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ASSESSMENT OF THE IMPACT OF THE *PREMARITAL INTERPERSONAL  
CHOICES AND KNOWLEDGE (PICK)* PROGRAM ON ADOLESCENTS

by

Raquel Boehme

A thesis submitted in partial fulfillment  
of the requirements for the degree

of

MASTER OF SCIENCE

in

Family, Consumer, and Human Development

Approved:

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UTAH STATE UNIVERSITY  
Logan, Utah

2017

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## ABSTRACT

Assessment of the Impact of the *Premarital Interpersonal Choices and Knowledge (PICK)* Program on Adolescents

by

Raquel R. Boehme, Master of Science

Utah State University, 2017

Major Professor: Kay Bradford, Ph.D.

Department: Family, Consumer, and Human Development

Relationship education has been shown to be effective among adults, but there is far less research on its impact among adolescents. This study provided a quantitative analysis of the impact of the *Premarital Interpersonal Choices and Knowledge (PICK)* program on adolescents ( $N = 9,130$ ) in 35 high schools in a Western state. Adolescents (ages 14-18) completed self-response surveys regarding four variables: knowledge about a partner, attitudes about blind love (love is enough), attitudes about partner control, and relationship pacing. A retrospective pretest for the pacing variable was also administered to evaluate response shift. Results showed significant changes in all four of the variables in the hypothesized directions. In addition, a significant pretest-retrospective pretest difference in relationship pacing indicated response shift bias, suggesting the pre-post change may be conservative. Demographic variables were included in the covariate analyses to examine their influence on the main effects. Research and practice implications are discussed. (65 pages)

## PUBLIC ABSTRACT

Assessment of the Impact of the *Premarital Interpersonal Choices  
and Knowledge (PICK)* Program on Adolescents

Raquel R. Boehme

This study was conducted to determine if the information from the *Premarital Interpersonal Choices and Knowledge (PICK)* program *How to Avoid Falling for a Jerk/ette* helped positively change adolescents' attitudes about relationships. The program was taught to 9,130 high school students (ages 14 -18) from 35 different high schools in a Western state.

Surveys were given at the beginning of the first class (pretest) and at the end of the final class (posttest). In addition to demographic information, students rated (1) their attitudes about what it takes to get to know a potential partner, (2) their belief that love alone is enough to sustain a relationship, (3) statements endorsing controlling relationship attitudes, and (4) how to pace a relationship in healthy ways. Pretest and posttest score averages were calculated, then compared statistically to determine if teen attitudes had changed in light of the information they learned in the class. Results showed significant change in all four measures, suggesting that the information taught in the class was associated with positively influencing participants' relationship attitudes.

## ACKNOWLEDGMENTS

This research was supported by a grant from the Utah Department of Workforce Services. I would first like to thank my thesis advisor, Dr. Kay Bradford, for his expert advice, encouragement, and patience during this process. I also want to acknowledge and thank the other members of my committee—Drs. Brian Higginbotham and Linda Skogrand—for their insight and support.

Thanks to my pacing partner Jenny for being a sounding board and trail blazer. I am also grateful to the members of my project team, Pam, Sheryl, Bryan, and Rhonda; members of our support team; as well as my fellow facilitators. We are making a difference.

There are numerous friends, family members, and fellow students who have supported and cheered my progress, thank you. Most importantly, I want to thank my husband, Scott, for his love, patience (tested during this process), his gentle nudges, and encouraging words. Also my children Ashlie and Jessie, Taylor and Brianna, Nathan, Hattie and grandbaby Payslie, you are why I do what I do. Lastly, my God, for the opportunities I have been given and the peace I rely on frequently.

Raquel R. Boehme

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## INTRODUCTION

Relationship education has become an increasingly common method of relationship enhancement. The growth of relationship education is due, in part, to an increased focus on prevention science, which seeks to prevent or reduce dysfunction before it occurs (e.g., Rishel, 2007). Another important aspect to its growth is governmental funding. In 2005, the U.S. Congress appropriated \$150 million a year over five years to support healthy relationship and responsible fatherhood education programming; currently, \$109 million a year has been allocated to support healthy relationship and responsible fatherhood education initiatives in the U.S. (National Healthy Marriage Resource Center, 2016).

Relationship education has been shown to strengthen communication skills and relationship quality among adults in established relationships (Hawkins, Blanchard, Baldwin, & Fawcett, 2008). Although there are far fewer programs aimed at educating adolescents versus adults, relationship education for adolescents has become much more common in recent years (Rice, McGill, & Adler-Baeder, 2017). Some scholars cite middle adolescence as an ideal time for relationship education (e.g., Silliman, 2003), when many adolescents begin forming relationships. Initial empirical tests of such programs suggest that adolescent-focused relationship education may increase adolescents' relationship knowledge and realistic beliefs about relationships and marriage (Adler-Baeder, Kerpelman, Schramm, Higginbotham, & Paulk, 2007). Still, there is relatively little research on the impact of participation on adolescents (Ma, Pittman, Kerpelman, & Adler-Baeder, 2014). The aim of this study is to assess the impact of the *Premarital Interpersonal Choices and Knowledge* (PICK) curriculum on adolescent

participants.

### **Adolescent Relationships**

Adolescent romantic relationships are important because they are correlated with individual well-being (Joyner & Udry, 2000), social competence (Collins, Welsh, & Furman, 2009), and later relationship outcomes (e.g., Madsen & Collins, 2011). Healthy adolescent romantic relationships have been associated with positive personal identity, harmonious peer relations, school success, positive self-esteem and sexual development, and social competence (Collins et al., 2009; Furman & Shaffer, 2003). Conversely, adolescent romantic relationship anxiety is correlated with self-silencing, which in turn has been linked to poor communication and rejection sensitivity (Harper & Welsh, 2007). Depression, poor academic performance, and drug and alcohol use have also been linked to poor-quality romantic relationships (Collins et al., 2009; Harper & Welsh, 2007). In addition, the occurrence of dating maltreatment and violence is of concern as it is estimated that two thirds of adolescents in the U.S. have experienced some type of abuse in their romantic relationships (Taylor & Mumford, 2016).

Attitudes about romantic relationships develop long before adulthood (Sprecher & Mets, 1999), and relationship attitudes and expectations formed during adolescence have been found to carry into adulthood and to influence later relationship attitudes and behaviors. For example, adolescents who have witnessed their mothers repeatedly entering and exiting relationships could form certain attitudes and beliefs relating to the permanence of marriages and relationships and mirror such behavior (Ming, Gordon, & Wickrama, 2014). Individuals who dated fewer partners and who had relatively better

dating quality in adolescence had better attitudes promoting conflict resolution skills and gave more effective care in relationships in emerging adulthood (Madsen & Collins, 2011). However, Silliman (2003) argued that, due to limited social reasoning, peer pressure, media influence, and lack of strong social identities, adolescents may lack knowledge and interpersonal abilities necessary for healthy relationships. Although it is clear that a healthy relationship is inter- and intra-personally multifaceted, one study found that adolescents' romantic beliefs accounted for the most variance in capacity for interpersonal intimacy more so than romantic experiences and affective involvement (Montgomery, 2005). Unrealistic partner expectations formed early in a romantic relationship can inhibit thoughtful consideration of interpersonal strengths and weaknesses identified to influence successful marriages (Van Epp, 2007). Such literature suggests that adolescents' knowledge and attitudes about relationships are an important target for intervention and that single individuals can benefit from guidance in making conscious, deliberate decisions about dating and mate selection (Van Epp, 2007).

### **Relationship Education for Adolescents**

Given the impact of relationship experiences on adolescents' well-being and on later relationship outcomes, educators have begun to develop curricula that are addressed specifically to adolescents. Relationship education has been documented to positively affect adolescents at least for the short term when compared to control groups (Gardner & Boellaard, 2007; Kerpelman et al., 2010). More recently, Rice and colleagues not only found improvements in healthy relationship knowledge among youth after they completed a relationship education program, but they also found positive behavior

change and spillover effects into parent-adolescent relationships (Rice et al., 2017). The effects of relationship education also include increases in self-esteem and family cohesion, as well as a reduction in dating and relationship violence over a 4-year time period (Gardner & Boellaard, 2007). Compared to research on adult participation in relationship education, however, there is fairly little research focused on adolescents. Continuing research can inform educators, interventionists, and policy makers of the content and effectiveness of such programming.

### **Study Purpose**

The purpose of this study is to evaluate the impact of the *Premarital Interpersonal Choices and Knowledge* (PICK) curriculum (Van Epp, 2011) on high school students throughout a Western state. The PICK program is based on the premise that there are key items to know about a potential partner (referred to in the program as “the head”). In addition, deliberate relationship pacing (“the heart”), allowing time for adequate knowledge, should be used to inform choices toward healthier relationships. This premise is embodied in the moniker “love thinks” (Van Epp, 2011). Quantitative self-report measures (pretest and posttest) were used to evaluate potential change in knowledge and attitudes, including knowledge about partner selection, and attitudes about blind love, control, and relationship pacing.

### **Theoretical Framework**

The theoretical lens of social exchange theory was used to frame this study. The PICK program is intended primarily to address participant knowledge and beliefs, and help participants make relationship choices intentionally. Social exchange theorists have

posited that reciprocal exchanges shape relationships and relational satisfaction and thus comprise the heart of intimate relationships. For example, empirical research suggests that the solidarity of a marital relationship is dependent upon the expectations of rewards relative to costs (outcomes) in future exchanges (Nakonezny & Denton, 2008).

In summary, adolescent romantic relationships are fundamental in assisting teens in developing relationship skills, attitudes, expectations, and behaviors. As relationships develop, cognizant and intentional consideration may assist adolescents in shaping healthy relationship attitudes and behaviors. Relationship education is currently being used to target adolescent knowledge and beliefs toward their making deliberate, healthy decisions regarding romantic relationships. However, more research is needed to evaluate such programming.

## LITERATURE REVIEW

### **Introduction**

In Western nations, romantic relationships are ingrained in the adolescent social system and have been correlated generally with adolescent well-being (Collins et al., 2009). Adolescent romantic experiences and patterns have also been shown to carry into adult relationship practices (Collins et al., 2009). Given the importance of teen relationships, relationship education is becoming more commonly employed to help improve skills, attitudes and knowledge about relationships in this relatively early stage of development. However, there are few empirically based relationship education programs targeted to adolescents before they enter serious relationships, and there is little related evaluation research. The purpose of this study is to examine the outcomes of one empirically based program, *Premarital Interpersonal Choice and Knowledge (PICK)*, taught to adolescents in high schools throughout a Western state. The aim of PICK is to help adolescents make thoughtful and purposeful decisions when choosing romantic partners. Social exchange theory is used as a conceptual lens as it is based on how decisions are made in regard to reasons for partner selection.

### **Social Exchange Theory in Relationship Formation**

From the perspective of social exchange theory, relationships can develop over time into trusting, loyal and mutually satisfying commitments (Cropanzano & Mitchell, 2005). This is theorized to occur through reciprocal exchanges, based on certain personal and social “rules” or norms of exchange involving the potential benefits of a relationship weighed against perceived costs. These processes are characterized by rational

considerations (Cropanzano & Mitchell, 2005). Relationships are entered into and develop according to assumptions that are made based on personal values, social norms, and customs that regulate anticipated bidirectional exchanges (Cropanzano & Mitchell, 2005). Unrealistic standards regarding partner selection and relationship processes have been linked to less satisfying romantic relationships (Bredow, 2015). The aim of the PICK program is to impart empirically based information guiding participants to be more insightful about evaluating their own values, norms, and customs when establishing standards for potential partners. In addition, the processes of deliberate information gathering and evaluation methods are introduced to help adolescents obtain and evaluate their partner's values, norms and customs while assessing their potential worthiness as a partner (Van Epp, 2011).

Interdependence is a key mechanism in social exchange theory; it is the interpersonal component by which costs and rewards are exchanged and evaluated in order to weigh goodness of outcome. Reciprocal interdependence involves the action of one person leading to a response by another. With time and adequate repetition, interdependence reduces risk and encourages cooperation within the relationship. These interdependent exchanges come from knowledge of a person and are most often based on past experiences (Nakonezny & Denton, 2008; Smith & Hamon, 2012). Prior experience is particularly salient to teen relationship attitudes: although relationship experiences among teens in middle adolescence vary, their past relational experiences (e.g., in peer or family settings) help shape their expectations of exchange dynamics (Cropanzano & Mitchell, 2005). For example, as mutual trust grows—based upon appraisals of past and current exchanges—commitment to the partner and the relationship increases



(Nakonezny & Denton, 2008). Because youth typically have limited experiences with romantic relationships (Connolly, Furman, & Konarski, 2000) and some youth may have few healthy role models, relationship education can be used to fill in the gaps with realistic expectations and skills for healthy exchanges (Ma et al., 2014). Given the PICK program's emphasis on insight and rational choice, social exchange theory provides a fitting theoretical frame for examining variables such as knowledge and attitudes about partner selection and relationship pacing. To provide the context and rationale for this study, the following section presents a review of relationship development in adolescence (including benefits and risks of adolescent relationships), then a review of the emerging literature on relationship education for youth.

### **Adolescent Relationship Formation**

Consistent with social exchange theory, empirical evidence confirms the importance of adolescents' relationship attitudes and cumulative relational experiences. Adolescent relationships are impactful to individual development and set the stage for patterns in future romantic relationships as well as future psychological well-being (Manning, Longmore, Copp, & Giordano, 2014).

**Adolescent relationship development.** Adolescent development is marked by increases in social networks. As peer relationships increase, romantic relationships may begin to form (Connolly et al., 2000). Early adolescent friendships typically shift from sharing interests and activities in childhood to sharing ideals and feelings of mutual trust and understanding in adolescence. Peer groups, including same and other sex peer relationships, have been shown to facilitate the emergence of romantic relationships

(Connolly et al., 2000). As relationships shift and physical, emotional, and sexual maturation increases, teens begin to develop critical aspects of their own social and emotional identities (Simpson, 2001). Forming romantic relationships is part of this identity formation and is considered a hallmark of adolescence (Collins et al., 2009).

**Adolescent relationship benefits.** Positive adolescent relationships are linked to multiple facets of positive individual development such as identity formation, familial adjustments, healthy peer relationships, school success, and healthy sexual development. Additionally, positive romantic relationships are associated with positive self-esteem and social competence (Collins, 2003; Simpson, 2001). Healthy adolescent dating can provide opportunities to practice conflict management and negotiate reciprocal trust (Collins, 2003), processes that typify social exchange mechanisms (Nakonezny & Denton, 2008). Adolescents also gain experiences regarding how (and whether) to form, maintain, and end relationships (Collins, 2003). These practices have been shown to influence subsequent perceptions and quality of later romantic relationships and social skills (Connolly et al., 2000).

**Adolescent relationship risks.** Conversely, unhealthy relationships formed during adolescence may result in self-silencing (suppressing thoughts in fear of losing partner), which in turn can lead to poor communication, depressive symptoms, poor overall emotional health (Collins et al., 2009; Harper & Welsh, 2007) and even risk of suicide (Adler-Baeder et al., 2007). Dating violence is of particular concern given that 53% of 15-year-olds and 70% of 17-year-olds reported having had a romantic relationship in the past 18 months (Collins et al., 2009). In a nationally representative study of 1,804 youth ages 12-18, Taylor and Mumford (2016) found that 60% had been

victimized psychologically, 18% sexually, and 18% physically by their current or former partner(s). Additionally, 63% of respondents reported perpetrating such abuse (Taylor & Mumford, 2016). These rates are slightly higher than previously reported by Manganello (2008) in a literature review on teen dating violence. Manganello reported that most findings of physical abuse in teen dating relationships hovered between 10% and 15%, regardless of gender. Of further concern, Howard, Debnam, and Wang (2013) found that adolescent girls may even be attracted to violent relationships due to lack of experience in negotiating needs and communicating feelings. Moreover, Wolfe et al. (2001) reported that adolescents (regardless of gender) who have experienced dating violence in romantic relationships are more likely to experience future relationship violence. Taking these findings together, it is clear that adolescents' relationship experiences carry potential benefits and risks, and that these processes have impact on youth well-being and later relational health. Given the importance of teen relationships, prevention-based education is becoming more common for adolescents. Relationship education can provide adolescents with information about healthy relationship expectations as well as communication, and conflict resolution skills, to influence the trajectory of these processes.

### **Relationship Education**

Relationship education in general has been given a great deal of attention from lawmakers and relationship scholars. In 2005, the U.S. Government appropriated \$150 million a year for five years towards strengthening marriages through preventative and direct services (Adler-Baeder et al., 2007). Currently, the U.S. is allocating \$109 million

each year to enhance healthy relationship and responsible fatherhood education initiatives (National Healthy Marriage Resource Center, 2016). Relationship education is becoming a widely accepted form of professional relationship intervention (Stewart, Bradford, Higginbotham, Skogrand, & Jackson, 2014). Relationship education is designed to increase protective factors as well as decrease risk factors (Stanley, 2001). Typically, relationship education is targeted for adults (Hawkins et al., 2008). However, there is emerging support for the need to provide relationship education to adolescents before entering committed, intimate relationships (Cottle, Thompson, Burr, & Hubler, 2014; Fincham, Stanley, & Rhoades, 2011).

**Adult relationship education.** In terms of the efficacy of relationship education for adults, a meta-analysis of 117 studies showed moderate effects for relationship quality ( $d = .24$  to  $.36$ ) and communication skills ( $d = .36$  to  $.54$ ) (Hawkins et al., 2008). There was little evidence of diminishing effects in the studies where short-term follow-up assessments were conducted (3-6 months). Halford (2011) indicated that most studies where individuals reported low levels of initial marital satisfaction before attending a class reported at least modest improvements of marital satisfaction and communication. A meta-analysis of premarital prevention programs conducted by Carroll and Doherty (2003) indicated that these programs are generally effective in producing immediate gains in relationship skills (communication and conflict resolution) as well as overall relationship quality. Similar results have been found in relationship education studies for emerging adults (Fincham et al., 2011; Holt et al., 2016).

Recent research conducted on the *Prevention and Relationship Enhancement Program* (PREP) administered to college students revealed that the curriculum had

significant positive effects for enhancing healthy relationship cognitions, supporting previous research. Additionally, the in-person facilitated intervention was found to be more effective than the electronic version (ePREP) in creating more functional, healthy relationship beliefs (Holt et al., 2016). However, among the 117 relationship education studies sampled in the 2008 meta-analysis, only 3 targeted single high-school students (Hawkins et al., 2008), suggesting that relatively few curricula target adolescents.

**Adolescent relationship education.** Relationship education for adolescents typically provides information about partner selection, healthy relationship pacing, and positive interpersonal processes that promote healthy relationships (Gardner & Boellaard, 2007; Van Epp, 2011). Participation in relationship education during the critical period of adolescence has been reported to help prevent the formation of unhealthy relationship patterns (Adler-Baeder et al., 2007; Kerpelman et al., 2010).

Adler-Baeder et al. (2007) posited that the experience of dating is a way for adolescents to learn how to become a socially competent dating partner; thus, providing research-based information about healthy relationship processes and skills during this critical time is optimal. Adler-Baeder and colleagues studied outcomes among youth grades 9-12 who participated in the research-based relationship program *Love U2: Increasing Your Relationship Smarts* (RS adapted) against a control group of youth with similar demographics. Compared to the control group, program participants significantly increased their relationship knowledge and gained more realistic healthy relationship beliefs. Additionally, verbal and physical aggression in interpersonal conflicts was relatively lower among the class participants (Adler-Baeder et al., 2007). These results were consistent regardless of their ethnic and socioeconomic background. More recently,

Ma and colleagues (2014) found that adolescents' participation in relationship education (*Relationship Smarts Plus*, RS+) was linked to more positive appraisals of warmth, trustworthiness, intimacy, and loyalty as valued qualities in a romantic partner. Teens with initially lower treatment scores experienced greater increases in their final scores than did teens with initially higher scores. Thus, adolescents with higher needs may have benefitted, relatively speaking, more from the education (Ma et al., 2014). Similarly, Rice and colleagues (2017) found that youth participants improved in terms of healthy relationship knowledge, positive behavior change, and positive program impact on parent-adolescent relationships. Halford (2011) explained that research-based programs focusing on factors that put relationships at risk are most effective in terms of improved outcomes or avoiding negative behavioral patterns. One such program is the *Premarital Interpersonal Choices and Knowledge* (PICK) program.

### **PICK Program**

The *Premarital Interpersonal Choices and Knowledge* (PICK) program (also known as *How to Avoid Falling for a Jerk[ette]*) is a pre-relationship education program. The program has two purposes: first, to help participants to be more intentional in making relationship choices (“keeping your head”) while exploring five important key areas to know about a potential dating partner; and second, to use healthy relationship pacing (“guiding your heart”) informed by the Relationship Attachment Model (RAM; Van Epp, 2011; see Appendix A). The Relationship Attachment Model (RAM), is an empirically derived model that includes five steps theorized to create healthy relationship bonding: (a) Know – knowledge about a potential partner, (b) Trust – confidence level in a

potential partner, (c) Rely – dependence on a person to meet significant needs, (d) Commit – commitment to the relationship and partner, and (e) Touch – intimate touch (Van Epp, 2007). In order to remain in the “safe” zone (pacing a relationship with minimal risks), each of the five levels should not exceed the previous level. Thus, the level of preceding component should generally be higher than subsequent components (for example, higher knowledge of a person should precede trust). Participants are encouraged to be deliberate and introspective about their emotional health, skills and readiness for a romantic relationship (Van Epp, 2011).

“The head” portion of the program presents five areas to learn about a person based on major predictors of future marital satisfaction. These five areas are presented as the F.A.C.E.S. of a relationship: (1) **F**amily background, (2) **A**ttitudes and actions of the conscience, (3) **C**ompatibility potential, (4) **E**xamples of other relationships, and (5) **S**kills in a relationship (Van Epp, 2011). Participants are taught that knowledge in these key areas early in a relationship can lend insight into the possible risks and benefits of a potential partner. “The heart” portion emphasizes cultivating a strong emotional bond with a partner and is represented by the five components of the RAM, discussed above. To the extent that the speed and order of these dynamics are paced (the “Safe Zone”), partners are theorized to be more likely to develop healthy relationships (Van Epp, 2007).

### **PICK Program Effectiveness**

The PICK program was originally developed in the early 2000s but has increased its reach in recent years. PICK has been taught to approximately 750,000 people nationwide (J. Van Epp, personal communication, October 5, 2016) and there are

currently certified instructors in all 50 states. There is a small but growing body of research on the impact of the program (Bradford, Stewart, Pfister, & Higginbotham, 2016). One study evaluated the PICK program for military personnel ( $n = 123$ ; Van Epp, Futris, Van Epp, & Campbell, 2008). Compared to a control group, participants had higher knowledge levels regarding the importance of getting to know a potential partner and key areas to focus on during that process (FACES). The attendees were also less likely than non-participants to adopt the unrealistic belief that love is enough (blind love) and were more likely to develop intentional attitudes about mate selection (Van Epp et al., 2008). More recently, the PICK program was evaluated among emerging adults. Relative to a comparison group ( $n = 462$ ), participants ( $n = 682$ ) were found to have significantly higher posttest levels of perceived relationship skills, partner selection skills, and knowledge regarding a potential partner's relationship patterns and attitudes (Bradford et al., 2016). Only one known study has targeted adolescents age 15-18 (Brower et al., 2012). In this study, Brower et al. (2012) reported a significant positive increase in knowledge about healthy relationship practices among youth ( $n = 86$ ) who received PICK instruction at a 4-H retreat.

**Response shift bias.** Traditional pretest-posttest designs are common in evaluating the impact of educational programs, but they are subject to the confounding factor of response shift (Drennan & Hyde, 2008). This occurs when respondents' frames of reference (e.g., regarding knowledge or attitudes) change due to exposure to program content. Response shift bias is tested by comparing true pretest means with retrospective pretest means. A significant difference between pretest and retrospective pretest indicates that participants' responses have been sensitized by the program. Past studies have



typically found retrospective pretest scores to differ significantly from true pretest scores, indicating that the program had greater impact than when tested through a traditional pretest-posttest design (Bradford et al., 2016; Rohs, 1999). The presence of response shift bias does not invalidate traditional pretest-posttest outcomes, but it suggests that traditional pretest-posttest results may be overly conservative.

### **Study Purpose and Hypotheses**

Despite a growing body of research showing that relationship education helps adults to improve relationship skills (e.g., Fawcett, Hawkins, Blanchard, & Carroll, 2010); there are still relatively few studies of relationship education for youth. Because there is even less research on the PICK program, further evaluation of the program is needed, particularly among youth. This study is designed to evaluate the impact of the PICK program on youth 15-18 years old in a high school setting using social exchange as a theoretical lens. The PICK curriculum teaches knowledge about potential partners and about relationships generally, and aims to influence changes in knowledge and attitudes to increase the potential for relationship benefits and decrease risk. The measures, thus, reflect the mechanisms of exchange/choice processes, and include attitudes of what to know about a partner, attitudes about love being enough to sustain a relationship, relationship control attitudes, and healthy relationship pacing.

This study's purpose is to examine the impact of the *Premarital Interpersonal Choices and Knowledge* (PICK) curriculum (Van Epp, 2011) on adolescents in a high school setting, testing for possible differences in pretest and posttest means for four variables. An additional purpose was to explore the possibility of response shift by

comparing pretest, retrospective pretest, and posttest means regarding healthy relationship pacing. In light of prior literature, it is hypothesized that:

1. Mean scores regarding attitudes about knowledge of a potential partner will increase significantly from pretest to posttest.
2. Mean scores in attitudes about love is enough will decrease significantly from pretest to posttest, indicating healthier attitudes.
3. Mean scores regarding attitudes about partner control (measured in terms of resisting unhealthy control) will increase from pretest to posttest.
4. Mean scores regarding attitudes about healthy relationship pacing will increase significantly from pretest to posttest.
5. The mean pretest score regarding healthy relationship pacing will be significantly higher than the retrospective pretest, indicating (a) the presence of response shift bias, and (b) suggesting that any pretest-posttest difference in relationship pacing (Hypothesis 4) is conservative.

## METHODOLOGY

### **Participants**

Data for this study were collected from 9,130 high school students in 35 schools across a Western state who participated in relationship education. The majority of participants self-identified as Caucasian (68%), 19% self-identified as Hispanic, and 12% self-identified as coming from other racial/ethnic backgrounds. Fifty-one percent of the participants were girls and 49% were boys. Participants' ages ranged from 14 to 18, with a mean age of 15.7 ( $SD = .91$ ). Twenty-two percent of participants were currently involved in a romantic relationship, while 78% reported that they were not currently in a romantic relationship. In terms of family structure, 65% participants reported that they lived with both parents while 15% reported living with only one parent, 15% reported living with one parent and a step parent, and the remainder (approximately 5%) reported living with grandparent or other.

### **Procedures**

The students participated in PICK as part of a healthy relationships unit in their Health, Adult Roles, or AVID (Advancement via Individual Determination) classes. High school teachers in a Western state voluntarily invited Cooperative Extension Family Life Educators (FLEs) who were employed by the land grant university to present the PICK curriculum to their high school classes. Following the university's Institutional Review Board (IRB) guidelines, letters of information for both students and parents were distributed, describing the class, evaluation information, contact information, and the voluntary nature of participating (see Appendix B). No incentives were offered.

Depending on the schools, the FLEs taught the program over three to six class periods for a total of approximately 4 hours of instruction. Class size averaged 29 students per class ( $SD = 10.63$ ). Each FLE had a minimum of a bachelor's degree in family studies, psychology, or other social science field, and each instructor completed a PICK Instructor Certification Course either through training videos, live training with program developer John Van Epp, or both. To ensure program fidelity, the project supervisor conducted on-site visits ranging from once a quarter to once every 6 months. Participants were asked to complete a hard copy survey at the beginning of the first session and again at the end of the last session. A retrospective pretest was included on the posttest for the measure of healthy relationship pacing to enable testing the possibility of response shift bias (indicated by a significant difference between true pretest and retrospective pretest).

### **Measures**

Traditionally, outcome measures in relationship education are designed to capture elements of an extant intimate relationship (Silliman, 2003). PICK, however, is designed to educate participants about relationship formation and choices, and thus extant measures of relationship processes and quality are generally not applicable. Items were written to measure the attitudes and perceptions about key constructs taught in the PICK pre-relationship curriculum (see Appendix C). In addition to demographic data, measures included participants' perceptions of the following constructs: attitudes regarding knowledge about a partner ("partner knowledge"), love is enough ("blind love"), relationship control attitudes ("control"), and healthy relationship pacing ("relationship pacing").

**Attitudes of knowledge about a partner (“partner knowledge”).** Three items were used as a measure of skills in getting to know a potential partner. These items were adapted from a prior evaluation study of PICK (Van Epp et al., 2008). Items included: “Talk, togetherness and time are necessary for a well-rounded understanding of a potential partner”; “Love is both emotional and rational”; and “I can identify the things that are important to get to know about a partner.” A 5-point Likert scale was used ranging from *strongly disagree* (1) to *strongly agree* (5). Means were calculated. In terms of reliability, Cronbach’s alphas were .70 for pretest, and .78 for posttest.

**Love is enough (“blind love”).** The Attitudes About Romance and Mate Selection Scale (ARMSS), Love is Enough Subscale (Cobb, Larson, & Watson, 2003) was used to measure participant perceptions of love as a sufficient reason to marry. The scale consists of three of the four original items, including: “Our feelings of love for each other should be sufficient reason to get married”; “In the end, feelings of love for each other should be enough to sustain a happy marriage”; and “Only a fool ever walks away from marrying the person he or she loves deeply.” Responses ranged from *strongly disagree* (1) to *strongly agree* (5). Mean scores were calculated. Cronbach’s alphas were .74 for pretest, and .84 for posttest.

**Relationship control attitudes (“control”).** Three items adapted from the Intimate Partner Violence Attitude Scale (Fincham, Cui, Braithwaite, & Pasley, 2008) were used to measure controlling attitudes in a relationship. Again, based on a 5-point Likert scale, students responded to statements: “I would never try to keep a partner from doing things with other people”; “I would not forbid a partner from talking to someone of the opposite sex”; and “I would not stay with a partner who tried to keep me from doing

things with other people.” The responses ranged from *strongly disagree* (1) to *strongly agree* (5). Mean scores were calculated. Cronbach’s alphas were .70 for pretest, and .80 for posttest.

**Healthy relationship pacing (“relationship pacing”).** Three items were used to measure the importance of pacing a relationship, using a 5-point Likert scale ranging from *strongly disagree* (1) to *strongly agree* (5). Items included “I know how to pace a relationship in a safe way” and “I can spot warning signs in relationships.” A third item, “with romantic partners, I know how to weigh the pros and the cons before allowing myself to take the next step in the relationship” was adapted from the Relationship Deciding Scale (Vennum & Fincham, 2011). Means were calculated. In order to conduct a modest test of response shift, a retrospective pretest measure of relationship pacing was also collected. Participants were asked to “mark your level of agreement BEFORE and now AFTER this course.” Cronbach’s alphas were .80 for pretest, .80 for retrospective pretest, and .85 for posttest.

### **Plan of Analysis**

Because primary components factor analyses yielded acceptably reliable subscales of each measure ( $\alpha \geq .70$ ), pretest and posttest mean scores were calculated for each subscale. Retrospective pretest mean scores for the pacing variable were also calculated. The mean scores for each scale were then tested for possible differences from pretest to posttest using paired samples *t* tests. Repeated measures ANOVA, essentially an extension of the *t* test, was used to test participant demographics (e.g., race/ethnicity, sex, age, relationship status and family status) for their possible effects.

## RESULTS

To test each hypothesis, mean scores were calculated for each variable both at pretest and posttest: attitudes of knowledge about a partner (“partner knowledge”), love is enough (“blind love”), attitudes about partner control (“control”), and healthy relationship pacing (“relationship pacing”). Then, these scores were compared using paired samples *t* tests to examine whether posttest scores differed significantly from pretest scores. The results are reported in Tables 1 and 2. Significant differences from pretest to posttest were observed across all four variables ( $p = .000$ ) as described below. Effect sizes (Cohen’s *d*) were also calculated as estimates of the importance of the pretest-posttest differences (Durlak, 2009). Studies published in the last decade suggest that the outcomes of relationship education may covary somewhat by participant demographics (e.g., Bradford, Erickson, Smith, Adler-Baeder, & Ketring 2014; Hawkins et al., 2008; Hawkins & Ooms, 2010). Thus, the following variables were tested as potential covariates of the main effects: age, gender, race/ethnicity, relationship status, and family status. Scheffé post hoc analyses were conducted for significant covariates. The results of these tests are also reported in Tables 1 and 2.

In addition to testing main effects and covariates, a modest test of response shift bias was conducted. Evidence suggests that participants’ pretest ratings may be inflated prior to intervention (e.g., Bradford et al., 2016), and some scholars have recommended including both pretest and retrospective pretest measures (Rohs, 1999). A significant difference between the pretest and retrospective pretest means indicates response shift (Rohs, 1999). To test this phenomenon, a retrospective pretest measure of participants’

perceptions of healthy relationship pacing (“relationship pacing”) was collected along with posttest measures. Mean scores were then calculated for the “relationship pacing” retrospective pretest, and compared to the actual pretest mean.

### **Main Effects and Covariates**

**Hypothesis 1: “Partner Knowledge.”** As hypothesized, means for attitudes of knowledge about a partner increased significantly from pretest ( $M = 4.02$   $SD = .53$ ) to posttest ( $M = 4.29$   $SD = .57$ ;  $t = -39.06$ ,  $p = .000$ ). Cohen’s  $d$  was .49, which may be interpreted as a medium effect size (Cohen, 1988). This effect differed by gender ( $F = 4.59$ ,  $p = .03$ ), indicating that the mean change in attitudes about knowledge of a partner for girls ( $M_{diff} = .28$ ,  $SD = .54$ ) was significantly higher than for boys ( $M_{diff} = .25$ ,  $SD = .60$ ). Mean scores of knowledge about a partner differed significantly by race/ethnicity ( $F = 7.90$ ,  $p = .000$ ). Mean scores for Caucasian participants ( $M_{diff} = .28$ ,  $SD = .57$ ) were significantly higher than those for Hispanic participants ( $M_{diff} = .22$ ,  $SD = .55$ ). Mean scores of partner knowledge varied significantly depending on whether or not participants were currently in a relationship. Mean changes of adolescents who were not in a relationship ( $M_{diff} = .28$ ,  $SD = .57$ ) were significantly greater than adolescents who considered themselves in a relationship ( $M_{diff} = .21$ ,  $SD = .57$ ;  $F = 17.22$ ,  $p = .000$ ). There were no significant differences when considering age and family status.

**Hypothesis 2: “Blind Love.”** Mean scores for attitudes about love is enough (“blind love”) differed significantly from pretest to posttest ( $t = 36.93$ ,  $p = .000$ ), as was hypothesized. The posttest mean ( $M = 2.94$ ,  $SD = 1.03$ ) was significantly lower than the pretest mean ( $M = 3.30$ ,  $SD = .85$ ), indicating that after the course, participants were less



likely to endorse “blind love.” Cohen’s  $d$  was .40, which may be as interpreted as a small to medium effect size (Cohen, 1988). Changes in mean scores significantly differed by gender ( $F = 11.30, p = .001$ ). The mean pretest-posttest difference for boys’ scores ( $M_{diff} = -.35, SD = .90$ ) was significantly less than the mean change for girls ( $M_{diff} = -.42, SD = .85$ ). Significant differences were also found when considering race/ethnicity ( $F = 17.93, p = .000$ ). The decrease in mean score regarding “blind love” was significantly larger for Caucasians ( $M_{diff} = -.42, SD = .89$ ) compared to Hispanic participants ( $M_{diff} = -.28, SD = .84$ ) and participants of “other” race/ethnicities ( $M_{diff} = -.30, SD = .87$ ). Mean changes also differed by family status ( $F = 5.18, p = .001$ ). The mean change of adolescents living with one parent ( $M_{diff} = -.31, SD = .91$ ) was significantly less than for adolescents living with both parents ( $M_{diff} = -.41, SD = .87$ ). Mean scores did not differ significantly by age or relationship status.

**Hypothesis 3: “Control.”** As expected, there was a significant main effect found for attitudes about partner control. Specifically, there was a significant increase of endorsement of noncontrolling attitudes from pretest ( $M = 3.85, SD = .81$ ) to posttest ( $M = 3.99, SD = .80; t = 14.41, p = .001$ ). Cohen’s  $d$  was .17, which may be as interpreted as a small effect size (Cohen, 1988). The results did not differ by any covariate.

**Hypothesis 4: “Relationship pacing.”** As hypothesized, healthy relationship pacing increased significantly from pretest ( $M = 3.72, SD = .72$ ) to posttest ( $M = 4.37, SD = .60; t = 72.10, p = .000$ ). Cohen’s  $d$  was .98, which exceeded Cohen’s (1988) convention for a large effect size. This main effect differed by several covariates. Girls’ mean change ( $M_{diff} = .68, SD = .72$ ) was significantly higher than boys’ ( $M_{diff} = .61, SD = .80; F = 16.93, p = .000$ ). The increase in mean score for “relationship pacing” differed

significantly by race/ethnicity ( $F = 18.79, p = .000$ ). The mean change for Caucasian participants ( $M_{diff} = .68, SD = .75$ ) was higher than for Hispanic participants ( $M_{diff} = .55, SD = .72$ ) and those of “other” ethnicities ( $M_{diff} = .60, SD = .84$ ). The “relationship pacing” variable was also affected by relationship status ( $F = 99.95, p = .000$ ). The mean change for participants in a relationship ( $M_{diff} = .48, SD = .73$ ) was significantly lower than that of participants not currently in a romantic relationship ( $M_{diff} = .70, SD = .76$ ). Finally, mean changes for adolescents living with both parents ( $M_{diff} = .67, SD = .76$ ) was higher than that of adolescents with living with one parent ( $M_{diff} = .58, SD = .76; F = 5.31, p = .001$ ).

**Hypothesis 5: Response shift bias.** To test for response shift bias, the mean pretest score for knowledge about healthy relationship pacing was compared to the retrospective pretest mean. The difference between the pretest ( $M = 3.72, SD = .72$ ) and retrospective means ( $M = 3.42, SD = .76$ ) was found to be significant ( $t = 32.55, p = .000$ ). As hypothesized, pretest scores for “relationship pacing” were significantly higher than when measured retrospectively, indicating that participant views of their levels of initial knowledge about pacing shifted significantly from pretest to posttest. This result suggests the presence of response shift bias (Rohs, 1999). In addition, the retrospective pretest mean ( $M = 3.42, SD = .76$ ) was compared to the posttest mean ( $M = 4.39, p = .001$ ). The difference between retrospective pretest and posttest was significant ( $t = -102.64, p = .000$ ).

Table 1

*Tests of Pretest-Posttest Differences in Perceived Partner Knowledge and Blind Love*

	Attitudes about ...											
	Partner Knowledge						Blind Love					
	Pretest Mean (SD)	Posttest Mean (SD)	<i>df</i>	<i>t</i>	<i>p</i>	<i>d</i>	Pretest Mean (SD)	Posttest Mean (SD)	<i>df</i>	<i>t</i>	<i>p</i>	<i>d</i>
Main effects	4.02 (.53)	4.29 (.57)	6993	-39.06	.000**	.49	3.32 (.85)	2.94 (1.03)	7142	36.93	.000**	.40
Variables			<i>df</i>	<i>F</i>	<i>p</i>				<i>df</i>	<i>F</i>	<i>p</i>	
Age												
14	3.97 (.58)	4.25 (.57)	4	.22	.93		3.44 (.81)	2.94 (1.02)	4	1.24	.29	
15	3.99 (.54)	4.27 (.56)					3.35 (.85)	2.99 (1.01)				
16	4.02 (.53)	4.28 (.55)					3.33 (.84)	2.93 (1.01)				
17	4.05 (.52)	4.34 (.56)					3.24 (.88)	2.79 (1.07)				
18	4.00 (.58)	4.32 (.63)					3.15 (.94)	2.76 (1.11)				
Gender												
Boys	3.97 (.57)	4.23 (.60)	1	4.59	.03*		3.42 (.86)	3.07 (1.01)	1	11.30	.001**	
Girls	4.05 (.51)	4.34 (.52)					3.24 (.84)	2.82 (1.02)				
Race/Ethnicity												
Caucasian	4.07 (.52)	4.36 (.55)	2	7.93	.000**		3.30 (.86)	2.87 (1.05)	2	17.93	.000**	
Hispanic/Latino	3.85 (.98)	4.09 (.56)					3.37 (.82)	3.08 (.96)				
Other	3.88 (.59)	4.16 (.58)					3.41 (.84)	3.10 (.97)				
Relationship Status												
In a relationship	4.03 (.51)	4.25 (.57)	1	17.22	.000**		3.43 (.87)	3.07 (1.03)	1	2.97	.085†	
Not in a relationship	4.00 (.55)	4.30 (.56)					3.29 (.85)	2.90 (1.02)				
Family Status												
One parent	3.92 (.55)	4.20 (.59)	3	1.89	.128		3.32 (.85)	3.02 (1.05)	3	5.18	.001**	
Both parents	4.05 (.54)	4.33 (.56)					3.31 (.86)	2.91 (1.03)				
One parent & step	3.98 (.52)	4.22 (.55)					3.36 (.83)	2.99 (.99)				
Other	3.88 (.56)	4.13 (.56)					3.31 (.89)	2.98 (.96)				

†  $p < .10$ , \*  $p < .05$ , \*\* $p \leq .001$

Table 2

*Tests of Pretest-Posttest Differences in Control and Relationship Pacing*

	Attitudes about ...											
	Control						Relationship Pacing					
	Pretest Mean ( <i>SD</i> )	Posttest Mean ( <i>SD</i> )	<i>df</i>	<i>t</i>	<i>p</i>	<i>d</i>	Pretest Mean ( <i>SD</i> )	Posttest Mean ( <i>SD</i> )	<i>df</i>	<i>t</i>	<i>p</i>	<i>d</i>
Main effects	3.85 (.81)	3.99 (.80)	6976	-14.41	.000**	.17	3.72 (.72)	4.37 (.60)	7168	-72.10	.000**	.98
Variables			<i>df</i>	<i>F</i>	<i>p</i>				<i>df</i>	<i>F</i>	<i>p</i>	
Age												
14	3.76 (.79)	3.92 (.86)	4	1.13	.29		3.71 (.69)	4.37 (.61)	4	.39	.81	
15	3.83 (.81)	3.99 (.79)					3.72 (.74)	4.36 (.61)				
16	3.82 (.83)	3.97 (.79)					3.72 (.72)	4.36 (.60)				
17	3.85 (.80)	3.98 (.83)					3.74 (.73)	4.39 (.59)				
18	3.91 (.81)	4.02 (.82)					3.69 (.75)	4.36 (.69)				
Gender												
Boys	3.80 (.81)	3.94 (.82)	1	1.58	.21		3.69 (.75)	4.30 (.64)	1	16.9	.000**	
Girls	3.86 (.82)	4.03 (.78)					3.74 (.71)	4.43 (.57)				
Race/ Ethnicity												
Caucasian	3.88 (.82)	4.03 (.80)	2	4.1	.667		3.71 (.73)	4.40 (.59)	2	18.79	.000**	
Hispanic/Latino	3.72 (.81)	3.88 (.75)					3.75 (.68)	4.31 (.61)				
Other	3.73 (.81)	3.88 (.82)					3.66 (.77)	4.27 (.68)				
Relationship Status												
In a relationship	3.70 (.86)	3.88 (.81)	1	.06	.815		3.91 (.67)	4.38 (.61)	1	99.95	.000**	
Not in a relationship	3.87 (.80)	4.02 (.79)					3.66 (.73)	4.36 (.60)				
Family Status												
One parent	3.75 (.85)	3.93 (.80)	3	1.51	.210		3.70 (.74)	4.30 (.62)	3	5.31	.001**	
Both parents	3.87 (.81)	4.02 (.79)					3.73 (.73)	4.40 (.59)				
One parent & step	3.77 (.81)	3.96 (.79)					3.71 (.72)	4.31 (.61)				
Other	3.76 (.82)	3.80 (.83)					3.66 (.73)	4.23 (.66)				

†  $p < .10$ , \*  $p < .05$ , \*\*  $p \leq .001$

## DISCUSSION

This study used a quantitative approach to assess the effectiveness of the PICK program taught to adolescents in a high school setting. It was hypothesized that students would gain knowledge about relationships and change attitudes significantly regarding “partner knowledge,” the constraining belief that love is enough (“blind love”; Cobb et al., 2003), “relationship control” (i.e., attitudes about partner control), and healthy “relationship pacing.” The presence of response shift in “relationship pacing” was also hypothesized. The tests of the main effects showed significant changes in the mean scores from pretest to posttest in each of the four variables in the hypothesized directions. Evidence was found for response shift in “relationship pacing.” Together, these results suggest that the program may have influenced attitude changes among adolescents. The findings are generally consistent with previous studies of adolescent relationship education (Adler-Baeder et al., 2007; Kerpelman et al., 2010; Ma et al., 2014; Rice et al., 2017) and, in particular, the few studies of the PICK program among youth (Brower et al., 2012), emerging adults (Bradford et al., 2016), and adults (Van Epp et al., 2008). Here, findings regarding main effects, response shift, and covariates are discussed through the lens of social exchange theory and in the context of extant literature. Study strengths, limitations, and implications are then discussed.

### **Main Effects**

The finding of higher endorsement of the importance of “partner knowledge” is consistent with the social exchange perspective of rational consideration (Cropanzano & Mitchell, 2005) in that higher levels of knowledge about a potential partner presumably

allow a person to better evaluate the costs and rewards associated with a potential relationship. Knowledge about key factors in a partner was found to be predictive of marital success (Larson & Holman, 1994) and relates almost directly to social exchange theory rationale. Exchanges are theorized to occur through patterned reciprocal interdependence, and more knowledge (and accurate knowledge) facilitates quality in relationship exchanges (Nakonezny & Denton, 2008). Such exchanges are germane even for youth who are not currently in romantic relationships, because close friendships and peer networks have been shown to predict processes in future romantic relationships (Connolly et al., 2000). Among emerging adults who participated in PICK, Bradford et al. (2016) also found gains in perceived knowledge regarding relationship skills, a potential partner's relationship patterns, and relationship behaviors and attitudes. Van Epp et al. (2008) found similar positive results in knowledge gained by Army soldiers. Such knowledge is important: basic research suggests that accurate, specific knowledge of one's partner predicts positive support and stability in marital relationships (Neff & Karney, 2005).

After the program, participants in this study perceived they had more realistic ideas about mate selection resulting in lower endorsement of the belief that “love is enough”—the idea that love alone is a sufficient reason to marry. This belief confounds the rational consideration of reciprocal interdependent exchange based on partner knowledge found in social exchange theory (Nakonezny & Denton, 2008). Among youth who participated in the *Relationship Smarts Adapted* program, Adler-Baeder and colleagues (2007) likewise found relatively more realistic beliefs about relationships. Similarly, Kerpelman, Pittman, Adler-Baeder, Eryigit, and Paulk (2009) found lower

endorsement of blind love among another group of youth participants in the *Relationship Smarts Plus* program. The current results also correspond with findings among adult participants in the PICK program (Van Epp et al., 2008). These empirical results are consistent with the notion in social exchange theory that realistic beliefs about relationships and partners can strengthen the ability to make more rational and deliberate choices (Cropanzano & Mitchell, 2005). Among adults, unrealistic standards about partner selection and relationship processes have been linked to lower relationship satisfaction (Bredow, 2015).

The increased likelihood among adolescents to endorse non-controlling attitudes is noteworthy, as controlling attitudes have been found to be a precursor to intimate partner violence (IPV) (Giordano, Copp, Longmore, & Manning, 2015). Though modest, this finding suggests that targeting high school students at this relatively early stage may help prevent IPV in later relationships. Among youth participants in the *Connections* program, Gardner and Boellaard (2007) found positive posttest differences in attitudes and behaviors linked to physical and verbal aggression, and longitudinal reduction in aggression among the participants as compared to the control group (Gardner & Boellaard, 2007). Conversely, Adler-Baeder and colleagues (2007) found that adolescent relationship education had no significant impact on physically aggressive behaviors. In the current study, although the results from the changes in attitudes about the variable control were significant, the effect size was relatively small ( $d = .17$ ). This coefficient is perhaps not surprising because content about control and IPV risk are not central components in the PICK program. Rather, the program's focus is to increase awareness of healthy dynamics rather than avoiding dysfunction.

After the program, participants in this study rated themselves as more able to pace relationships in healthy ways. Through the lens of social exchange theory, healthy relationship pacing (i.e., sufficient time) allows for thoughtful consideration of the pros and cons in a romantic relationship. The significant results point to the participants' positive change in attitudes about their ability to pace a relationship, and ample time and consideration of the pros and cons of their partners. Larson (1992) identified the constraining belief that "choosing should be easy" as a belief that encourages minimal personal effort and inhibits thoughtful consideration. Deliberate, rational, realistic partner consideration can provide realistic expectations that carry into marriage (Cobb et al., 2003). Past research confirms that, normatively, romantic and social events for youth tend to occur before sexual events (O'Sullivan, Cheng, Harris, & Brooks-Gunn, 2007). Other research suggests that delaying sexual involvement and first developing other relational aspects is linked to better communication and relationship stability (Busby, Carroll, & Willoughby, 2010). Among early adolescents, heavy sexual behaviors have been associated with depression and violence (Collins et al., 2009). The current results confirm the importance of healthy relationship pacing.

### **Response Shift**

Scholars have demonstrated that participants' perceptions can shift from pretest to posttest after exposure to program content (Drennan & Hyde, 2008). This study thus included a modest test of response shift bias, using the measure of "relationship pacing." The inclusion of this test follows previous recommendations of including both a pretest and retrospective pretest measure when examining subjective experiences (Hill & Betz,



2005). The significant difference between pretest to retrospective pretest indicated response shift bias, suggesting that (with regard to “relationship pacing”) participants rated their knowledge higher before attending the program than at retrospective pretest, after completing the program. The response shift suggests that the participants were introduced to information that helped them gain insight they did not previously know, therefore rating their beforehand knowledge lower in retrospect. Bradford et al. (2016) incorporated a pretest-retrospective pretest design of different, but related, variables in an evaluation of the PICK program on emerging adults with similar results. Additionally, when tested, empirically significant mean changes were found from retrospective pretest to posttest. These results show that, for “relationship pacing,” participants’ perceived impact of the program was even greater than shown in the pretest-posttest design results, and that the pretest-posttest design was conservative in evaluating this program effect. Although this finding cannot be extrapolated to the other variables in this study, the result suggests that the pretest-posttest differences in the other three variables may also possibly be underestimated. Although the result should be interpreted with caution, it provides a modest step in showing the program’s positive impact.

### **Covariates**

Once main effects are examined for an intervention, an important question is how the intervention works across different groups. For this group of youth, the benefits of relationship education across demographic subgroups were mixed. Other studies of adolescent relationship education have found that outcomes may be sensitive to participants’ demographic and social characteristics.

**Gender.** Among youth in this sample, girls seemed to benefit relatively more from relationship education. In three of the four variables (“partner knowledge,” “blind love,” and “pacing”), girls’ changes were greater than those for boys. This is consistent with outcomes of previous research suggesting that females may be socialized to think and care about relationships more than males (Ma & Huebner, 2008). Past research among adult couples suggests that women tend to be relationship gatekeepers, and tend to be more likely than men to seek relationship help (Doss, Atkins, & Christensen, 2003). These outcomes indicate that girls may be more interested and receptive to the information presented. Correspondingly, boys in this study were more likely than girls to believe in “blind love” (Cobb et al., 2003; Larson, 1988). These outcomes were in contrast with Hawkins and colleagues’ (2008) relationship education meta-analysis results that reported no gender differences in relationship education outcomes among adults.

**Ethnicity.** Among youth in this sample, Caucasian participants seemed to benefit relatively more from relationship education. Gains in the same three variables (“partner knowledge,” “blind love,” and “pacing”) were significantly greater for Caucasians than for Hispanics and for other races/ethnicities (except “partner knowledge”). It is not clear why this is the case. Perhaps more sensitivity is needed in teaching participants of Latino or other diverse cultures (Hawkins & Ooms, 2010). This may be important in relationship education, as children in the U.S. are more racially and ethnically diverse than a decade ago (Brown, Stykes, & Manning, 2016) and that Hispanic children are the largest ethnic minority group according to the U.S. Census Bureau (2015).

**Relationship status.** Participants not currently in a romantic relationship showed

significantly higher gains in attitudes about knowledge about a partner and healthy relationship pacing than their partnered counterparts. This outcome is promising as the objective of the PICK curriculum is to learn how to choose a partner *before* entering a relationship. Through the lens of social exchange theory, accurate knowledge of a partner gained before entering into a relationship may enhance the exchange process used in partner selection. Focusing on healthy partner choice may help sensitize the attitudes and behaviors of adolescents who are not yet dating, and provide a “first step” to healthy marriage preparation. This finding points to the potential benefit of offering preventative education relatively early.

**Family status.** Participants living with both parents had a greater mean change than their counterparts living with single parent regarding attitudes about “blind love” and “relationship pacing,” but not “partner knowledge” or attitudes about partner “control.” These outcomes support findings that adolescents living in two-parent families tend to have better developmental outcomes (Brown, 2010), and are generally more advantaged than those in other family forms (Cherlin, Cross-Barnett, Burton, & Garrett-Peters, 2008; Kerpelman et al., 2010). This is concerning as adolescents currently experience relatively more family instability than a generation ago (Brown et al., 2016), resulting in potentially negative influences on the relationship experiences of adolescents (Silliman & Schumm, 2004). Despite the relatively higher gains of youth from two-parent families, the main effects still suggest that research-based relationship education can be a positive step in the right direction toward healthier romantic relationships and perhaps increase present and future family stability.

## **Strengths and Limitations**

The data used in this study were gathered from a large sample ( $N = 9,130$ ), lending ample statistical power to the analyses. The sample also included a fairly equal mix of boys and girls, and, although predominantly Caucasian, included enough diversity to incorporate tests of covariance by participant characteristics. However, there are several limitations to note. An important limitation in the study design is the lack of a control group. This design omission limits the certainty that the effects of the relationship education were due to the program and not other influences. Another limitation is measurement. Although principal components analyses indicated acceptable reliability of the measures, some measures were not psychometrically tested, particularly among adolescents. In addition, school and district administrators restricted the ability to collect information that was deemed to be sensitive. These restrictions, as well as time available to complete tests, limited the depth of the pretest and posttest questions.

Another limitation is that income or another proxy of social economic status was not included in the covariates; here, this was again due to administrative constraints. Adler-Baeder et al. (2007) suggested that related SES outcomes be cautiously interpreted as adolescents may not have an accurate view of income. Additionally, the measures in this study focused on preliminary steps of change such as knowledge and attitudes about healthy relationship processes. There was no determination that the changes in attitudes lasted over time or that they prompted changes in behavior. Moreover, although youth not currently in a relationship seemed to benefit relatively more from the program, only 22% of youth indicated currently being in a relationship. This proportion may be low relative to other youth in the United States: other research indicates that up to 75% of

high school youth are, or have been involved in a romantic relationship by the time they reach 17-18 years (Carver, Joyner, & Udry, 2003). The lower proportion may indicate lower romantic relationship rates among participants or that the question (“are you *currently* in a romantic relationship?”) did not capture their past romantic experiences.

## **Implications**

**Research implications.** There are few studies of relationship education for adolescents, and even fewer that measure the impact of relationship education on behavior (see Rice et al., 2017). More research is needed to assess if the changes in attitudes learned in the PICK program translate into changes in behavior. There is also little existing research on the extended influence of adolescent relationship education. A notable exception is a study done by Kerpeleman and colleagues (2009), who found that outcomes were maintained in a 1-year follow-up but faded in a subsequent follow-up at year two (also see Gardner & Boellaard, 2007). Moreover, to further research efforts in adolescent relationship education, attention should be given to adapting and testing measures specifically for adolescents and the PICK program content. Balancing length and depth with this population can be problematic.

**Practice implications.** The main effects of this study suggest that the PICK program facilitates positive attitudes relative to knowledge of a partner, discourages confounding attitudes regarding “love is enough,” modestly facilitates noncontrolling attitudes, and encourages healthy relationship pacing. The results add to the literature by suggesting the program is appropriate not only for emerging adults (see Bradford et al., 2016), but for youth as well. In addition, the study results were consistent with existing

literature, which shows that research-based relationship education for youth is associated with positive effects on attitude change regarding healthier relationship practices (Adler-Baeder et al., 2007; Kerpelman et al., 2010; Ma et al., 2014; Rice et al., 2017).

Relative to the covariates, the results suggest that certain groups of participants may merit particular attention in order to benefit from relationship education, including boys, participants of Hispanic and other diverse backgrounds, adolescents living in one-parent families, and adolescents already in romantic relationships. A noteworthy result is the posttest mean for the variable “blind love” across certain covariates (e.g., boys, Hispanics, “other” ethnicities, adolescents in a relationship, and adolescents living in one-parent families). Mean posttest scores ranged from  $M = 3.02$  to 3.10, indicating still that on average, members of these groups were mixed, possibly agreeing more than disagreeing with the notion that love is sufficient enough to sustain a relationship. It is possible that strengthening curriculum in this area may produce stronger outcomes for relatively underprivileged participants.

## **Conclusion**

Prevention scholars argue that if we can educate people at the critical time of decision making and behavior formation, we can guide adolescents toward healthier skills and behaviors, and making wiser partner choices (e.g., Adler-Baeder et al., 2007; Fawcett et al., 2010; Gardner, 2001; Gardner & Boellaard, 2007; Gardner, Giese, & Parrott, 2004; Kerpelman et al., 2009). Research-based relationship education programming introduces concepts and skills that promote healthy relationship formation (Kerpelman et al., 2010), and may promote healthier relationship patterns, ostensibly reducing the need for

remediation of dysfunction. This study adds to the growing body of literature on the effectiveness of relationship education among adolescents, which suggests that relationship education for youth is generally effective at this developmentally important time.

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APPENDICES

APPENDIX A:  
Relationship Attachment Model

## Relationship Attachment Model

HOW TO AVOID FALLING FOR A JERK | THE RELATIONSHIP ATTACHMENT MODEL

### How the RAM Explains Relationships

*the RAM exposes jerks, protects you from blinding love, and provides you with a map for pacing your relationship*

#### R.A.M.

Relationship Attachment Model

Know	Trust	Rely	Commit	Touch

The Relationship Attachment Model (RAM) is a picture of the bonding links that interact in a developing relationship. Please explain the five relationship links below:

**Know** \_\_\_\_\_

**Trust** \_\_\_\_\_

**Rely** \_\_\_\_\_

**Commit** \_\_\_\_\_

**Touch** \_\_\_\_\_

Session 1: A Bird's Eye View of Dating | It is illegal to reproduce this material in any way without permission from Love Thinkz, LLC

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(Van Epp, 2015, p. 7)

APPENDIX B:  
Informed Consent



USU IRB Approval: Aug. 20, 2014  
 Amend#4 Approved: 08/01/2015  
 Approval Terminates: 08/19/2016  
 Protocol #5971  
 IRB Password Protected per IRB Director

## **Letter of Information for Parents**

### **Utah State University (USU) Relationship Education PICK Program – High Schools**

**Purpose, Procedures, & Voluntary Nature:** In high schools who partner with Utah State University, USU educators are offering the P.I.C.K. (Premarital Interpersonal Choices & Knowledge) course. This course teaches about healthy relationship. We ask student participants to take a short survey to help us understand their experiences in the class. Dr. Bradford in USU's Department of Family, Consumer, and Human Development is overseeing the evaluation. Youth are asked to complete a survey at the beginning of a course and at the end. The surveys take about 10 minutes each to complete. Some students may also be asked to participate in an interview about their class experience. Interviews may be audio recorded. Interview questions can be found at [healthyrelationshipsutah.org/html/parent-information-pick/](http://healthyrelationshipsutah.org/html/parent-information-pick/)

Participation in any and all aspects of this program is by choice; students may choose not to participate in any part of program, or stop at any time. Students may skip questions they do not want to answer. Neither the survey, nor the potential interview will have any impact on grades, and none of the information will go to school staff. A copy of the survey is available online at [healthyrelationshipsutah.org/html/parent-information-pick/](http://healthyrelationshipsutah.org/html/parent-information-pick/)

**Risks, Benefits, & Confidentiality:** There is minimal risk to participating. Participants will learn about making healthy relationship choices based on assessing knowledge and trust. Research records are kept confidential, in keeping with federal and state regulations. Only Dr. Bradford and his research team will have access to completed surveys and attendance information which will be kept in secured locked storage facilities. We use only codes, not names, on surveys, interviews, and attendance information. If the results are published or presented, codes will never be listed. Surveys and audio recordings will be kept for three years following the end of the project to ensure accuracy of data, and then they will be destroyed. Unidentified data may be kept indefinitely. We are required by state law to report child abuse and neglect as well as domestic violence witnessed by children.

**IRB Approval & Investigator Statement:** The Institutional Review Board for the protection of human participants at Utah State University has approved these surveys. If you have questions about the survey(s), you may reach Dr. Bradford at (435) 797-5454 or [k\\_bradford@usu.edu](mailto:k_bradford@usu.edu). This letter is to inform you that your child/student has the choice of participating in this education and survey(s). They are not required to participate and may ask any questions about this study now or later. If you have any questions or concerns and want to contact someone other than the research team, you may contact the IRB Director at (435) 797-0567 or email [irb@usu.edu](mailto:irb@usu.edu).

Kay Bradford, PhD, LMFT  
 Project Evaluator

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APPENDIX C:

Instrumentation

**Before Class Survey - HS**

Office Use Only	7.2015 - HS
Class: _____	ID: _____ Entered: _____

Please answer the following questions. Thank you!

1. Your Username: \_\_\_\_\_ Example: **1594Blue**
- 
2. Age: \_\_\_\_\_
3. Gender: ① Male ② Female
4. Ethnicity: ① White ② Black ③ Hispanic/Latino ④ Asian/ Pacific Islander ⑤ Native American ⑥ Other \_\_\_\_\_
5. Relationship status: ① I'm in a romantic relationship ② I'm NOT currently in a romantic relationship
6. Time in current romantic relationship (if applicable): Years \_\_\_\_ Months \_\_\_\_
7. I live with: ① One parent ② Both parents ③ One parent and a stepparent ④ Grandparent(s) ⑤ Other \_\_\_\_\_
8. Including you, how many children live in your home (full or part-time): \_\_\_\_\_

*Please mark your level of agreement:*

	Strongly Disagree	Disagree	Mixed	Agree	Strongly Agree
I am a happy person.	①	②	③	④	⑤
I am satisfied with my life.	①	②	③	④	⑤
I am satisfied with my relationships with others.	①	②	③	④	⑤
I feel loved and wanted.	①	②	③	④	⑤
I feel my love relationships are full and complete.	①	②	③	④	⑤

*Please mark your level of agreement:*

	Strongly Disagree	Disagree	Mixed	Agree	Strongly Agree
Talking, togetherness, and time are necessary for a well-rounded understanding of a potential partner.	①	②	③	④	⑤
Love is both emotional and rational.	①	②	③	④	⑤
I can identify the things that are important to get to know about a partner.	①	②	③	④	⑤
Previous relationship patterns often repeat in the next relationship.	①	②	③	④	⑤
My own family experiences will impact my future relationships.	①	②	③	④	⑤

## ***P.I.C.K***

### ***When in a relationship:***

	<b>Strongly Disagree</b>	<b>Disagree</b>	<b>Mixed</b>	<b>Agree</b>	<b>Strongly Agree</b>
Our feelings of love for each other should be sufficient reason to get married.	①	②	③	④	⑤
In the end, feelings of love for each other should be enough to sustain a happy marriage.	①	②	③	④	⑤
Only a fool ever walks away from marrying the person he or she loves deeply.	①	②	③	④	⑤

### ***Please mark your level of agreement:***

	<b>Strongly Disagree</b>	<b>Disagree</b>	<b>Mixed</b>	<b>Agree</b>	<b>Strongly Agree</b>
I know how to pace a relationship in a safe way.	①	②	③	④	⑤
I can spot warning signs in relationships.	①	②	③	④	⑤
With romantic partners, I know how to weigh the pros and cons before allowing myself to take the next step in the relationship.	①	②	③	④	⑤

### ***What do you think:***

	<b>Strongly Disagree</b>	<b>Disagree</b>	<b>Mixed</b>	<b>Agree</b>	<b>Strongly Agree</b>
If a girlfriend/ boyfriend wanted to have physical intimacy, but I didn't, I would find it pretty hard to say "no."	①	②	③	④	⑤
I feel good enough about myself that I can say "no" to physical intimacy even if my friends are pressuring me to say "yes."	①	②	③	④	⑤
Most people who are important to me think a person should be married before being physically intimate.	①	②	③	④	⑤

### ***Please mark your level of agreement:***

	<b>Strongly Disagree</b>	<b>Disagree</b>	<b>Mixed</b>	<b>Agree</b>	<b>Strongly Agree</b>
I would never try to keep a partner from doing things with other people.	①	②	③	④	⑤
I would not forbid a partner from talking to someone of the opposite sex.	①	②	③	④	⑤
I would not stay with a partner who tried to keep me from doing things with other people.	①	②	③	④	⑤

What is your biggest relationship concern, problem, or question that you hope this course will address?

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## After Class Survey

### P.I.C.K - HS

Office Use Only		7.2015 - HS
Class: _____	ID: _____	Entered: _____

What is your username? \_\_\_\_\_ Please use the same username you created before.  
 \_\_\_\_\_ last 4 digits of phone number      \_\_\_\_\_ favorite color

Please mark your level of agreement:

	Strongly Disagree	Disagree	Mixed	Agree	Strongly Agree
Talking, togetherness, and time are necessary for a well-rounded understanding of a potential partner.	①	②	③	④	⑤
Love is both emotional and rational.	①	②	③	④	⑤
I can identify the things that are important to get to know about a partner.	①	②	③	④	⑤
Previous relationship patterns often repeat in the next relationship.	①	②	③	④	⑤
My own family experiences will impact my future relationships.	①	②	③	④	⑤

When in a relationship:

	Strongly Disagree	Disagree	Mixed	Agree	Strongly Agree
Our feelings of love for each other should be sufficient reason to get married.	①	②	③	④	⑤
In the end, feelings of love for each other should be enough to sustain a happy marriage.	①	②	③	④	⑤
Only a fool ever walks away from marrying the person he or she loves deeply.	①	②	③	④	⑤

<u>BEFORE this course:</u>					Please mark your level of agreement <i>BEFORE and AFTER this course:</i>	<u>Now, AFTER this course:</u>				
Strongly Disagree	Disagree	Mixed	Agree	Strongly Agree		Strongly Disagree	Disagree	Mixed	Agree	Strongly Agree
①	②	③	④	⑤	I know how to pace a relationship in a safe way.	①	②	③	④	⑤
①	②	③	④	⑤	I can spot warning signs in relationships.	①	②	③	④	⑤
①	②	③	④	⑤	With romantic partners, I know how to weigh the pros and cons before allowing myself to take the next step in the relationship.	①	②	③	④	⑤

What do you think:

	Strongly Disagree	Disagree	Mixed	Agree	Strongly Agree
If a girlfriend/ boyfriend wanted to have physical intimacy, but I didn't, I would find it pretty hard to say "no."	①	②	③	④	⑤
I feel good enough about myself that I can say "no" to physical intimacy even if my friends are pressuring me to say "yes."	①	②	③	④	⑤

Continued on back...

**Please mark your level of agreement:**

	Strongly Disagree	Disagree	Mixed	Agree	Strongly Agree
I would never try to keep my partner from doing things with other people.	①	②	③	④	⑤
I would not forbid my partner from talking to someone of the opposite sex.	①	②	③	④	⑤
I would not stay with a partner who tried to keep me from doing things with other people.	①	②	③	④	⑤

What was your biggest *relationship* concern, problem, or question *before attending this course*?

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How much did this course help with your concern, problem, or question?

① None    ② A little    ③ Some    ④ A lot

For you, what is the most important concept, or result you gained from this relationship course? Please explain why.

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What did you like MOST about the relationship course? \_\_\_\_\_

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What did you like LEAST about the relationship course? \_\_\_\_\_

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**Please mark how you feel.**

	Strongly Disagree	Disagree	Mixed	Agree	Strongly Agree
I would recommend this course to others	①	②	③	④	⑤
The information in this course was useful to me.	①	②	③	④	⑤
The facilitator(s) answered questions well.	①	②	③	④	⑤
The facilitator(s) managed the time well.	①	②	③	④	⑤
I feel the facilitator(s) appreciates me and my concerns.	①	②	③	④	⑤
I believe the facilitator(s) cares, and likes me as a person.	①	②	③	④	⑤
I trust the facilitator(s).	①	②	③	④	⑤