship dynamics to target for intervention as well as ideas for increasing couple motivation.

Additional screening for intimate partner violence among early adult couples is also important, as these individuals are most at-risk for IPV. One study couple, whose data were not used in final analyses because they discontinued study participation shortly after the RCU feedback session, illuminates the need for early adult couple IPV assessment. Interventionists were concerned that the couple might be experiencing IPV based on their observed interactions during the RCU sessions. But, even with a phone screening and multiple, individual face-to-face screenings, neither partner disclosed to the interventionist experiences of IPV in the current relationship. It was not until the Customer Satisfaction Survey results were returned that IPV was

noted by the female partner. The female partner's survey response also indicated disappointment that there was not further discussion of partner violence during the feedback session. From interactions with this couple, it was noted that further probing, verbal, written, or otherwise, might have been necessary to improve IPV screening even in the therapeutic context.

Obtaining a contextual understanding of the couples' dynamics may also assist clinicians in identifying areas of intervention. The DDS model (Capaldi, Short, & Kim, 2005) suggests that a contextual understanding may help identify areas of heightened risk and appropriate prevention and intervention points. Within the current study, for example, contextual information was used to formulate case conceptualization for each RCU couple and to identify the appropriate menu of treatment options. A case in point: A cohabitating couple included a target adult that spent her time working and going to school, with the occasional weekend alcohol and marijuana binge to assist in coping with life stressors. Her partner, who had previously graduated and was currently unemployed, spent his days intoxicated with marijuana. The couples' relationship concerns revolved around the lack of engagement between the two partners. The target adult felt that her partner was not emotionally available for her at the end of the day due to his intoxicated state while the romantic partner disagreed and took issue with the low frequency with which the target adult joined him in substance use. Debates on this topic often resulted in verbal aggression among the couple. This example highlights the value in understanding the context within which the relationship occurs and the risk factors that give rise to the couples' presenting concerns. The feedback session included discussion of how the partner's substance use affected the relationship dynamic. The menu of options included options to pursue substance use treatment, individual or couples therapy, or psychoeducation resources to further explore the couples' relationship dynamics.

Another noteworthy clinical observation involved couples' report of bidirectional partner conflict. Based on clinical observation, multiple couples noted partners taking turns in initiating topics of conflict. During the clinical interview, females more often reported initiating topics of conflict with males following the female's lead, and typically when intoxicated at a party or when alone with the partner. Bidirectional violence has three subtypes: 1) when both partners are using violence to exert power over the other and are engaged in a coercive control strategy (Johnson, 2006); 2) mutual violence is occurring because both partners have difficulties regulating their emotions and behavior and experience "dyadic-dysregulation" (Cordova et al., 1993); and 3) when aggressive retaliation is supported for recipients of perceived emotional abuse as well as in response to a partner's perpetration of physical violence (e.g., when a female slaps a male for acting "fresh") (Langhinrichsen-Rohling, 2005). The bidirectional violence noticed in the present study, albeit via clinical observation, most closely resembled dyadic-dysregulation as couples often described an inability to calm each other or to stop the chain of negative reciprocity that is associated with violent relationships. Practical implications would include giving further attention and examination to this bidirectional violence subtype among early adults to identify resource options for the Menu that couples may choose from at the end of the RCU.

Relatedly, those couples who were living together seemed to indicate greater levels of conflict than those living in separate residences (Capaldi, Knoble, Shortt, Kim, 2012). The bidirectional verbal aggression was notable among couples who lived together potentially because there were more opportunities for disagreement and shared stresses. One married couple who had recently moved to Oregon jokingly said, "We're at each other's throats all the time because we haven't found friends yet." The developmental-contextual understanding provided information on both the broad and proximal risk factors within the relationship dynamic that may contribute to exac-

erbated substance use and partner violence. A clinical observation was that interventionists were able to decrease partners' defensiveness and increase engagement by asking about strengths-based information and relationship challenges other than substance use and partner violence. It was subjectively noted that some couples were more likely to disclose additional relationship tension when the focus was diverted toward discussion of other life goals (e.g., education, dream jobs, hobbies, interests, etc.).

Research

There are also several important research implications. Ultimately, the RCU is intended to reverse early romantic relationship deterioration and to prevent further relationship erosion. It would be important for researchers to utilize multi-method study designs to further evaluate young adults' reactions to varying data collection methods. Multi-method designs that include several types of measures - completed by multiple agents - of substance use, individual wellbeing, partner violence, and relationship quality and intimacy may better capture the couples' romantic relationship context.

Research recruitment may be improved by increasing recruitment efforts during known peak periods of participation for young adults (e.g., summer months). Social media, websites, and email were most successful for recruiting participants, potentially, because most early adults rely on mobile and technology devices to maintain communication. Word of mouth also served as a valuable recruitment strategy. The less effective recruitment strategy was posting flyers at popular early adult community sites.

A major implication for future research is identifying criteria for minimal treatment engagement and dosage and measuring treatment adherence. Early adult RCU couples received therapeutic intervention, but the researchers were unable to rule out the effects of non-specific

factors of therapy as active ingredients in treatments, which may result in effective or noneffective outcomes in the two study groups. These non-specific factors include, but are not limited to, empathy and validation from the therapists. Behavioral coding of the therapists interaction style and operationalization of these non-specific therapy factors may help identify interventionists' impact on treatment efficacy.

The psychometric properties for the phone assessment items have not yet been examined. It may be worthwhile for researchers to explore the validity and usefulness of more self-directed assessment formats such as texting. However, similar to phone assessments, the specificity and depth of the texting assessment may be limited. Another future research direction is to examine how substance use impacts early adults' romantic relationship dynamics. Clinical observation and relationship goal data identified that substance use exacerbated relationship concerns. For example, in one relationship, the partner was self-medicating to beat his depression, causing increased concern for the target adult and need for immediate problem-solving. Previous studies have indicated that relationship conflict increases with substance use (Feingold, et al., 2008). The clinical interviews revealed multiple occasions in which substance use was the primary bonding or conflict point reported by couples, it is worth further exploration.

The role of substance use in young adult relationship initiation and maintenance warrants further examination. Multiple couples indicated that they initiated their relationship when they were intoxicated at a social gathering, resulting in a sexual "hookup," followed by multiple weeks of relationship intimacy. More in-depth quantitative and sequential analyses, in addition to qualitative data collection may further elucidate the influence of substance use in early adult relationship formation and maintenance. Relatedly, partner conflict is higher among early adult couples who are cohabitating (Capaldi, Knoble, Shortt, & Kim, 2012). Further examination into

the relationship dynamics that help distinguish those couples living together versus those who are living separately may help identify if there are additional conflict-related dynamics present. The theory mentioned earlier of cohabitating couples having more problem-solving and communication opportunities may be worth testing to help identify additional intervention strategies.

Strengths and Limitations

There are important study strengths and limitations to consider when interpreting and generalizing the present study results. First, the study consisted of a young adult couple sample that was socio-economically and racially and ethnically diverse. Although the diversity of the sample suggests that the RCU may be an attractive, indicated preventive intervention that appeals to at-risk early adult couples who may not otherwise seek treatment.

Another study strength is that multiple methods for collecting data were used including self-report questionnaires, in-person interviews, and over the phone assessments. The assessment and intervention flexibility and convenience afforded to participants may have contributed to the low attrition rates and successful completion of the study by 80% of the recruited couples.

This dissertation study also has several limitations to consider. The aforementioned limitations regarding small sample size and its impact on low statistical power remain the most striking of the limitations. The potential Hawthorne effect is also notable.

Random assignment of couples to treatment group protects the study against threats to internal validity; however, the methodology does not protect the study from threats to external validity. First, given that the sample consists of a community-based population of early adult couples seeking romantic relationship support; the results can be applied only to early adult couples who present voluntarily to treatment. This study's findings cannot be generalized to couples who experience intensive abusive behavior or relationship distress but have not sought assis-

tance. Additionally, the findings cannot be generalized to young adult couples reporting severe levels of intimate partner violence. Couples therapy, in which both partners are involved in treatment, is not advisable for couples experiencing severe forms of intimate partner violence (Holtzworth-Munroe, Meehan, Rehman, & Marshall, 2002), and therefore the treatment conditions studied should not be applied to the more violent population.

A second limitation of this study is the volunteer status of the participating young adult couples. There may exist differences between couples who chose to participate and couples who declined and/or did not complete participation. It is worth noting that multiple couples cited financial motivation to participate, presenting as a serious confound for the study. Differences in who volunteered, and who was monetarily motivated to participate were not examined in the current study. There may be undetected differences between those couples completing the assessment and the RCU intervention and those couples who chose to leave the study prior to completion. Two couples chose to leave the study while the study was underway. One couple, initially part of the control group, completed part of the pre-assessments before they decided to end their participation. No reasons were provided. Another couple, in the intervention group, completed the RCU but did not complete the follow-up phone assessments. Couples who terminated the study prior to completion may have experienced more severe relationship distress and problems to be addressed therapeutically, causing these couples to abandon treatment as a helpful option in the early stages. Study participation may have had differential effects on couples completing the therapy compared to couples who dropped out. These differences were not investigated in this study.

Moreover, the data were analyzed using individual participants' data; however, examining the data in dyads to better account for the interdependence structure among couples may

yield different results. Data analysis in dyads may be worth considering with a larger sample, with more appropriate measurement tools at pretest, posttest, and follow-up.

Conclusion

Early adulthood is a challenging time for individuals and is characterized by developmental tasks such as exploring romantic relationships and commitments, finding a partner and forming a family. Identifying preventative interventions that allow early adults an outlet to learn more about their relationship strengths and areas of risk may improve early adult adjustment and that of his/her partner and families. This study uniquely contributed to the literature by piloting a community-based prevention intervention, modeled after the Family Check Up, and that targeted a diverse sample of early adult couples at risk for substance use and romantic relationship conflict. Although no significant treatment main effects were identified, important information about intervention validity and relevance and measurement of early adult well-being and couple adjustment was gained.

Appendix A

Clinical Interview Questions

1) How long have you been together again?
2) We heard how you first met on the video observation discussion. When you think back to that time, what do you remember about each other and that time, starting your relationship?
3) Tell us about how the two of you decided to get married or commit to each other. Of all the people in the world, what led you to decide that this was the person you wanted to be with? Was it an easy decision? Was it a difficult decision? Were you ever in love? Tell us about this time.
4) What about the transition to becoming parents? Tell us about this period of your relationship. What was it like for the two of you?
5) How are things going now?
6) What are some positives about your relationship or things going well that you might want to share?
7) What are some of the biggest challenges you both face right now in your relationship (and with raising your family)?
8) Looking back over the years, what moments stand out as the really good times in your relationship? What were the really happy times? What is a good time for you as a couple? Has this changed over the years?
9) Tell us what you currently hope for as a couple and as a family? What dreams do you share for your relationship and/or family?
10) Each couple is motivated to pursue participation in this type of study for multiple reasons. What are some of your reasons?
11) Every couple fights and has disagreements from time to time. What do your disagreements look like?

Appendix B

VIDEO OBSERVATION TASKS

Early Adult Romantic Partner Interaction Activity 9/27/2012

TA/PARTNER INTERACTION ACTIVITY INSTRUCTIONS

Note:

1) Always have the TA sitting on the LEFT when looking through the viewfinder.

2) All instructions must be read verbatim.

3) Make sure the VPLST has been filled out by each participant.

Introducing the Activity (not taped):

"This discussion is about how couples talk together and build their relationships. It will take about 40 minutes. It involves the two of you talking to each other about different topics. I will leave the room after giving you the instruction for each discussion topic."

"This is a confidential videotape; we won't share the information with anyone else outside of the project, so you can talk freely. And because we want to keep this video confidential, please use only first names when talking about each other or other people."

"Please try to talk in much detail as you can, and try to use up the full time we give you for each task. If you finish the topic early, relax and just talk about other things. Please talk in a normal voice tone and don't get out of your chairs or move them around at all during the discussions. I will keep track of time and come tell you each new topic when time is up. When I turn the camera on, I'll ask you to introduce yourselves, please just say your first names."

"Do you have any questions before we begin?"

INTERVIERWER STARTS RECORDING: *Make sure the TIMER is ON!*

Introduction

Please introduce yourselves.

For the next 40 minutes, we would like you to talk about several topics. You may have talked with each other about some of these things before and some may be new. We'll give you cue card for each topic to help guide your discussion.

Activity #1: Plan an Activity

First, I would like you to plan a fun activity that you can do with each other next week. Plan it in as much detail as possible; for example, where you might go, who else might be involved, whether or not you will have drinks, and what activities you might do. It doesn't need to be expensive or take a lot of time. You'll have 5 minutes for this discussion. Try to use the full amount of time. Here's your card. Do you have any questions?

After 5 minutes, knock and re-enter the room.

Activity #2: Romantic Relationship Challenges

Now I'd like each of you to talk to each other about an important relationship issue or challenge that keeps coming up for you and presents a strain on your relationship. Also, please talk about how you manage the stress related to this challenge, as individuals and as a couple.

(TA name), I'd like you to go first. Please talk with (Partner name) about _____, the issue that you chose from our list. Please talk about the issue and the best solution or solutions to it. You will have 7 minutes to discuss this. I'll come back and knock when the time is up. Here's your card. Do you have any questions?

After 7 minutes, knock and re-enter the room to have partner switch topics.

Now, (Partner), I'd like you to discuss the issue you chose from our list: _____. Talk about the issue and the best solution or solutions to it. You have 7 minutes to discuss this. I'll come back and knock when time is up.

After 7 minutes, knock and re-enter the room to end task.

Activity #3: How You Met?

For the next 5 minutes, please talk about how the two of you met, what attracted you to each other, and how you fell for each other. What do you remember about the time you first spent together as a couple? When did you feel like you became a couple? Here's your card. Do you have any questions?

After 5 minutes, knock and re-enter the room.

Activity #4: Parenting as a Team

(Note: only complete this activity is the couple has children)

Parenting can be both rewarding and challenging. For the next 5 minutes, please talk about how you parent together as a team. Here is a card to guide your discussion. Any questions?

After 5 minutes, knock and re-enter the room.

Activity #5: Jealousy

Many couples feel romantic jealousy from time to time; concerned about how their partner feels or interacts with another person or how another person feels or interacts with their partner. How do the two of you manage jealousy in your relationship? Please talk for 5 minutes about how you mange jealousy. Here's a card to guide your discussion. Any questions?

After 5 minutes, knock and re-enter the room.

Activity #6: Substance Use

For the next 5 minutes, please talk about how alcohol and drug use affects your relationship. For example, how does alcohol and drug use affect how you communicate and interact with each other, your romantic connection and intimacy, etc. Here is a card to guide your discussion. Any questions?

After 5 minutes, knock and re-enter room.

Debriefing and Footer

That's the end of the discussion task! Do you have any questions or comments at this point?

Footer: "This is a Early Adult Romantic Partner Interaction Task with Individual #U/X _ _ _ on (Month, Day, Year). The project interviewer is (RA ID).

Appendix C

Relationship Check Up Feedback Form

Relationship Health & Growth

Relationship Intimacy	
Stress Management	
Parenting	
Spending Time	
Connection to Others	
Work and Financial WellBeing	
Physical and Emotional Health	
Substance Use	

Areas of Strength Areas of Concern

Appendix D

Follow-Up Phone Assessment Questions

Alcohol and Other Drug Use

(1) In the past 24 hours, how many alcoholic drinks have you had? Please reply with a number between 0 and 10. If you have had more than 10, please say 10.

(2) In the past 24 hours, have you used marijuana? Please reply with a Yes or No.

(3) In the past 24 hours, have you used any other drugs to get high or buzzed? Please reply with a Yes or No.

Early Adult Well-Being

(4) In the past 24 hours, how many hours did you spend working or going to school? Please reply with a number between 0 and 24.

(5) In the past 24 hours, how many hours did you spend interacting with friends (in person, phone, text, and social media)? Please reply with a number between 0 and 24.

(6) In the past 24 hours, how sad, irritable, or depressed were you? Please reply with a number between 1 (none or a little) to 10 (a lot).

(7) In the past 24 hours, how happy/cheerful were you? Please reply with a number between 1 (none or a little) to 10 (a lot).

Relationship Intimacy

(8) Describe your relationship with the person you started the study with. Please reply with a number between 1 (totally broken up) to 10 (totally committed).

(9) (If 3 or less) You may have little contact now, but we are interested in your feelings and behavior towards this person at this point in time.

(10) In the past 24 hours, how much did you trust him/her to be completely honest with you? Please reply with a number between 1 (none or a little) to 10 (a lot).

Relationship Quality

11) In the past 24 hours, how many hours did you spend interacting with him/her? Please reply with a number between 0 and 24.

12) In the past 24 hours, how much warmth and affection was there between you and him/her? Please reply with a number between 1 (none or a little) to 10 (a lot).

13) In the past 24 hours, how much did your partner help you cope with daily life? Please reply with a number between 1 (none or a little) to 10 (a lot).

Relationship Conflict

14) In the past 24 hours, how much conflict or tension was there between you and him/her? Please reply with a number between 1 (none or a little) to 10 (a lot).

(15) (If more than 1) Was there physical conflict between you and him/her? Please reply with a Yes or No.

(16) In the past 24 hours, how much were you afraid/ worried that he/she was upset with you? Please reply with a number between 1 (none or a little) to 10 (a lot).

Appendix E

How's your romantic relationship?
Get a free relationship check up!

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A service & research study for young adult couples

The Child and Family Center is offering early adult romantic couples an opportunity to learn more about their values and goals, strengthen their communication and conflict management skills, and discover what directions they want to take in their lives.

Couples will be randomly assigned to one of two groups: 1) one that completes a survey relationship assessment, OR 2) a survey assessment plus a 3-session therapeutic intervention. All couples will complete a pre and post assessment.

*We are looking for early adult couples, age 18-30, who are in committed relationships with or without children. *

Couples are eligible to participate in the "Relationship Check Up" research study if:

- both partners are between the ages of 18 and 30 years;
- the couple is in a committed relationship, living together, engaged, or married;
- the couple is made up of a male partner and a female partner;
- at least one partner has used alcohol or other drugs in the past 12 months; and
- both partners are able to read and speak English.

As part of the "Relationship Check Up" service & study you will have the opportunity to:

- learn more about your values and short- and long-term life goals;
- evaluate your relationship skills and communication dynamics; and
- discover what changes you want to make in your life plan and relationships.

Each partner can receive $30-$75 for study participation.
To learn more, please call us at the Child and Family Center
(503) 412-3696 – 70 NW Couch St, Portland, OR 97209
1600 Millrace Dr, Eugene, OR 97403
or contact Harpreet Bahia, MC, MS at rcuresearch@gmail.com

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