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The Impact of the PICK a Partner Relationship Education Program on Single Army Soldiers

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Educating singles on how to develop healthy, romantic relationships can be beneficial to their subsequent dating and marital satisfaction, and for army soldiers, their satisfaction with military life. A new relationship program, the Premarital Interpersonal Choices and Knowledge (PICK) program, was delivered to single army soldiers, and at the conclusion of the program participants demonstrated an increase in their understanding of the crucial areas to explore and discuss in a premarital relationship, gained a better understanding of how to pace their relationship, and exhibited more realistic attitudes and beliefs about marriage and mate selection.

Keywords: *Army life; premarital relationships; program evaluation; relationship development; relationship education; relationship beliefs*

Although the aspiration for a happy, lifelong marriage has not diminished through the years, the dating culture has significantly changed from that of the past (Popenoe & Whitehead, 2000). Americans are marrying at older ages than ever before, with the median age of first marriage for men being 27 years and for women 25 years (Johnson & Dye, 2005). This trend of delaying marriage has lengthened the amount of time spent in premarital relationships and has provided individuals with ample time to select a lifelong partner. However, in our society there is little formal preparation or guidance when selecting a marriage partner. Singles are now largely left to their own devices when it comes to dating relationships, which is vastly different from not too long ago when individuals were exposed to highly controlled relationships or even arranged marriages. Silliman (2003) argued,

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> Today's adolescents face personal and social conditions that place them at risk for dating and marital problems and offer little incentive or assistance in developing healthy relationships . . . Much of the effort is concentrated at marriage preparation, enrichment, and therapeutic divorce preparation and recovery, greater emphasis is needed in building healthy relationships beginning with dating competencies. (p. 278)

Some singles have been shown to hold unrealistic beliefs and expectations about their relationships (Silliman & Schumm, 2004). It is common for individuals in dating relationships to have positive illusions about their partners, which causes them to minimize partner faults and overemphasize their partner's favorable characteristics (Murray, Holmes, & Griffin, 1996). Some single adults also hold romanticized beliefs, thinking that love is the most important basis for choosing a mate, that each person has only one true love, and that marriage will be perfect (Sprecher & Metts, 1999). Idealized and romanticized views are common among adults of both genders, but men are more likely than women to hold such beliefs (Montgomery, 2005). These unrealistic expectations, or constraining beliefs, are destructive to intimate relationships because they are associated with decreased relationship satisfaction and stability (Whisman, Dixon, & Johnson, 1997). According to Larson (1992), constraining beliefs about mate selection are characterized as having four qualities: (a) they limit one's choices regarding who or when one marries; (b) they encourage exaggerated or minimal personal effort to find a suitable mate; (c) they inhibit thoughtful consideration of interpersonal strengths and weaknesses and of premarital factors known to have an influence on the success of marriage; and (d) they bring about mate-selection problems and frustration and restrict options for alternative solutions to problems.

Educating singles, of all ages, on how to develop healthy and sound intimate relationships has positive consequences for their subsequent dating and marital satisfaction (Cobb, Larson, & Watson, 2003; Stanley, Amato, Johnson, & Markman, 2006). Gardner, Giese, and Parrott (2004) argued that many relationship attitudes and behavior patterns are developed well before adulthood and marital engagement, which is when most couples attend premarital education programs. Studies evaluating the effectiveness of premarital education programs and courses have reported that participation is highly effective and that couples who participate are typically better off than those who do not (Cole & Cole, 1999). Gardner (2001) also found that when high school students participated in a premarital education program they were less likely to see divorce as a good option and were slightly more favorable toward marriage preparation and counseling. Schumm, Silliman, and Bell (2000) found similar results among recently married Army soldiers. Amato and Rogers (1999) argued that these shifts in divorce attitudes are essential because individuals who adopted more favorable attitudes toward divorce tended to experience declines in relationship quality, whereas those who adopted less favorable attitudes toward divorce tended to experience improvements in relationship quality. Individuals who participate in premarital education programs are 31% less likely to divorce and more likely to have relationships characterized by greater marital quality and commitment (Stanley et al., 2006). Despite the apparent effectiveness of these programs, little to no research exists to document the benefits of preparing singles for marriage (Carroll & Doherty, 2003).

Premarital educational programs can benefit singles by teaching them about common predictors of stable and healthy relationships. Larson and Holman (1994) argued that, "couples need to be informed of the potential influences of these factors

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(that predict marital stability) before they marry, so they can make more informed choices, anticipate potential problems, and solve as many problems as possible before they get married" (p. 235). In addition, couples who are better acquainted before marriage have significantly higher marital quality (Carroll & Doherty, 2003; Grover, Russell, Schumm, & Paff-Bergen, 1985), and experience fewer problems when they face the inevitable difficulties of marriage (Grover et al., 1985). Stanley (2003) argued that one of the primary benefits of premarital education is that it slows couples down and fosters greater deliberation.

Overall, singles need guidance in making conscious, intentional decisions about dating and mate selection. Educating singles about healthy dating and marital choices holds tremendous promise for reducing the risk of future marital problems and divorce. Although premarital education programming has been documented to positively affect couples (Carroll & Doherty, 2003) and adolescents (Gardner et al., 2004), no research exists on the influence that similar programs would have on single adults. Currently, half of the entire military comprises single individuals (Department of Defense, 2003). This study sought to determine whether a new program called the PICK (Premarital Interpersonal Choices and Knowledge) a Partner (Van Epp, 2006) would be useful to them in enhancing their knowledge, attitudes, and beliefs about marriage and the mate-selection process.

THE UNIQUE NEEDS FOR SINGLE ARMY SOLDIERS AND CURRENT MARRIAGE STRENGTHENING PROGRAMS

According to a 2003 report published by the Office of the Deputy Under Secretary of Defense (Military Community and Family Policy), there are approximately 626,777 singles and 46,998 divorcees in the military, which means that almost half of the entire Military comprises single individuals. In addition, servicemen are more likely to marry and more likely to divorce than male civilians, and subsidies for married servicepersons may encourage service members to enter into unhealthy marriages (Flueck & Zax, 1995).

The U.S. Army has taken a vested interest in the status of their families. Research has demonstrated that soldier retention rates, overall satisfaction with military life, and healthy coping methods are all affected by the soldier's marital and family life satisfaction (Albano, 1994; Drummet, Coleman, & Cable, 2003; Rosen & Durand, 1995). Still, marital conflict in general, and domestic violence specifically, tends to be prevalent in the military. Among a sample of Navy recruits, it was found that 50% reported being involved with intimate partner physical violence, as a victim, perpetrator, or both (White, Merrill, & Koss, 2001). However, marital adjustment and familial support are both associated with lowered incidence and severity of partner violence (Rosen, Kaminski, Parmley, Knudson, & Fancher, 2003).

Since 1999, the Building Strong and Ready Families program has taught soldiers and their spouses skills on how to reduce conflict, strengthen marital ties, and improve confidence in their relationships (Stanley et al., 2005). Although all these skills are vital to the health of Army families, single or single-again individuals are left, once again, with little guidance. Given the vast number of singles in the military, it is imperative that Army soldiers are offered preventive educational programs that teach healthy relationship skills to prevent unhealthy marriages and help military singles make informed decisions about their marital and family life (Drummet et al., 2003).

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THE PICK A PARTNER PROGRAM

The PICK program (Van Epp, 2006) presents a practical and comprehensive overview of the crucial areas to explore in a dating relationship. The program provides an overarching structure for understanding how to pace growing closeness in a premarital relationship, while exploring the strongest premarital predictors of postmarital attitudes, behaviors, and satisfaction (further described below). The PICK program integrates findings from the extensive body of marriage and relationship research and presents information in a clear, direct manner.

The goals of this premarital program are twofold. First, this program alerts participants to the major predictors of martial satisfaction by describing aspects of a potential mate that should be considered during the dating relationship such as their partner's: family background, conscientious attitudes and actions, compatibility potential, other and past relationships, and skills in relationships. Second, participants are instructed on how to pace a growing attachment using a model of factors influencing feelings of closeness and cohesion in a relationship, and by explaining how to balance these factors and enforce boundaries in a relationship. The PICK program covers a vast amount of information about mate choice and relationship building. Yet, one of the primary strengths of the program is that it organizes this information in a simple format, which addresses cognitive, behavioral, and emotional aspects of relationships. The program organizes these components into two sections, termed the *HEAD* and the *HEART*.

The HEAD

The HEAD refers to knowledge acquired about a partner in the dating phase and the processes involved in getting to know a partner deeply and accurately. The processes include mutual self-disclosure, sharing diverse experiences, and engaging in these behaviors over time, which is important in a developing relationship (Harvey & Omarzu, 1997). When developing a close relationship, certain aspects of a prospective partner are telling of what they will be like as a lifelong mate and are therefore important to get to know (Van Epp, 2006). According to the PICK program, there are five relationship characteristics one should learn about his/her partner that have been shown throughout research to predict marital success (Hill & Peplau, 1998; Larson & Holman, 1994). These five characteristics are represented by the acronym FACES: Family background, Attitudes and actions of the conscience, Compatibility potential, Examples of other relationships, and Skills in relationships.

Family background. Family background highly influences relationship quality and stability. A longitudinal study by Holman, Larson, and Harmer (1994) found that a happy, stable premarital family/home environment was predictive of early marital quality and stability. Family-of-origin conflict negatively affects subsequent marital quality; and expressiveness in one's family-of-origin has been shown to predict higher marital quality (Whyte, 1990). In addition, when individuals have a working model of their family-of-origin characterized by effective patterns of interaction they do better at managing the ordinary demands of adult intimate partnerships (Sabatelli & Bartle-Haring, 2003). Those who have the perception of growing up in a less than optimal family, tend to experience more difficulties in their intimate relationships, are more difficult to please, and set unrealistic standards for

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their relationships (Sabatelli & Bartle-Haring, 2003). Overall, these studies demonstrate the strong connection between family background and one's later adult relationships. The PICK program emphasizes the importance of taking into consideration past family experiences when getting to know a partner, and how these experiences influence adult relationships.

Attitudes and actions of the conscience. Van Epp (2006), the founder of the PICK program, emphasizes the importance of getting to know how an individual's conscience, or perspective- taking ability, operates in close relationships. Research has shown conscientiousness to be a trait among individuals in more stable marriages (Gattis, Berns, Simpson, & Christensen, 2004; Kurdek, 1993) and that perspective taking is predictive of marital adjustment (Long & Andrews, 1990). In addition, people high on conscientiousness tend to be hardworking, responsible, dependable individuals who experience fewer areas of disagreement in their relationships (Friedman et al., 1995). Because research has demonstrated that having a healthy conscience is related to happier, healthier marriages, it is important to understand how one's conscience operates in close relationships.

Compatibility. Research has demonstrated that compatibility between partners in terms of personality, leisure interests (Houts, Robins, & Huston, 1996), religion (Fiese & Tomcho, 2001), and sense of humor (Priest & Taylor Thein, 2003) influence marital quality and stability. These areas of compatibility are important to explore in a dating relationship. A partner's personality is a pervasive element to a relationship and has the potential, if undesirable in nature, to cause enduring problems and frustrations. Research consistently finds that the personality traits of neuroticism (Donnellan, Conger, & Bryant, 2004; Gattis et al., 2004), conscientiousness (Friedman et al., 1995; Gattis et al., 2004), and agreeableness (Donnellan et al., 2004; Gattis et al., 2004) contribute uniquely to the developmental course of relationships. Although two individuals may have characteristics that differ from one another, each partner should complement or balance the other (Kaslow & Robinson, 1996). Couples with compatible and/or complementary characteristics experience heightened relationship satisfaction and stability (Gaunt, 2006; Watson, Hubbard, & Wiese, 2000).

Examples of other relationships. The manner in which partners treat others and past partners is indicative of how they will treat future partners (Berk & Andersen, 2000). One way to understand this concept is through schemas and scripts (Surra & Bohman, 1991). Relationship schemas refer to the cognitive stories people form regarding their interactions in close relationships, and scripts refer to the expectations of certain events (e.g., expecting that when someone is running late, they will call to let you know) in relationships (Harvey & Omarzu, 1997). Schemas and scripts involve using past relationship experiences to form expectations about how one thinks and behaves in current and future relationships (Honeycutt & Cantrill, 2000). Empirical evidence supports the notion that schemas and scripts guide social interactions. Furman, Simon, Shaffer, and Bouchey (2002) found that adolescent relationships with parents, romantic partners, and friends all influenced how adolescents treated their parents and romantic partners. Furthermore, Baxter, Dun, and Sahlstein (2001) examined the rules of relating in social networks of young adults and found that rules related to loyalty,

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openness/honesty, and respect were applied not only to friendships but romantic relationships as well.

Relationship skills. The most commonly addressed topic in premarital and marital programming is the importance of conflict resolution and communication skills (Hawkins, Carroll, & Doherty, 2004). Kelly, Huston, and Cate (1985) found that premarital conflict is a precursor to marital conflict and that it relates to the extent to which couples are satisfied after the first 2.5 years of marriage. The way in which couples resolve conflict is equally important. For instance, satisfied couples report less impulsive and more cooperative, supportive, and flexible ways of resolving problems (Kaslow & Robinson, 1996). A lack of problem-solving and communication skills are related to relationship distress and deterioration (Cordova, Gee, & Warren, 2005; Gottman & Krokoff, 1989). A deficiency of these skills in premarital relationships has been shown to translate into a lack of marital relationship skills (Markman, Floyd, Stanley, & Storassli, 1988). After teaching couples to effectively communicate and use problem-solving skills, Kaiser, Hahlweg, Fehm-Wolfsdorf, and Groth (1998) found that marital dissolution was less common, rates of relationship satisfaction were higher, and positive communication behavior was more prevalent.

The HEART

The HEART component of the PICK program refers to a growing emotional connection or feeling of love between partners. This connection is represented by the relationship attachment model (RAM; Figure 1), which was developed by the third author (Van Epp, 2006) as a theoretical conceptualization of the intimacy dynamics in close relationships. The RAM is comprised of five dynamics: knowledge, trust, reliance, commitment, and sex. In a relationship, these five areas develop in unison, meaning that growth in a dynamic on the right should not exceed growth in a dynamic on the left. For instance, under ideal circumstances, partners' level of trust should not exceed their level of knowledge about each other. Partners should similarly not be more reliant than trustworthy of one another, and partners should not commit to each other before sufficient knowledge is gained, and trust and reliance are established. Finally, partners should not advance too far in the sexual realm without taking the time to build up the four previous dynamics.

The RAM is characterized by five assumptions (Van Epp, 2006). First, each component is a bonding force, meaning that each of the components produces a feeling of closeness in the relationship and to one's partner. Second, each component has a range, meaning the dynamics can occur with varying degrees of intensity. Third, the components are independent but also interactive such that they develop separately but not without affecting the entire balance of the relationship. Fourth, each component is both personal and reciprocal, meaning that feelings of closeness emerge from the components but the dynamics work both ways. For example, the more you know someone the closer you feel to him or her, and the more he or she gets to know you, the closer you feel to him or her and the closer he or she feels toward you. Finally, the components have a logical, hierarchical order and can collectively illustrate healthy versus unhealthy or vulnerable versus less vulnerable relationships based on the level of each component (Van Epp, 2006). When a couple paces the development of a relationship so that the levels

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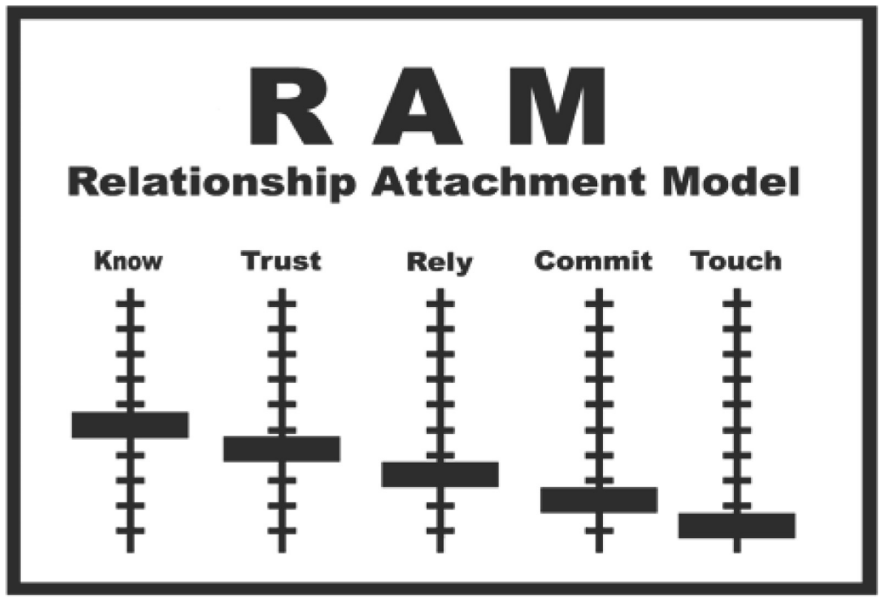

Figure 1: The Relationship Attachment Model (RAM)

NOTE: The RAM is a visual aid used in the PICK a Partner program to illustrate how a healthy relationship develops over time. Ideally, one dynamic should never exceed the previous dynamic.

grow in unison over time, risk of dissolution is minimized, and objective insight into the partner and the relationship is maximized (Van Epp, 2006).

Overall, the objective of the PICK program is to teach singles about the five areas (i.e., FACES) that are predictive of what a partner may be like in a future marriage. In addition, the PICK program aims to empower single individuals by providing them with an understanding of how to pace their growing relationships in a healthy way. In doing so, it is hoped that singles will not overattach to a developing relationship and overlook major flaws in a partner that could lead to vulnerability, disillusionment, and relationship termination.

PURPOSE AND HYPOTHESES

The PICK program was offered as a compliment to existing well-being programs in the army that do not specifically address relationship stability for single solders. As previously noted, no published research currently exists on the effectiveness of relationship education programs for single adults. Therefore, this evaluation of the PICK program examined changes in participants' knowledge and attitudes about relationship development and marriage as a result of participation. We hypothesized that participants would develop a heightened understanding of the crucial areas to explore and discuss in a premarital relationship (FACES). Also, because beliefs about mate selection influence one's feelings and behavior in a relationship (see Cobb et al., 2003), we hypothesized that participants' attitudes would change such that they would express more positive and

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realistic expectations about marriage and mate selection. Furthermore, we expected that participants would become more knowledgeable and confident in their ability to form and maintain a healthy relationship and marriage.

METHOD

Program Delivery Methods

The PICK program was evaluated in two U.S. Army training centers located at Fort Jackson (FJ; South Carolina) and the Defense Language Institute (DLI; California) that volunteered to participate in this pilot project. Two Army Family Life Chaplains were trained in the program and delivered it to soldiers at their respective training centers. To ensure that the Chaplains were true to the program material, they participated in an 8-hr instructor training session conducted by the developer of the PICK program. In this session, the Chaplains were provided with an in-depth explanation of the program material as well as an opportunity to discuss teaching approaches and address questions with the program developer. The PICK program consists of five, 50-min sessions: (a) overview of the RAM; (b) the predictive power of family background in romantic relationships; (c) the importance of getting to know their partner's conscience, compatibility potential, other relationships, and relationship skills; (d) trust and reliance in developing relationships; and (e) the development of commitment and the importance of enforcing sexual boundaries in romantic relationships. Instructors were provided with identical lesson plans, a PowerPoint presentation, DVDs of the program developer teaching the program, and a large RAM display board (Figure 1).

Each instructor was allowed to deliver the program in the format they found most convenient and conducive to their needs. Table 1 provides a summary of the delivery methods used by the instructors at each site. As noted in the table, the instructor at FJ conducted the program four times using three different delivery methods, whereas the instructor at DLI conducted the program three times using a single delivery method. Though the number of sessions varied, all participants received the same information within 6 to 8 hrs of program contact time via lecture format, from the Chaplain or the program developer via the video, and were engaged in discussion.

Procedure and Participants

At the conclusion of each program, participants completed a retrospective pre–post questionnaire to document changes in knowledge and attitudes about dating and marital relationships. The retrospective design was chosen because traditional pretest–posttest designs pose several limitations, one of which is that legitimate changes in knowledge and attitudes may be masked if the participants overestimate what they know or believe in the pretest. This is likely to occur if participants lack a clear understanding of the attitude, behavior, or skill the program is attempting to affect (Pratt, McGuigan, & Katzev, 2000). Taking part in the program may show participants that they actually knew much less or felt differently than they originally reported in the pretest—also referred to as the response shift bias (Howard & Dailey, 1979). Response shift bias can be avoided with retrospective pretest and posttest measures because participants rate themselves with a

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TABLE 1: Program Delivery Method and Number of Program Participants

Methods (Site)	*Number of Sessions*	*Hours per Session*	*Teaching Format*	*Number of Groups*	*Number of Participants*	*Returned Surveys*
Method 1 (FJ)	2	3	Lecture, PowerPoint, movie clips, discussion	2	63	62
Method 2 (FJ)	2	3	Program video and discussion	1	22	20
Method 3 (FJ)	1	8	Lecture, PowerPoint, movie clips, discussion	1	25	25
Method 4 (DLI)	6	1	Lecture, movie clips, discussion	3	39	16

NOTE: FJ = Fort Jackson; DLI = Defense Language Institute.

single frame of reference in both tests; in turn a more accurate assessment of changes in self-reported knowledge and attitudes may be produced with this design (Goedhart & Hoogstraten, 1992; Pratt et al., 2000). In addition, soldiers not participating in the program were recruited and voluntarily completed a survey to serve as a comparison for program participants' retrospective pretest responses. The program instructors collected and returned the completed surveys to the research team.

A total of 272 single soldiers at FJ and the DLI voluntarily completed a survey: 123 of the 149 program participants (82.5% response rate) and 149 comparison group individuals (nonprogram participants). The soldiers who participated in the pilot program and study had entry-level ranks (enlisted 1-4) and included Privates, Private First Class, and Specialists. Table 2 summarizes the demographic characteristics of the sample. A majority of the singles were female (55.9%) and White (60.9%). Respondents were, on average, 22.3 years old (range 17-45, $SD = 4.9$) at the time of the survey and 21.0 years old ($SD = 4.1$), when they enlisted in the army. Nearly all participants (96.7%) had completed high school, and 63.9% had extended their education beyond high school. All the respondents were currently single, 88.2% reported that they had never been married, and 48% reported that they were currently in a romantic relationship. A comparison between our samples from FJ ($n = 179$) and DLI ($n = 93$), revealed no systematic differences in age, education, religious affiliation, and prior marital status. However, compared to DLI, a higher proportion of respondents from FJ were female (44.1% vs. 62.0%; $X^2 = 8.0$, $p < .01$), non-White (81.7% vs. 50%; $X^2 = 25.8$, $p < .001$), grew up in a never-married household (3.3% vs. 16.0%; $X^2 = 17.4$, $p < .001$), and were currently parents (6.5% vs. 20.2%; $X^2 = 8.7$, $p < .001$). Overall, response rates for FJ and DLI varied considerably. Only 16 of the 39 participants returned their surveys at DLI compared to 107 of 110 at FJ. The reason for the variability in response rate is because the instructor at DLI allowed participants to complete their surveys at home and return them at their convenience. Although this allowed participants more time to think over their responses, unfortunately many of them chose not to return their survey.

Next, analyses were conducted to determine the homogeneity between the program and comparison groups. In contrast to the comparison group ($n = 149$), the program group ($n = 123$) was more likely to consist of singles who were, on

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TABLE 2: Demographic Characteristics of Program and Comparison Group Participants

	Overall (N = *272*)	*Comparison* (n = *149*)	*Program* (n = *123*)
Gender (% male)	44.1	49.7	37.4
Current age (%)			
17-20 years old	48.4	53.7	41.9
21-24 years old	30.6	31.6	29.5
25 and older	21.0	14.7	28.6
M (*SD*)	22.3 (4.9)	21.3 (3.9)	23.4 (5.7)
Age when joined the Army (%)			
17-20 years old	57.6	57.8	57.4
21-24 years old	29.9	32.2	27.0
25 and older	12.5	10.0	15.6
M (*SD*)	21.0 (4.1)	20.8 (3.9)	21.2 (4.4)
Race (%)			
Caucasian	60.9	66.9	53.7
African American	14.4	12.8	16.3
Hispanic	10.3	7.4	13.8
Other (multiracial)	14.4	12.9	16.2
Religiously affiliated (% yes)	83.8	85.2	82.1
Highest grade completed (%)			
Less than high school	3.4	4.1	2.4
High school Grad/GED	32.7	36.3	28.5
Beyond high school	63.9	59.6	69.1
Marital status (% never married)	88.2	93.9	81.3
Have children (% yes)	15.6	8.8	23.6
Prior participation in relationship programs (% yes)	6.6	6.7	6.5
Parents' marital status (%)	11.6	10.4	13.1
Never married			
Married	37.5	35.2	40.2
Separated/divorced	44.9	47.6	41.8
Widowed	6.0	6.8	4.9

average, 2 years older ($M = 21.3$ vs. 23.4; $F = 12.7$, $p < .001$), female (50.3% vs. 62.6%; $X^2 = 4.1$, $p < .05$), non-White (33.1% vs. 46.3%; $X^2 = 4.9$, $p < .05$), previously married (6.1% vs. 18.7%; $X^2 = 10.3$, $p < .01$), and parents (8.8% vs. 23.6%; $X^2 = 11.1$, $p < .01$).

Measures

The survey assessed demographic variables, dating and relationship experiences, attitudes regarding relationships and marriage, and participants' knowledge gained and confidence in the curriculum concepts. For the measures described below, program participants were asked to first think about how they felt about each item before participating in the program and second, how they felt after completing the program. The comparison group was only asked how they currently felt about each item.

Hypothesis 1. A 28-item scale developed for this study was used to assess the extent to which participants placed importance on the five areas the program deems crucial to get to know about one's partner (FACES). Participants were provided the following

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prompt: "Below are some things in relationships that some people consider to be less or more important than others. In other words, some of these things are not important to everybody. How important is it to you that you know the following about your partner?" Responses were based on a 10-point Likert-type scale, ranging from 1 (*extremely unimportant*) to 10 (*extremely important*). The first area, *Family background* (α = .85), consisted of five items regarding a partner's family history and relationships (e.g., my partner's family background; how affection was shown in my partner's family). *Attitudes and actions of the conscience* (six items; α = .86) reflected a partners' conscientiousness (e.g., how consistent my partner is at doing what is "right;" how good my partner is at seeing my perspective). *Compatibility* (eight items; α = .80) evaluated the extent to which partners should know about their compatibility (e.g., what my partner likes to do for fun; my partner's spiritual values). *Examples of other relationships* (three items; α = .77) measured the importance of knowing their partner's current and past relationship experiences (e.g., my partner's "bad habits" in previous relationships). Last, *Skills in relationships* (six items; α = .90) assessed the importance of understanding how their partner relates to others (e.g., how well my partner communicates; how my partner handles his or her emotions). Mean scores were computed for each area of FACES, with higher scores implying a higher level of importance on getting to know that aspect about their partner.

Hypothesis 2. The attitudes and beliefs held by soldiers concerning mate selection were measured using the 32-item Attitudes about Romance and Mate Selection Scale (Cobb et al., 2003). The instrument employs 28 questions, in addition to four distracter items, and comprises seven subscales (four items each) which represent constraining beliefs about mate selection: (a) *One and Only* (α = .72), for example, "There is only one true love out there who is right for me to marry"; (b) *Love is Enough* (α =.78), for example, "Our feeling of love for each other should be sufficient reason to get married"; (c) *Cohabitation* (α = . 94), for example, "Living together before marriage will improve our chances of remaining happily married"; (d) *Perfect Partner/Idealization* (α = .50), for example, "I should not marry my sweetheart unless everything about our dating relationship is pleasing to me"; (e) *The Perfect Relationship* (α = .75), for example, "I need to feel entirely sure that our marriage will work before I would consider marrying my sweetheart"; (f) *Ease of Effort* (α = .63), for example, "Finding the right person to marry is more about luck than effort"; and (g) *Opposites Complement* (α = .49), for example, "I should marry someone whose personal characteristics are opposite to mine." The respondents were asked to rate their agreement on a 7-point Likert-type scale ranging from 1 (*very strongly disagree*) to 6 (*very strongly agree*). A mean score was computed with higher scores indicating a more intense constraining belief about mate selection in that particular subscale. Alpha coefficients for the subscales are comparable to those obtained by Cobb et al. (2003).

Hypothesis 3: Program participants' knowledge gained from the program and confidence in their abilities to use the skills learned were evaluated via a 15-item scale developed for this study. Responses ranged from 1 (*strongly disagree*) to 6 (*strongly agree*). Sample items for knowledge included "I can identify the things that are important to get to know about a partner" and "I understand that going too fast too soon in a relationship can result in overlooking problems in a partner." Sample items for confidence included "I feel confident in my ability to maintain a balance between

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the critical bonding dynamics in a relationship" and "I feel confident that I will spend plenty of time figuring out what my partner is really like before becoming too involved." A mean score was computed for knowledge gained (10-items) with higher scores indicating feeling more knowledgeable about developing a healthy relationship that leads to a healthy marriage (α reliability = .86 before, and .77 after). Similarly, a mean score was computed for confidence (five items) with high scores reflecting that they feel more confident in their abilities to use the skills taught in the program to develop a healthy relationship (α reliability = .87 before, and .82 after).

Perceptions of the program. Program participants were asked to rate their level of agreement, 1 (*strongly disagree*) to 6 (*strongly agree*), with a series of questions regarding their perceptions of the program. Sample items included "I learned new information from this program," "I plan to use the information I learned from this program," "Overall, I am very satisfied with the program" and "I would recommend this program to other singles." In addition, all program and nonprogram participants were asked an open-ended question at the end of the survey to describe their general thoughts on dating relationship experiences and, for program participants only, their participation in the program.

Analyses

Analyses presented here used multivariate analysis of variance (MANOVA) to compare program participants' retrospective pretest scores to scores from the comparison group to determine whether program participants had similar attitudes and beliefs regarding dating relationships and marriage prior to participation in the PICK program. If the multivariate analyses yielded statistically significant results, univariate analyses were conducted to identify where those differences existed. Next, similar procedures were followed using program participants' retrospective pretest and posttest scores. Repeated measures MANOVA was used to determine whether the program resulted in changes in attitudes and knowledge with time (retrospective pretest vs. posttest) as the within-subjects factor. The practical significance of the findings, or the strength of association between the dependent and independent variables (effect size), is reported using the partial eta-squared.

RESULTS

Preliminary Analyses

Because clear demographic differences were found between program and comparison group participants on age, sex, race, prior marital status, and parenting status, preliminary analyses were initially conducted to examine whether these differences have a significant effect on the dependent variables. First, multivariate analyses across the 12 dependent variables available from both groups showed an overall difference based on sex, $F(12, 245) = 2.0$, $p < .05$, and race, $F(12, 245) = 1.9$, $p < .05$. Univariate analyses showed that compared to males, females placed greater importance on a partner's conscientiousness, $F(1, 256) = 5.9$, $p < .05$, and relationship skills, $F(1, 256) = 9.0$, $p < .01$. Compared to singles who were White, non-Whites singles placed greater importance on their partner's family background, $F(1, 256) = 5.1$, $p < .05$, prior relationship experiences, $F(1, 256) = 9.9$, $p < .01$, as well

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as exhibited more constraining beliefs that they should wait to marry until they are completely assured of marital success, $F(1, 256) = 4.4$, $p < .05$ and that choosing a mate should be easy, $F(1, 256) = 4.0$, $p < .05$. Next, a multivariate analysis of covariance (MANCOVA) was run controlling for these demographic differences between groups. Because the multivariate analysis of covariance yielded similar results, only the MANOVA findings are presented below.

Hypothesis 1: Table 3 presents scores on the extent to which participants placed importance on the five major areas of a potential mate that should be considered and explored during the dating relationship (FACES). On average, respondents' pretest ratings of each of the areas ranged from *slightly* ($M = 6.5$) to *fairly* ($M = 8.0$) important. Multivariate analyses showed an overall group difference, $F(5, 258) = 2.3$ ($p < .05$; partial $\eta^2 = .04$), and univariate analyses showed only one significant difference between the program and comparison group participants' pretest scores: program participants, on average, placed less importance on getting to know their partner's family background, $F(1, 262) = 4.6$ ($p < .05$; partial $\eta^2 = .02$). Following the conclusion of the program, multivariate analyses showed a significant increase in the importance program participants placed on getting to know their partner in each of the five areas the PICK program deems important (FACES), $F(5, 115) = 20.5$ ($p < .001$), with an overall effect size of .47.

Hypothesis 2: Regarding their attitudes about romance and mate selection, respondents' pretest scores, on average, ranged from *disagreement* ($M = 3.3$) to *strong agreement* ($M = 5.3$) on each of the constraining beliefs (see Table 4). Analyses revealed no significant differences between program and comparison group participants' pretest scores, $F(7, 260) = 1.53$ ($p = .16$). After the program, multivariate analyses showed a significant program effect, $F(7, 113) = 9.22$ ($p < .001$), with an overall effect size of .36. Univariate contrasts showed that program participants, on average, reported less constraining beliefs that love is a sufficient reason to marry, that cohabitation can strengthen one's future marriage, that opposites complement, that choosing a mate should be easy, and that mate selection is a matter of chance or accident. In contrast, program participants, on average, tended to agree more with the belief that they should wait to marry until they find the right partner and that they must feel completely assured of marital success before getting married.

Hypothesis 3: Analyses showed statistically significant gains in program participants' retrospective pretest to posttest scores on knowledge gained from the program and confidence in their abilities to use the skills taught. After the program, participants felt more knowledgeable about developing a healthy relationship that leads to a healthy marriage (retrospective pretest $M = 4.26$, $SD = .86$; posttest $M = 5.33$, $SD = .50$), $F(1, 116) = 175.67$ ($p < .001$), with an overall effect size of .60 (see Table 5). As well, program participants felt more confident in their abilities to use the skills learned to develop a healthy relationship (retrospective pretest $M = 4.11$, $SD = 1.06$; posttest $M = 5.15$, $SD = .74$), $F(1, 116) = 124.10$ ($p < .001$), with an overall effect size of .52.

Perceptions of the Program

After completing the program, participants described their experience as valuable and rewarding. Among the 123 participants, 96.7% agreed that they learned new information, 95.0% felt more confident in their dating relationships, 98.3%

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TABLE 3: Program and Comparison Group Mean (Standard Deviation) Scores on the Importance of Knowing and Exploring the Five Areas of a Potential Mate During the Dating Relationship (FACES)

		*Program Group (*n = *120)*			
Construct	*Comparison Group (*n = *144)*	*Before*	*After*	F-*value*	*Partial* η^2
Family background	7.04 (1.78)[a]	6.54 (2.01)[a]	8.39 (1.78)	100.96	0.46
Attitudes and actions of the conscience	8.29 (1.40)	8.02 (1.69)	8.77 (1.68)	41.10	0.26
Compatibility potential	8.04 (1.32)	7.72 (1.56)	8.52 (1.60)	46.67	0.28
Examples of other relationships	6.18 (2.34)	6.45 (2.23)	7.95 (2.21)	55.64	0.32
Skills in relationships	8.27 (1.53)	8.03 (1.77)	8.87 (1.70)	40.34	0.25

NOTE: Multivariate analyses showed an overall group difference, $F(5, 258) = 2.3$ ($p < .05$; partial $\eta^2 = .04$). All *F*-values represent Program Group retrospective pretest and posttest score comparisons, and are significant at $p < .001$.
a. Univariate analyses did reveal one difference between the comparison and program group on the importance of getting to know family background. Program participants placed significantly less importance on getting to know family background before the program than the comparison group ($F[1, 262] = 4.6$ [$p < .05$; partial $\eta^2 = .02$.]).

TABLE 4: Program and Comparison Group Mean (Standard Deviation) Scores on the Attitudes About Romance and Mate Selection Subscales

		*Program Group (*n = *120)*			
Construct	*Comparison Group (*n = *148)*	*Before*	*After*	F-*value*	*Partial* η^2
One and only	4.24 (1.36)	4.44 (1.29)	4.45 (1.40)	0.01	0.00
Love is enough	4.51 (1.29)	4.39 (1.37)	3.89 (1.41)	25.91**	0.18
Cohabitation	4.35 (1.67)	4.04 (1.63)	3.46 (1.61)	25.37**	0.18
Opposites complement	3.37 (0.84)	3.29 (0.87)	3.13 (0.96)	4.65*	0.04
Ease of effort	3.78 (1.07)	3.54 (1.30)	3.26 (1.24)	8.73*	0.07
Perfect partner/ idealization	4.50 (0.96)	4.59 (1.02)	4.84 (1.20)	10.90**	0.08
Perfect relationship/ complete assurance	5.50 (1.04)	5.34 (1.14)	5.83 (1.04)	28.99**	0.20

NOTE: All *F*-values represent Program Group retrospective pretest and posttest score comparisons.
*$p < .05$. **$p < .001$.

agreed that they planned to use the information learned, 96.7% agreed that the program was helpful, 97.5% agreed that they would recommend this program to other singles, and 96.7% agreed that overall, they were satisfied with the program. The open-ended, qualitative responses indicated similarly positive attitudes about participation in the program. In the words of one respondent, "I really enjoyed and learned a lot from this program. I highly recommend that this program be given often to singles." Another respondent noted "I think this is a good program. It actually opens your eyes to things you may not have thought to see. It has helped me think about things more clearly."

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TABLE 5: Program Participants' Mean (Standard Deviation) Knowledge and Confidence Scores

	*Program Group (*n = *117)*			
Construct	*Before*	*After*	F-*value*	*Partial* η^2
Knowledge	4.26 (0.86)	5.33 (.50)	175.67*	0.60
Confidence	4.11 (1.06)	5.15 (.74)	124.10*	0.52

*$p < .001$.

Post Hoc Analyses

To ensure that the program effects (i.e., change in scores on all dependent variables) were observed among participating singles, regardless of personal characteristics, additional analyses were conducted to examine the interaction effects of time by sex, race, current dating status (in a romantic relationship or not), prior marital status (previously married or not), and current parental status. No significant interaction effects were found, with one exception: a significant Time × Gender effect was detected in participants' attitudes about romance and mate selection $F(7, 112) = 2.11$ ($p = .05$). Univariate contrasts showed that after the program, female participants, on average, tended to agree more with the belief that one should wait to marry until they find the perfect partner than male participants (females: 4.6-4.9; males: 4.6-4.7), $F(1, 118) = 4.10$ ($p = .05$). Also, female participants agreed less with the belief that love is sufficient reason to marry compared to male participants following the program (females: 4.3-3.6; males: 4.6-4.4), $F(1, 118) = 6.10$ ($p = .02$; partial $\eta^2 = .04$). Overall, the program was found to positively influence, on average, all participants.

Last, MANOVAs were conducted to examine the interaction effects of time by delivery method to determine whether the program effects were influenced by the four approaches used by the instructors (see Table 1). The analyses revealed no differences in program participants' retrospective pretest and posttest scores on the importance placed on FACES, $F(5, 112) = 1.5$ ($p = .10$); their attitudes about romance and mate selection, $F(7, 110) = 1.1$ ($p = .31$); and knowledge and confidence gained, $F(2, 112) = 1.4$ ($p = .23$). Thus, on average, changes in retrospective pretest to posttest scores were similar for each of the four delivery methods.

DISCUSSION

The purpose of our research was to evaluate the PICK program, a relationship education program for singles that was offered as a complement to existing well-being programs in the U.S. Army. When comparing program participants to the nonprogram participants, results showed that program participants were, on average, older, female, non-White, previously married, and parents. Because participation in the program was voluntary, perhaps those who are older may have felt that marriage is more imminent and were, therefore, more likely to volunteer. Similarly, individuals who had been previously married and suffered a divorce might have been more likely to seek out guidance for selecting a partner the second time around. As one program participant who was going through a divorce commented, "This seminar made me feel more confident about dating once again

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and identifying the mistakes I made in the past." Although these demographic differences are important to note, they offer further support to the idea that single individuals desire guidance in the mate-selection process, and they are likely to equally benefit from the program regardless of their prior experiences.

This evaluation of the PICK program examined three specific hypotheses. First, it was expected that participants would develop a heightened understanding of the key areas to explore in premarital relationships. The program focused on five key areas that are predictive of marital success: family background, attitudes and actions of the conscience, compatibility potential, examples of other relationships, and skills in relationships. Results showed that compared to those who did not participate in the PICK program, participants of the program placed significantly greater emphasis on getting to know the key predictors of marital success when dating a potential marriage partner. After completing the program, participants made comments in their open-ended responses, which reinforced these attitudinal shifts. One participant noted that the "program really taught [her] how important family is when it comes to marriage choices!" Another participant remarked that the program "opens your eyes to things you may not have thought to see. It [helps you] think about things more clearly." A clear attitudinal change was reported for participants following the program; however the longevity of this attitudinal shift, as well as the translation, into behavioral changes is unknown.

Next, we hypothesized that participants' would have more positive and realistic expectations about marriage and mate selection after completing the program. Results indicated that program participants were significantly less likely to adopt the unrealistic or constraining beliefs that love is enough (particularly females), that cohabitation is a good idea before marriage, that opposite personalities are complementary, that choosing a partner should be easy, and that finding the right partner is just a matter of chance. Thus, participants became more cognizant of the intentional efforts involved in courtship and mate selection. According to one participant, "[This program] gave me insight and made me think over what I thought a relationship should be."

However, an unexpected, yet enlightening, finding from this study was that program participants, and in particular females, formulated more (vs. less) constraining beliefs regarding idealization (i.e., waiting to marry until they find the right partner) and complete assurance (i.e., waiting to marry until they are certain of marital success). It has been argued that persons who hold these unrealistic beliefs may be constrained from making the decision to marry (Cobb et al., 2003). Together with the finding that no change occurred in the belief that there is a one and only partner for them, it is possible that program participants became more attentive to the importance of taking time during the courtship process to get to know their partner, to select the "right" partner, and to see whether their relationship is ready for matrimony. These findings may be attributed to the PICK program's emphasis on being more deliberate in the mate-selection process, which could have influenced respondents' perceptions of the questions regarding these specific constraining beliefs. As one participant described, "I basically knew all the facts but used to toss them aside and 'follow my heart.' Now I understand the importance of being rational when entering a relationship." Still, caution is warranted in future delivery of this program so as to not unintentionally increase participants' unrealistic expectations, while educating them on the value and process of getting to know a partner and pacing their relationship in a healthy way.

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For our final hypothesis, the program was found to significantly improve participants' knowledge and confidence in their abilities to use the skills taught in the program. Program participants felt more knowledgeable about developing a healthy relationship that will lead to a healthy marriage. As well, program participants felt more confident in their abilities to use the skills learned to develop healthy relationships compared to nonprogram participants. As one participant noted, "This program has reassured me that I am making a right decision in my engagement because all the steps that should be taken I've seen that I have taken them." The confidence expressed by this participant stands in stark contrast to the uncertainty expressed by a nonprogram participant regarding her current relationship and decision to marry:

> My boyfriend and I have been dating for a year, but it has not gotten serious until about 4 months ago when we moved in together. Now I am pregnant, I think we moved too fast but on the other hand maybe we should get married just to make it right and easier. But I really don't know what to do.

IMPLICATIONS

The Army has a vested interest in the health and well-being of military families because of the influence that marital and family life satisfaction have on soldier retention and readiness (Drummet et al., 2003). The findings of this study lend preliminary support to the advantages of educating single soldiers, in addition to married couples (Schumm et al., 2000; Stanley et al., 2005), about the development of healthy relationships that could lead to happy and stable marriages. This program may assist in educating soldiers about the importance of taking time in their relationships to make lasting and healthy relationship decisions. Understanding the relationship development process and feeling confident in practicing the skills learned also can be helpful in discouraging premature marital transitions, particularly prior to war-time and service deployment. As noted by a commanding officer at the DLI, "This training is a valuable tool in helping young soldiers make informed and balanced choices before entering relationships."

In addition, the PICK program content is not military specific and, therefore, is also appropriate for civilian use in general. As previously noted, an increasing number of today's youth are at risk for forming unhealthy relationships (Montgomery, 2005; Silliman & Schumm, 2004), and this program may be particularly helpful to them. In fact, some of the program participants noted that "this program should be given to high school students, and be wide spread" and "hopefully, it can be offered to more people at a younger age." As well, post hoc analyses revealed that, on average, this program had a positive influence on all singles regardless of sex, race, dating, and prior marital and parental status. These findings suggest that educators may be able to offer this program to heterogeneous groups, which makes marketing and recruitment efforts more manageable; however, additional research is needed to reinforce these findings.

Our findings also have implications for how family life educators may choose to teach the program. Analyses indicated that the findings remained constant across the four delivery methods employed by the Chaplains. Although the number of sessions within which the program was offered varied, each method exposed the participants to the same content within a minimum of 6 hrs, which included lectures

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of some sort, either live or by video, and incorporated discussions. In fact, during follow-up interviews to process their experiences in teaching the program, Chaplains emphasized that group discussion, where stories and examples of the concepts were shared, made the presentation and comprehension of the abstract concepts of relationship dynamics and partner selection much easier. Also, Chaplains who used movie clips believed that this approach helped participants (and instructors) better understand the pragmatic application of the PICK concepts to "real life." When asked what helped them most effectively convey the material to their participants, all the instructors also hailed the RAM visual (Figure 1) as the most beneficial teaching aid. Overall, the instructors only reported a couple of challenges with teaching the program. For example, the Chaplain at FJ who taught the program in a 1-day format (Method 3), commented that "[this] was overwhelming for the participants—information overload." Another Chaplain noted that the only challenge he experienced was digesting the material as a new instructor and offered a helpful recommendation for fellow educators:

> There is a lot of material that is brand new and daunting to teach, so team up with some others and share the sessions. It is much less intimidating when you can sit back and watch the co-instructors. You learn by their strengths and weaknesses. When you watch another teach you figure out what you want to do differently, and what you want to emulate from their style and approach. But as these experiences accumulate you begin to own the program, while still being true to the material. We all found that we taught more confidently and energetically when we knew the material, had taught it a couple of times, and felt like it had become our own.

Hence, the delivery method of this program seems to be flexible and can be left to the discretion of the family life educator, as long as in some capacity it includes the common elements suggested (i.e., lecture, discussion, minimum of 6 hrs to cover the program content).

LIMITATIONS AND FUTURE DIRECTIONS

Although the short-term attitudinal shifts influenced by this program were positive, the long-term effects of the PICK program cannot be determined from this study. One limitation of this study is that the data were based on self-report questionnaires. Although self-report methods generally provide accurate assessments of participant attitudes, responses based on social desirability may be of concern. By including behavioral assessments and/or observational assessments in future studies, researchers can be expected to better understand whether reported attitudes are reflective of actual behaviors. Longitudinal research is needed to determine whether the short-term attitudinal shifts are predictive of long-term behavioral changes in premarital relationships.

Another methodological limitation of this study was the use of a retrospective pretest to assess initial knowledge and attitudes rather than a true pretest design. Our decision to use a retrospective pretest/posttest design was deliberate because of limitations associated with true pretest–posttest assessments, the short duration of the program, challenges in collecting and matching pretest and posttest surveys, and advantages of the retrospective design. However, until there is more evidence that retrospective pretests yield reliable data in studies of personal and family relationship issues, future research on the effectiveness of this program

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should use a traditional experimental design. Alternatively, future research could consider collecting pretest data at the beginning of the program and retrospective pretest data at the end of the program to determine whether response shift bias is a factor to be considered. As well, collecting posttest data from a comparison group would more assuredly reveal whether changes in attitudes were truly a function of the program content versus time or other circumstantial factors that may influence a single adult's experiences and beliefs. Still, the current findings offer a clear and initial demonstration of the potential effectiveness relationship education can have for single adults.

An additional limitation also lies with the variation in the delivery of the program. Post hoc analyses showed that variations in instruction were not associated with variations in program participants' retrospective pretest and posttest scores. However, the relatively small within group sample sizes and the nonrandomization of our sample into each delivery method may have limited the power of our analyses to detect statistically significant differences. Additional research is warranted before conclusively determining that the effects of this program actually hold constant across various methods of delivery (e.g., number of sessions, hours/session, teaching format).

A final limitation is related to the homogeneous sample of U.S. Army soldiers. Although the participants were varied in terms of age, race, and other demographic characteristics, the results are reflective of a select group of people and may not be generalizable to all singles. Soldiers spend much of their time immersed in an environment consisting of other soldiers. Individuals who belong to a less homogeneous group may be different from soldiers who share a similar lifestyle. Still, the finding that the program positively influenced all participants, regardless of demographic characteristics or past relationship history, offers an optimistic outlook for those who replicate and further the study of this relationship education program with different audiences. It is recommended that future researchers evaluate the PICK program with other military groups, as well as with nonsoldier populations of singles.

CONCLUSION

Nielsen, Pinsof, Rampage, Solomon, and Goldstein (2004) argued that, in general, singles "lack a map for dealing with the highly predictable difficulties that are associated with future marriages" (p. 487). Thus, educating singles on how to develop healthy, romantic relationships can be beneficial to their later dating and marital satisfaction, and for U.S. Army soldiers, their satisfaction with military life. Notably, there is limited research that specifically explores the effectiveness of relationship educational programming on youth and singles entering romantic relationships. These findings demonstrate that educating singles on how to develop healthy, romantic relationships is advantageous and can serve as a stepping stone for future researchers to evaluate the long-term effects of premarital education programs.

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AVOID FALLING FOR A JERK(ETTE): EFFECTIVENESS OF THE PREMARITAL INTERPERSONAL CHOICES AND KNOWLEDGE PROGRAM AMONG EMERGING ADULTS

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*Premarital education may help emerging adults form healthy relationships, but evaluation research is needed, particularly with community samples. We studied emerging adults in the Premarital Interpersonal Choices and Knowledge (PICK) program, using a pre- to post- and a posttest-then-retrospective-pretest design to examine change in perceived relationship skills, partner selection, relational patterns, and relationship behaviors and attitudes. Mixed models analyses showed that scores for the treatment group (*n *= 682) increased from pre to post on all four outcomes. Changes in scores for the nonequivalent comparison group (*n *= 462) were nonsignificant. In addition, significant differences between pre- and retrospective prescores demonstrated evidence for response shift bias. The results suggest that the PICK program helps participants increase their knowledge regarding the components of healthy relationship formation.*

Key words: posttest-then-retrospective-pretest, response-shift bias.

Although emerging adults in the United States marry less often and later than previously (Sassler, 2010), marriage is still an important priority for many (Wilcox, 2010). The extended time before marriage (and for some, between marriages) has come with an increase in various types of intimate relationships including which increasingly includes casual sex (Giordano, Manning, Longmore, & Flanigan, 2012), sliding into cohabitation (Stanley, Rhoades, & Fincham, 2011), serial cohabitation, and reconciliations and sex with exes (Halpern-Meekin, Manning, Giordano, & Longmore, 2013). Relationship cycling and fast relationship pacing have been associated with lower levels of marriage stability and commitment (Busby, Carroll, & Willoughby, 2010; Vennum & Johnson, 2014; Willoughby, Carroll, & Busby, 2014) and, therefore, might not be conducive to marital aspirations (Whitehead & Popenoe, 2000).

Given these trends, premarital interventions such as the *Premarital Interpersonal Choices and Knowledge* (PICK) have been developed for individuals in the mate selection phase. Such programs, often targeted to emerging adults, are becoming a common way to help young adults to increase their odds at achieving healthy relationships. However, there is little related evaluation

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research. The purpose of this study was to examine the effectiveness of the PICK program among emerging adults. PICK is only one of a few relationship education programs specifically designed for individuals who are seeking an intimate relationship or deciding whether to deepen a current relationship (Hawkins, Carroll, Doherty, & Willoughby, 2004). The curriculum is designed to help individuals make healthy, deliberate relationship choices. With prevention theory as a foundation for this study (Coie et al., 1993), we used a pre- to post- and a posttest-then-retrospective-pretest design with two groups of emerging adults: a treatment group drawn from the community and a nonequivalent control group drawn from the university.

LITERATURE REVIEW

Prevention Theory

The principles of prevention theory are at the heart of premarital intervention. Coie et al. (1993) outlined the essence of prevention science as an interplay between (a) risk factors—variables with high probability of onset that increase the occurrence, duration, and intensity of dysfunction, and (b) protective factors—variables that increase resistance to risk factors and dysfunction (Coie et al., 1993). Prevention theorists suggest that risk factors should be addressed early when they can be most influenced and have not yet developed into predictors of dysfunction. Additionally, individuals more likely to develop dysfunction should also be identified promptly and given skills to buffer the processes that contribute to eventual dysfunction. Coie et al. (1993) pointed out that those most at risk are often the most difficult to reach and therefore often do not receive tools or resources.

Premarital Relationship Education in Emerging Adulthood

With the rationale of reaching individuals early before dysfunction develops, family life educators are now targeting emerging adults in the mate selection phase—even before committed, intimate relationships occur (Cottle, Thompson, Burr, & Hubler, 2014). Fincham, Stanley, and Rhoades (2011) argued that emerging adulthood is an ideal time for couple relationship education (CRE) because (a) individuals often have not yet married, but often form committed, sexual relationships, (b) dating violence continues to be a widespread problem that may be addressed at least somewhat by CRE, (c) there are many negative consequences to risky sexual behaviors that CRE may address, and (d) healthy dating relationships have been associated with fewer mental health issues (see also Braithwaite, Delevi, & Fincham, 2010).

Emerging adulthood occurs approximately during the ages of 18 and 29 (Arnett, 2014), and is characterized by (a) self-exploration, (b) instability, (c) self-focus, (d) feeling in-between, and (e) increased possibilities (Arnett, 2014). As Hamilton and Hamilton (2006) noted, emerging adulthood has many paths—some work full time, or attend a trade school or junior college while others attend universities. In a study of emerging adults who participated in individually based CRE at the university, Braithwaite, Lambert, Fincham, and Pasley (2010) noted the limited reach of that venue. They concluded that "future research is needed to examine the impact of this kind of intervention on individuals who do not pursue higher education" (p. 745). Currently only one published study (Antle et al., 2013) has evaluated this kind of intervention with a community sample. By offering programs outside the university, there is a potential to reach the unique group of emerging adults who may not have the resources to attend a university.

Because there is relatively little educational programming for individuals in the mate selection phase, there is little evaluation research on such programs, particularly with community samples. Markman and Rhoades (2012) reviewed CRE programs from 2002 to 2010, and of the 32 studies in the review, only two featured programs targeting individuals in the mate selection stage: *Within My Reach* (WMR; Pearson, Stanley, & Kline, 2005) and PICK (Antle et al., 2013; Van Epp, Futris, Van Epp, & Campbell, 2008). To the authors' knowledge, there are currently only seven published quantitative studies evaluating CRE in the mate selection phase: five in the university setting (Braithwaite, Lambert, et al., 2010; Cottle et al., 2014; Fincham et al., 2011; Olmstead et al., 2011), one to individuals from low socioeconomic backgrounds in the community (Antle et al., 2013), and one to military personnel (Van Epp et al., 2008).

In this study, we used emerging adults from the university as a nonequivalent comparison group, along with a treatment group of emerging adults from the community. This study design

increases control by allowing comparison of risk factors and outcomes of the two groups (Montero & Leon, 2007). In the literature, certain demographic variables have been associated with a higher likelihood of divorce including being poor, having higher order marriages (i.e., married and divorced multiple times), being less educated, and having children from prior relationships (Amato, 2010). To the extent that university attendance constitutes privilege, and thus potential for lower levels of risk, it may be that the emerging adults in the treatment group experience more risk, which may more strongly warrant intervention (Coie et al., 1993). We reasoned that comparing the baseline scores of the treatment group of emerging adults with those from the university might help reveal potential differences in perceived skills and attitudes, thereby shedding light on the potential risk levels of those in attendance. For example, one group might have less knowledge than the other which may justify further intervention or a higher dosage of the program. Knowing general profiles among emerging adults with regard to divorce rates, presence of children, education levels, income levels, and cultural backgrounds might also help future facilitators more succinctly focus their content to those in attendance. Such findings might also help in the formation of future editions of this and other programs.

Reach and Effectiveness of PICK

To date, over 500,000 individuals have attended a PICK course, and certified instructors reside in all 50 states (J. Van Epp, personal communication, January 13, 2015). Additionally, the PICK curriculum has been around for several years—the instructor's manual is on its fifth edition (Van Epp, 2010). Yet, there have been only two published quantitative studies and a handful of preliminary unpublished evaluations of PICK. The initial findings from these evaluations are promising. Van Epp et al. (2008) provided PICK to military personnel and found significant increases in retrospective pre- to postscores in relationship confidence and knowledge. Brower et al. (2012) applied the content of PICK to adolescents and, using a retrospective pre- to postdesign, found significant increases in knowledge about healthy relationships. In addition to these two studies, three separate unpublished reports showed that pre- to postscores in knowledge and attitudes increased for attendees (Marriage Works Ohio, n.d.; Michigan Healthy Marriage Coalition, n.d.; Schumm & Theodore, 2014). Although these reports provide initial evidence for the effectiveness of PICK, more rigorous evaluative research on PICK is needed.

PICK Program Content

The main aim of PICK is to teach participants research-based information to help them increase their chances of long-term relationship success. There are two overarching goals featured in the PICK program, including (a) recognizing characteristics of a potential partner and (b) appropriately pacing a relationship (see Van Epp et al., 2008 for a review). The program's first goal is to educate individuals on areas that contribute to marital stability and quality. These areas include family dynamics and childhood experiences, attitudes and actions of the conscience, compatibility potential, examples of other relationships, and skills for relationships (F.A.C.E.S.). The second goal of PICK is to provide individuals with knowledge concerning pacing in the dating process, and to help them effectively balance increased levels of closeness to be proportionate with factors such as knowledge, trust, and commitment. Because the only two published evaluations of PICK involved military personnel and adolescents, the program still needs to be evaluated in other contexts including emerging adulthood.

In the current study, we compared emerging adult attendees with nonparticipants from the university. The purpose was to (a) test the effectiveness of PICK in a treatment group of emerging adults by determining differences between pre (and retrospective pre)- and postmean scores on four outcome variables including *perceived relationship skills, partner selection, relational patterns, and relationship behaviors* and *attitudes;* and (b) examine differences in mean scores for the treatment group of emerging adults versus the university sample on the four outcome measures. This design is comparable to a nonequivalent group design in which groups are formed under circumstances that permit no control (or limited control) of assignment of individuals. In addition, the between-subjects comparisons allowed us to examine outcomes relative to two groups with potentially differing risk levels, thus allowing us to test the outcomes according the principles of prevention theory.

METHOD

Procedures

Participants were recruited from eight predominantly urban/suburban communities across a western state through newspapers advertisements, Internet advertisements, word of mouth, collaboration with local extension faculty, distribution of flyers, announcements in university classes, and commercials in local movie theaters. These participants attended 180 courses that took place from October 2, 2012 to August 6, 2014. Any individual over the age of 18 was eligible; registration was via Internet but walk-ins were allowed. All participants completed a two-page pretest survey prior to the first lesson and a similar posttest survey at the conclusion of the last session of the course. All courses were 6 hr in length with identical content. Multiple formats of PICK were offered, ranging from 1-day 6-hr sessions to six 1-hr sessions spread out over 6 weeks. In terms of format, 2.1% attended a onetime workshop; 16% attended two, 3-hr sessions over 2 weeks; 42% attended three, 2-hr sessions over 3 weeks; and 8% attended four, 1.5-hr sessions over 4 weeks or six, 1-hr sessions over 6 weeks (32% missing data on this item). A meal from a local restaurant was provided at each group meeting as an incentive for individuals to participate. Each of the nine facilitators completed the Instructor Certification Packets and passed the online test to become certified PICK instructors. Additionally, the nine instructors participated in a full-day training conference that oriented them to the curriculum and to project procedures. To further ensure treatment fidelity, site visits were performed periodically by the initiative's project director who observed classes and gave feedback.

A nonequivalent comparison group of university students was recruited at a western university during the spring semester of 2013. A project coordinator distributed surveys to students in eight classes (five family science courses and three business courses). Students used the first 10–15 min of class to complete the two-page pretest survey. This project coordinator returned to the same eight classes 2 weeks later and students again took the first 10–15 min of class time to complete the two-page posttest survey. Survey completion was voluntary; extra credit was not offered to the students.

Participants

For this study, emerging adults were selected from the full sample of PICK participants, which consisted of 2,760 individuals. Because the program was designed primarily for single individuals, and because the outcome measures focus on aspects such as partner selection, we dropped participants who were engaged or married ($n = 312$). Additionally, we chose to limit our sample to emerging adults ages 18–25 in order to make the treatment group and university group equivalent in terms of developmental stage. This resulted in a sample of 682 emerging adults from the community in the treatment group and 462 emerging adults from the university in the comparison group. Those in dating relationships were included in the analyses due to the program's focus on recognizing characteristics of a potential partner that shape long-term relationship outcomes, and on appropriately pacing a relationship. These aims are germane to developing relationships.

Treatment group. The mean age of the treatment group ($n = 682$) was 21.5 ($SD = 2.24$). The participants were 73.5% women and 26.3% men. Regarding race and ethnicity, 84.7% were White, 6.8% were Hispanic/Latino, 3.4% indicated Other, 1.3% were Native American, 0.6% were Asian American, and 0.9% were African American. In this sample, 72.4% were single, 27.5% were dating, and 0.1% were widowed. Regarding education, 6.3% had attended some high school, 19.1% were high school graduates or had a GED, 52.5% had attended some college, 17.8% had obtained a college or technical degree, and 2.4% had obtained a graduate degree. There were 7.8% that had at least one child and 3.0% had experienced a divorce. The median income of the treatment group was $10,000.

Nonequivalent comparison (university) group. Data were collected from a university group that originally included 725 college students recruited from various undergraduate classes from a local university. We eliminated from this sample individuals older than 25 ($n = 263$). This resulted in a sample of 462 individuals including 69.7% women and 29.9% men. The mean age of the group was 21.35 ($SD = 3.98$). Regarding race and ethnicity, 91.6% of the sample was White, 3% Latino,

1.9% other, 1.7% Asian American, 0.6% Native American, and 0.4% African American. Regarding relationship status, 67.7% were single, and 32% were dating. Only 0.4% had at least one child and 1.1% had experienced a divorce. Median household income was $7,000.

Measures

Two measures focused on perceived personal knowledge about relationship skills and partner selection. These measures were generated to reflect the content of the course. Two additional measures, used in a previous evaluation of PICK (see Van Epp et al., 2008), focused on perceived knowledge about a potential partner including relational patterns and relationship behaviors and attitudes. Because of the emphasis PICK places on forming relationships, traditional premarital outcome measures such as communication skills, problem solving, empathy, and marriage quality do not suffice because such measures assume an extant intimate relationship. Instead, due to the program's focus on mate selection, appropriate variables include factors such as knowledge, attitudes, and perceptions. Fincham et al. (2011) stated that one of the main difficulties in evaluating WMR was identifying appropriate measures. They thus began to develop measures to meet the needs of WMR (see Vennum & Fincham, 2011), which were not yet published at the inception of the current initiative. We developed items that measured knowledge, attitudes, and perceptions of those attending the course. The first two scales measure an individual's perceived knowledge about (a) relationship skills and (b) partner selection. The last two scales (Van Epp et al., 2008) measure perceived importance of knowledge about a potential partner's (c) relationship patterns, and his or her (d) relationship behaviors and attitudes.

Although most of the items reflect prior research, some of the items on these measures reflect unique content featured in PICK. To increase clarity about the measures, we provide their full descriptive titles here. To decrease wordiness throughout the study, however, the four outcome measures are simply referred to as *relationship skills, partner selection, relational patterns,* and *relationship behaviors and attitudes*.

Perceived knowledge about relationship skills. To measure perceived relationship skills, participants rated three statements on a 5-point Likert scale ranging from 1 *disagree* to 5 *strongly agree*. These statements included "I understand what it takes to have a healthy relationship," "I know how to communicate well with a partner," and "I have good conflict management skills." Mean scores were calculated. Cronbach's alphas (including both samples) were .70 for pretest, .70 for retrospective pre, and .70 for posttest.

Perceived knowledge about partner selection. Participants rated partner selection using four statements: "I know how to choose the right partner for me," "I know the important things to learn about a potential partner," "I know how to pace a relationship in a safe way," and "I can spot warning signs in relationships." These statements were placed on 5-point Likert scales ranging from 1 *disagree* to 5 *strongly agree*. Mean scores were calculated. Cronbach's alphas were .82 for pretest and .79 for posttest.

Perceived importance of knowledge about a potential partner's relationship patterns. Participants were given the stem "How important is it to you to know the following about someone prior to becoming seriously committed?" (see Van Epp et al., 2008). The variable of relational patterns was measured using four items: "what he/she learned from his or her family when growing up," "what he/she has been like in past relationships," "how well he/she gets along with his or her parents," and "what his or her friendships are like." Attendees rated these four items ranging from 1 *unimportant* to 5 *crucially important*. Mean scores were calculated. Cronbach's alphas were .73 for pretest, .77 for retrospective pre, and .78 for posttest.

Perceived importance of knowledge about a potential partner's relationship behavior and attitudes. Relationship behaviors and attitudes were measured using three statements on 5-point Likert scales ranging from 1 *unimportant* to 5 *crucially important* (Van Epp et al., 2008). Participants were given the stem "How important is it to you to know the following about someone prior to becoming seriously committed?" and asked to rate a list of statements ranging from 1 *unimportant* to 5 *crucially important*. These statements included "how he/she fights when angry," "how he/she reacts when my feelings are hurt," and "what he/she believes about right and wrong." Mean scores were calculated. Cronbach's alphas were .62 for pretest, .66 for retrospective pre, and .68 for posttest.

Plan of Analysis

Mixed models testing. To test differences between the various means at the various times in the treatment group emerging adults, we used a linear mixed models analysis for longitudinal data (see Everitt, 2010). Within a linear model, there are fixed effects and error (Winter, 2013). Not only does the mixed models analysis account for fixed effects, it also accounts for randomness introduced by individual differences—"essentially giving structure to the error" (Winter, 2013, p. 3). The mixed models analysis has several advantages over other options, especially repeated-measures ANOVA, such as cases not needing to be dropped because of missing data. Linear mixed models also accounts for different spacing in repeated measurements (Seltman, 2014). We also used mixed models to compare the pretest and posttest scores of the treatment group with the scores from the university sample on all four outcome measures.

Chi-square comparisons. We used chi-square tests to explore the differences between the treatment group and the university sample, and compared them on the following variables: gender, race/ethnicity (White, Latino, and Other), income (0–$20,000, $20,001–$35,000, and $35,000 or higher), education level (high school degree or less, some college, college degree, and graduate degree), previous divorce (yes/no), and presence of children (yes/no).

Response shift bias. As a class participant's understanding changes from pre- to postintervention, it is hypothesized that the way they interpret questions on presurveys differs on postsurveys. Because individuals do not know the course content beforehand, they will likely produce biased scores in the pretest due to a lack of understanding about the questions themselves. This is known as response shift bias (Howard, 1982). Response shift bias has been tested by comparing pretest means with retrospective pretest means to determine whether the differences are statistically significant (Drennan & Hyde, 2008). Significant differences between the two means are presumed to indicate altered understanding about the construct being measured and to indicate that response shift bias has occurred. To test this phenomenon, we used mixed models design to compare pretest means with retrospective pretest means. Three of the four measures in this study featured posttest-then-retrospective-pretest evaluations (Marshall, Higginbotham, Harris, & Lee, 2007) in the postsurvey, including relationship skills, partner selection, and relationship behaviors and attitudes (partner selection was not tested retrospectively due to space limitations on the survey). Participants were asked on the posttest survey to "mark the boxes that reflect your opinion *before* and *after* attending this course" for perceived relationship skills, and "how important was it to you before the course *and* how important *is it now* to know the following about someone *prior to* becoming seriously committed" for mate selection and behaviors and attitudes.

RESULTS

Reliability Testing

Because the outcome measures were psychometrically untested, we conducted principal components factor analyses to determine the reliability of the measures before testing the difference scores in the mixed models analyses. Eigenvalues for the items ranged from 1.7 to 2.7 and explained 55.5–60% of the variability. As previously shown, Cronbach's alpha levels for three of the four outcome variables were .70 and higher. The alpha levels for the fourth outcome variable (relationship behaviors and attitudes) had alphas that ranged from .62 to .68. Although not robust, these coefficients are considered to be acceptable in emerging areas of research (Cho & Kim, 2015; Lance, Butts, & Michels, 2006).

Differences in Means for the Treatment Group

Using a mixed models analysis, we tested for changes in the treatment group over time for the four variables, including perceived knowledge of (a) relationship skills, and (b) partner selection, as well as perceived importance of knowledge about a potential partner's past (c) relational patterns, and (d) relationship behaviors and attitudes. In mixed models, one must specify a reference point. The posttest was used as the reference point; the *t*-test scores reflect differences compared to the posttest means. These results are reported in Tables 1–4, including results regarding gender differences.

Table 1
Mixed Models Results for Relationship Skills

Parameter	Mean scores (*SD*, *n*)	Estimate	Std. error	*t*-Statistic	*p*
Intercept		4.25	.027	157.49	.001
Pre	3.53 (0.62, 176) *3.41* (0.68, 494)*	−0.84	.029	−28.62	.001
Retro-pre	3.35 (0.71, 114) *3.18* (0.72, 334)*	−1.06	.031	−33.76	.001
Post	4.34 (0.57, 111) *4.27 (0.51, 338)*	—	—	—	—
Gender (M) (F reference)		0.099	.046	2.15	.032

Note. Women's means are italicized and differ from those of men where **p* < .05.

Table 2
Mixed Models Results for Partner Selection

Parameter	Mean scores (*SD*, *n*)	Estimate	Std. error	*t*-Statistic	*p*
Intercept		4.11	.028	144.67	.001
Pre	3.28 (0.76, 173) *3.16 (0.80, 495)*	−0.95	.034	−27.83	.001
Post	4.10 (0.60, 112) *4.16 (0.54, 339)*	—	—	—	—
Gender (M) (F reference)		0.01	.051	0.21	.837

Note. Women's means are italicized.

Relationship skills. Means for perceived relationship skills differed significantly across each time point (see Table 1). The mean was highest at the posttest. The posttest mean ($M = 4.28$, $SD = 0.53$) was significantly higher than the retrospective pretest ($M = 3.23$, $SD = 0.72$, $t = -33.76$, $p < .001$) and the pretest ($M = 3.44$, $SD = 0.66$ $t = -28.62$, $p < .001$). Means differed by gender ($t = 2.15$, $p < .05$) indicating that men scored higher overall than women on perceived relationship skills. Mean scores (*SD*, *n*) for men were *pretest*: 3.53 (*0.62*, 176); *retrospective-pre*: 3.35 (*0.71*, 114); and *posttest*: 4.34 (*0.57*, 111). Means (*SD*, *n*) for women were *pretest*: 3.41 (*0.68*, 494); *retrospective-pre*: 3.18 (*0.72*, 334); and *posttest*: 4.27 (*0.52*, 338).

Partner selection. Mean scores for perceived personal knowledge about partner selection differed significantly across each time point, again with highest scores found at the posttest (see Table 2). The mean score at the posttest ($M = 4.20$, $SD = 0.55$) differed significantly compared to the pretest mean ($M = 3.20$, $SD = 0.79$, $t = -27.83$, $p < .001$). Due to space considerations on the survey, no retrospective pretest data were collected for this measure. Gender differences were not significant ($t = 0.21$, $p = .837$). Mean scores (*SD*, *n*) for men were *pretest:* 3.28 (*0.76*, 173) and *posttest*: 4.10 (*0.60*, 112). Mean scores (*SD*, *n*) for women were *pretest*: 3.16 (*0.80*, 495) and *posttest*: 4.16 (*0.54*, 339).

Table 3
Mixed Models Results for Relational Patterns

Parameter	Mean scores (*SD*, *n*)	Estimate	Std. error	*t*-Statistic	*p*
Intercept		4.60	.026	178.2	.001
Pre	3.61 (0.70, 175) *4.13* (0.59, 497)*	−0.51	.026	−19.14	.001
Retro-pre	3.44 (0.85, 110) *3.78* (0.77, 331)*	−0.81	.035	−23.32	.001
Post	4.31 (0.59, 108) *4.57* (0.48, 337)*	—	—	—	—
Gender (M) (F reference)		−0.38	.044	−8.67	.001

Note. Women's means are italicized and differ from those of men where **p* < .05.

Table 4
Mixed Models Results for Relationship Behaviors and Attitudes

Parameter	Mean scores (*SD*, *n*)	Estimate	Std. error	*t*-Statistic	*p*
Intercept		4.73	.022	211.65	.001
Pre	3.98 (0.62, 174) *4.43* (0.52, 497)*	−0.33	.022	−14.87	.001
Retro-pre	3.83 (0.77, 110) *4.19* (0.66, 332)*	−0.55	.029	−19.25	.001
Post	4.47 (0.55, 108) *4.72* (0.40, 337)*	—	—	—	—
Gender (M) (F reference)		−0.35	.040	−8.77	.001

Note. Women's means are italicized and differ from those of men where **p* < .05.

Relational patterns. For both men and women, means for relational patterns at posttest ($M = 4.51$, $SD = 0.52$) were significantly higher than means at pretest ($M = 4.00$, $SD = 0.66$, $t = -19.14$, $p < .001$; see Table 3) and retrospective pretest ($M = 3.70$, $SD = 0.80$, $t = -23.32$, $p < .001$). The test for gender differences was also significant ($t = -8.67$, $p < .001$) showing that women, at all points, rated themselves significantly higher on knowledge of relational patterns. Mean scores (*SD*, *n*) for men were *pretest*: 3.61 (*0.69*, 175); *retrospective-pre*: 3.44 (*0.85*, 110); and *posttest*: 4.31 (*0.59*, 108). Mean scores (*SD*, *n*) for women were *pretest*: 4.31 (*0.59*, 497); *retrospective-pre*: 3.78 (*0.77*, 331); and *posttest*: 4.57 (*0.48*, 337).

Relationship behaviors and attitudes. Mean differences on relationship behaviors and attitudes were significantly higher at posttest ($M = 4.66$, $SD = 0.45$) compared to the pretest ($M = 4.31$, $SD = 0.58$, $t = -14.87$, $p < .001$) and retrospective pretest ($t = -19.25$, $p < .001$; see Table 4). Means varied significantly by gender ($t = -8.77$, $p < .001$). On average, women scored higher than men regarding the importance of knowing about their partner's dynamics before becoming committed. Mean scores (*SD*, *n*) for men were *pretest:* 3.98 (*0.62*, 174); *retrospective-pre:*

3.83 (*0.77*, 110); and *posttest:* 4.47 (*0.55*, 108). Mean scores (*SD*, *n*) for women were *pretest*: 4.43 (*0.52*, 497); *retrospective-pre*: 4.19 (*0.66*, 332); and *posttest*: 4.72 (*0.40*, 337).

Response Shift Bias

To test for possible response shift bias, the pretest means were compared with the retrospective pretest means on the measures of relationship skills, relational patterns, and relationship behaviors and attitudes. All three tests yielded significant differences. For relationship skills, the pretest mean ($M = 3.44$, $SD = 0.66$) was significantly higher than the retrospective pretest mean ($M = 3.23$, $SD = 0.72$) ($t = 7.51$, $p < .001$). Regarding relational patterns, the pretest mean ($M = 4.0$, $SD = 0.66$) was likewise significantly higher than the retrospective pretest mean ($M = 3.70$, $SD = 0.80$) ($t = 6.79$, $p < .001$). For relationship behaviors and attitudes, the pretest mean ($M = 4.31$, $SD = 0.58$) was also significantly higher than the retrospective pretest mean ($M = 4.10$, $SD = 0.71$) ($t = 7.97$, $p < .001$). Thus, the pretest mean was significantly higher than the retrospective pretest mean on all three comparisons, indicating the presence of response shift bias.

Treatment Group Versus Nonequivalent Group

As stated previously, we hypothesized that emerging adults from the community on the whole would likely be different from those from the university. To understand differences between groups, we used chi-squared tests to examine differences between emerging adults (ages 18–25) in single or dating relationships in the treatment group and emerging adults attending university courses for the following variables: gender, race/ethnicity (White, Latino, and Other), income (0–$20,000, $20,001–$35,000, and $35,000 or higher), education level (high school degree or less, some college, college degree, and graduate degree), previous divorce (yes/no), and presence of children (yes/no). Compared to the university emerging adults, the treatment emerging adults differed in ethnicity ($\chi^2 = 12.46$, $p < .01$) with the treatment group having more Latinos and more individuals from Other ethnic groups. They also differed in income levels ($\chi^2 = 29.69$, $p < .001$) with those from the treatment group making more money on average than the university group. In the treatment group, education levels ($\chi^2 = 136.41$, $p < .001$) were more diverse than the university group with more individuals having only high school degrees, fewer individuals with some college, but more already having college degrees. Emerging adults in the treatment group were more likely to have experienced a divorce ($\chi^2 = 7.04$, $p < .01$) and were more likely to have children ($\chi^2 = 35.41$, $p < .001$).

Group Comparisons

Using mixed models, we compared differences in the means of outcome variables between the single emerging adults from the university and those from the treatment group. The same four outcome variables were used including perceived knowledge of relationship skills, partner selection, a potential partner's relational patterns, and a potential partner's relationship behaviors and attitudes.

Relationship skills. At pretest, the mean for relationship skills was higher for the university emerging adults ($M = 3.79$, $SD = 0.57$) than for the treatment group ($M = 3.44$, $SD = 0.65$) ($t = 9.47$, $p < .001$); see Table 5. The nonequivalent (university) group by treatment by time variable differed significantly for relationship skills ($t = 18.88$, $p < .001$). This test compares the treatment group and comparison group scores from pretest to posttest and showed significant improvement in the treatment group, and not for the comparison group. Results indicated that emerging adults in the treatment group improved from pre- to posttreatment (3.44, $SD = 0.65$ at pretreatment vs. 4.28, $SD = 0.55$ at posttreatment) when compared with those from the university (3.79, $SD = 0.57$ vs. 3.85, $SD = 0.52$). Results did not differ by gender.

Partner selection. At pretest, the mean score for partner selection was again significantly higher for the emerging adults in the university group ($M = 3.58$, $SD = 0.71$) compared with the mean for those in the treatment group ($M = 3.19$, $SD = 0.79$) ($t = 8.67$, $p < .001$); see Table 6. At posttest, the mean score for partner selection was significantly higher for the treatment group compared with the posttest score for the university group. The nonequivalent by treatment by time variable differed significantly for partner selection ($t = 17.31$, $p < .001$), indicating that those in

Table 5
Mixed Models Results for Relationship Skills With Nonequivalent Group

Parameter	Estimate	Std. error	*t*-Statistic	*p*
Intercept	4.26	.025	169.05	.001
Nonequivalent × treatment	−0.41	.038	−11.28	.001
Pre to post	−0.83	.026	−32.11	.001
Nonequivalent × treatment × time	0.76	.040	18.88	.001
Gender	0.06	.035	1.75	.08

Table 6
Mixed Models Results for Partner Selection With Nonequivalent Group

Parameter	Estimate	Std. error	*t*-Statistic	*p*
Intercept	4.15	.029	145.42	.001
Nonequivalent × treatment	−0.44	.042	−10.47	.001
Pre to post	−0.95	.031	−30.16	.001
Nonequivalent × treatment × time	0.82	.048	17.31	.001
Gender	−0.012	.04	−0.312	.755

the treatment group improved in scores from pre- to posttreatment (3.19, $SD = 0.78$ at pretreatment vs. 4.15, $SD = 0.57$ at posttreatment) when compared with the university group (3.58, $SD = 0.73$ vs. 3.71, $SD = 0.63$). Once again, mean scores did not differ significantly by gender.

Relational patterns. At pretest, the mean score for relational patterns did not differ significantly for the university group ($M = 4.03$, $SD = 0.57$) compared with the treatment group ($M = 4.00$, $SD = 0.67$); see Table 7. The nonequivalent by treatment by time variable differed significantly, suggesting that the treatment group improved more over time compared with the university students ($t = 12.90$, $p < .001$). The mean for emerging adults in the treatment group went from 4.00, $SD = 0.57$ at pretreatment to 4.51, $SD = 0.48$ at posttreatment, while the mean for emerging adults from the university went from 4.03, $SD = 0.57$ at pretreatment to a mean of 4.04, $SD = 0.55$ at posttreatment. The scores for men in both the university group and the treatment group on average were significantly lower than scores for women on knowledge about potential partner's relational patterns ($t = -10.21$, $p < .001$).

Relationship behaviors and attitudes. For this variable, the treatment group mean ($M = 4.31$, $SD = 0.58$) was higher at pretest compared with the university students ($M = 4.25$, $SD = 0.58$; $t = -1.97$, $p < .05$); see Table 8. The nonequivalent by treatment by time variable differed

Table 7
Mixed Models Results for Relational Patterns With Nonequivalent Group

Parameter	Estimate	Std. error	*t*-Statistic	*p*
Intercept	4.0	.026	178.19	.001
Nonequivalent × treatment	−0.46	.038	−12.14	.001
Pre to post	−0.51	.025	−20.32	.001
Nonequivalent × treatment × time	0.50	.039	12.90	.001
Gender	−0.35	.040	−10.21	.001

Table 8
Mixed Models Results for Relationship Behaviors and Attitudes With Nonequivalent Group

Parameter	Estimate	Std. error	*t*-Statistic	*p*
Intercept	4.73	.023	205.60	.001
Nonequivalent × treatment	−0.30	.033	−8.99	.001
Pre to post	−0.33	.022	−15.06	.001
Nonequivalent × treatment × time	0.25	.034	7.31	.001
Gender	−0.34	.032	−10.83	.001

significantly, suggesting again that the treatment group improved more over time from pretest to posttest (4.31, $SD = 0.64$ pretest, vs. 4.66, $SD = 0.54$ posttest), compared to the university group (4.25, $SD = 0.57$ pretest, vs. 4.32, $SD = 0.58$ posttest) ($t = 7.31$, $p < .001$). Women's mean scores were higher, on average, than men ($t = -10.83$, $p < .001$) in both the university and treatment groups.

DISCUSSION

The current study is one of the first evaluations to examine the effectiveness of PICK with a community sample. The results provide evidence that PICK helps individuals gain knowledge about forming healthy relationships. Attendees demonstrated significant pretest to posttest gains in all four outcomes: perceived knowledge about relationship skills and partner selection, and perceived knowledge about a potential partner's relational patterns and relationship behaviors and attitudes. Using prevention theory as a guide, we compared means of emerging adults in the treatment group to means in a university nonequivalent comparison group. Our purpose was to compare both preintervention and postintervention scores among the treatment group (which was relatively more diverse) with a university control group. As expected, the pre- to postgains on the four outcomes made by the emerging adults in the treatment group were significantly higher than the pre- to postmeans of the comparison group emerging adults from the university who did not receive treatment. These results thus give further support for the effectiveness of PICK, particularly among community participants. The current results are consistent with research on PICK that has documented gains from pre- to posttests in areas of compromise, trust, knowledge, and understanding (Marriage Works Ohio, n.d.; Michigan Healthy Marriage Coalition, n.d.; Schumm & Theodore, 2014; Van Epp et al., 2008).

By targeting emerging adults in the community with PICK, we tried to reach individuals early and to serve those who might be relatively more at risk (Coie et al., 1993). Regarding risk factors that contribute to divorce (Amato, 2010), the differences in demographics between emerging adults from the community and university emerging adults suggest that the treatment group was at higher risk for relationship dysfunction in potentially important ways. Overall, the treatment group emerging adults had significantly less education than the university group (e.g., 26% of the treatment group had a high school education or less compared to 6.5% of the university group), higher rates of divorce (3.1% compared with 1.1%), and higher likelihood of having children (7.8% compared with 0.4%). But there were also potential protective factors among some in the community sample: Nearly 20% had obtained a college degree, and mean income levels were higher for this group ($7,000 for university students vs. $10,000 for the treatment group). Beyond risk and protective factors, we can only conclude that those in the treatment group were somewhat more diverse than those in the university group.

The preintervention scores for each group may also be viewed as potential markers for risk. However, comparing the means on the four outcomes for the two groups produced mixed results. For example, the university group had relatively higher scores on relationship skills and partner selection—possibly suggesting higher risk for those in the treatment group regarding their own

skills and choosing a partner. Conversely, those in the treatment group scored relatively higher on perceived knowledge about a potential partner's relationship behaviors and attitudes. Taken together, the pretreatment means suggest that the university group was more confident in their initial personal relational knowledge, but that the community (treatment) group was at least somewhat more confident in their initial knowledge about partner selection.

These analyses yielded differences by gender (further tests of demographic predictors are provided in K. B. Bradford, J. W. Stewart, B. J. Higginbotham, & R. Pfister. (2016), submitted). In the treatment group, men scored higher than women on perceived relationship skills (e.g., healthy communication and conflict management) which may be counter to cultural scripts. There were no gender differences regarding knowledge of partner selection. Scholars have emphasized that there are far more gender overlaps than gender differences in communication and that dichotomous views are typically inaccurate; the lack of gender difference regarding partner selection may support such a nuanced view (Dindia & Canary, 2006). Conversely, women scored higher than men on two outcome measures: relational patterns and relationship behaviors and attitudes. This finding suggests that women in the study were more likely to carefully examine their potential partners' relationships and personality characteristics. This finding is in agreement with past research that suggests women, more than men, tend to be relatively more particular about the characteristics of a potential partner (Schwarz & Hassebrauck, 2012) and have been found to value generosity, intellect, sociability, reliability, kindness, and humor in a potential partner whereas men tend to place more emphasis on physical attractiveness, creativity, and being a domestic partner.

Response Shift Bias

The results of this study give evidence of response shift bias in the pretest–posttest design. On the three scales in which we used retrospective pretreatment measures (relationship skills, relational patterns, and relationship behaviors and attitudes), mean scores between pretest and retrospective pretest differed significantly. We found that participants tended to rate their knowledge higher before the intervention, but lower on the retrospective post, perceiving (presumably) they actually knew less than they thought they did before they started. These findings provide clear evidence for response shift bias, which has implications for pretest–posttest designs. Without measuring the shift in pretreatment measure, pre- and posttest differences (and thus program impact) may be underestimated. These results may even suggest that clinicians should consider retrospective assessments beyond intake, given the evidence here that treatment may alter perceptions of intended intervention outcomes. Despite differences in the content and goals of CRE assessments versus clinical assessments, therapy clients may possibly rate themselves lower retrospectively than at initial intake.

Some studies have shown that employing retrospective pretest designs are more accurate than pre- to postdesigns because they more closely reflect behavioral indices (Howard, 1982; Pratt, McGuigan, & Katzev, 2000). Others have also demonstrated that participants' perceptions of the construct being measured shifts from pre- to posttest because of exposure to program content (Drennan & Hyde, 2008). Although the retrospective pretest design might not replace traditional pretest–posttest design, the current findings demonstrate empirical differences in each method and suggest that a retrospective design may be useful in measuring the impact of relationship education. Conversely, Hill and Betz (2005) argued and also showed that other biases besides response shift bias were at work in their research. They showed that retrospective pretests were susceptible to such biases as faulty recall, emotionality, and cognitive distortion (i.e., individuals naturally want to feel they invested their time wisely in a program). Because of these biases, Hill and Betz (2005) recommend using retrospective pretests on measures of attendee's subjective experience, but also using pre- to postdesigns on outcome measures such as skills and knowledge. More research on retrospective pre- to postdesigns is needed to further examine the pros and cons.

Strengths and Limitations

Strengths of the current study include sample sizes with ample statistical power. A mixed models approach was used to appropriately account for random effects in subjects and time. In addition, the inclusion of a nonequivalent group of university emerging adults provided a way to test

prevention theory through demographic comparisons and mixed models comparisons, thus allowing us to examine program outcomes with more confidence. Despite these strengths, there are also limitations to the current study. One limitation is that the current measures lack thorough psychometric testing. We established one form of reliability through principal components analyses and internal consistency using Cronbach's alpha tests which produced acceptable internal consistency scores. However, the range of alpha levels for relationship behaviors and attitudes was somewhat low, ranging from .62 to .68. One possible reason is that the measure has only three items. Another reason may be due to the properties of the item "What he/she believes about right and wrong." The factor loadings for this item were relatively low, suggesting that further investigation and development is warranted. Still, such coefficients are considered as acceptable in emerging research (Lance et al., 2006). In fact, some scholars argue that a high alpha indicates an overly narrow measure and is thus antithetical to validity (see Cho & Kim, 2015). Another limitation is that other forms of reliability including test–retest and parallel forms are not established for these measures, nor is validity (e.g., predictive, concurrent, convergent, or divergent validity). Moreover, the nature of the program is preventative and the measures are attitudinal, gauging perceived knowledge about variables such as relationship skills and partner selection that presumably have not yet occurred. That is, we did not determine how the tested knowledge and attitudes transforms into behavior.

Future Research

Because PICK has been relatively less evaluated compared to other premarital programs such as PREP and PREPARE/Enrich, there are many opportunities for future research. As other evaluations targeting individuals in the mate selection phase have noted (Antle et al., 2013; Braithwaite, Delevi, et al., 2010; Braithwaite, Lambert, et al., 2010; Van Epp et al., 2008), participants should be followed to see how the program affects their behavior longitudinally—namely their choice of partners, and correlations of ratings of relationship knowledge with actual relationship behaviors. Because the current measures were self-report, future researchers might employ behavioral coding longitudinally as relationships progress (Antle et al., 2013; Van Epp et al., 2008), thereby eliminating issues such as social desirability bias, helping to further establish the effectiveness of the program. Change mechanisms and predictor variables might also be examined in order to examine such issues as how, and for whom this type of CRE works. Because the current sample was somewhat diverse in terms of age, life course stage, income, and education level, it would be advantageous to understand for whom PICK works. Because the program continues to expand in reach, future evaluations should also seek to establish the effectiveness of PICK with various target groups including high school students, incarcerated individuals, and individuals with low socioeconomic backgrounds. Finally, future research might also examine the cost effectiveness of the PICK program.

Implications

Based on the current findings, it appears that PICK helps those searching for relationships (Markman & Rhoades, 2012), including emerging adults who had already experienced divorce. In addition, the formative data showed that 96% of attendees would recommend the course to others and 97% thought the program was a good experience suggesting that regardless of life course stage (having children, having experienced a divorce, and experiencing emerging adulthood or mid to later adulthood), individuals were highly satisfied with the program. Thus, the summative and formative data both point to PICK as being a promising prerelationship program. Because of the number of attendees who had children, those who host future PICK courses might consider eliminating potential barriers by providing child care to attendees who are parents.

Clinical Implications

Beyond the promising results of this study, a general knowledge of evidence-based programs that are available to the community and the content of these programs might help clinicians as they intervene with individuals. PICK is particularly helpful with individuals who are seeking relationships and with those who are between relationships and want a healthier relationship in the future. Such programs might help to augment and complement the therapeutic process by providing

educational opportunities to individuals that need them (see Antle et al., 2013). Additionally, as Antle et al. (2013) pointed out, CRE usually does not have a family systems perspective and "to bridge the gap between these two fields, marriage and family therapists must be able to think and work systemically with clients in traditional social work settings where a systems approach does not usually exist" (p. 355). Some have encouraged clinicians to take a more preventative stance by providing premarital counseling (Murray, 2005; Shurts, 2008; Stahmann, 2000). As more family therapists participate in preventative care, an exchange of ideas between educators and therapists becomes imperative. Furthermore, given that emerging adults may not seek therapy for emerging intimate relationships (but could still benefit from relationship knowledge), clinicians might work together in tandem with community organizations and family life educators to provide emerging adults with such information.

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EFFECTIVENESS, FACILITATOR CHARACTERISTICS, AND PREDICTORS OF THE *PREMARITAL INTERPERSONAL CHOICES AND KNOWLEDGE* (PICK) PROGRAM

by

J. Wade Stewart

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

of

DOCTOR OF PHILOSOPHY

in

Family and Human Development

Approved:

_____ Kay Bradford, Ph.D. Major Professor	_____ Dr. Jim Dorward, Ph.D. Committee Member
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UTAH STATE UNIVERSITY
Logan, Utah

2015

ABSTRACT

Effectiveness, Facilitator Effects, and Predictors of the *Premarital Interpersonal Choices and Knowledge* (PICK) Program

by

J. Wade Stewart, Doctorate of Philosophy

Utah State University, 2015

Major Professor: Dr. Kay Bradford
Department: Family, Consumer, and Human Development

Researchers involved in couple relationship education (CRE) have begun to develop interventions to target individuals in the mate selection stage. But, overall there are not many evaluative studies on these programs. One such program called the PICK a Partner program has been taught in all fifty states to over 500,000 individuals. Although many have attended PICK courses, there are currently only two published evaluations of it. The purpose of the first study was to evaluate PICK using four outcome variables with 682 emerging adults from the community at large using a pre/post design. These attendees' scores were compared with scores from a nonequivalent group of 462 emerging adults from a university who did not receive treatment. A retrospective pretest was also administered to examine the potential for response shift bias. Mixed models analyses showed that the treatment group increased from pre to post intervention on all four outcomes and they experienced positive gains compared to the nonequivalent comparison group. In the second study, we examined *how* (facilitator characteristics) and

for whom (predictor factors including demographic and life stage variables) PICK works using a sample of 2,448 participants from eight locations across a western state with four outcome variables. Facilitator characteristics were the strongest predictor of outcome scores, followed by gender, and level of religiosity. The strengths, limitations, and implications of the current research along with possibilities for future research are discussed.

(101 pages)

PUBLIC ABSTRACT

Effectiveness, Facilitator Effects, and Predictors of the *Premarital Interpersonal Choices and Knowledge* (PICK) Program

by

J. Wade Stewart, Doctorate of Philosophy

There are two studies in this dissertation. Both are about a program called "PICK a Partner." The first study looked at how the program went for 682 people from the community who were taught PICK. These people ranged in age from 18 to 25. Those in attendance were given questions at the beginning of the program about their thoughts, perceptions, and knowledge regarding dating relationships. They were given these same questions at the end of the program. The scores on the questions at the end of the program were compared with scores on the questions at the beginning of the program. Peoples' scores increased from before to after on all four questionnaires. These scores were also compared with scores from a group of students aged 18 to 25 from a university. Those that attended the program had higher scores; the scores of those from the university who did not attend the program stayed about the same. The second study examined how teachers influence scores and how individual characteristics of participants influence change in scores. The second study showed that teacher characteristics do matter somewhat in helping participants increase in knowledge. In addition, how religious a person is and whether they are a man or woman also matter, but only a little, in helping participants increase in knowledge. Future studies on PICK and the strengths and weaknesses of these studies are discussed.

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J. Wade Stewart

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CHAPTER 1

INTRODUCTION

Healthy marriage has been shown to be associated with positive outcomes for individuals and families (e.g., Proulx, Helms, & Buehler, 2007), and considerable effort has been made to support healthy marriage and healthy couple relationships in the United States. These efforts include state-level reforms (i.e., changing marriage and divorce laws to strengthen the institution of marriage), longer waiting periods for divorce when children are involved, premarital education incentives (i.e., waiving marriage license fees and eliminating waiting periods), offering a covenant marriage option, 1% solutions (i.e., where states set aside 1% of federal funds — Temporary Assistance for Needy Families to strengthen marriage), court policy changes, and federal-level reforms (i.e., funding of various activities to strengthen marriage; see Hawkins et al., 2009). Generally, couple relationship education (CRE) has also been offered to help individuals create healthy relationships. The main purpose of premarital programs is to support healthy relationships and prevent relationship dissolution through early intervention (Stanley, 2001).

Couple relationship education (CRE) has become increasingly common due in part to government funding. A meta-analysis of premarital education programs showed that couples benefit from taking it (Carroll & Doherty, 2003). However, to justify funding and continued use, untested programs should be evaluated. The National Healthy Resource Center (n.d.) outlined, “ongoing evaluation of your healthy marriage and relationship program will allow you to identify whether you are meeting your

program's overall goals and objectives. This information will significantly enhance your ability to effectively manage and grow your program." The two studies that comprise this dissertation evaluate a premarital education program designed to support individuals before they form intimate relationships. The *Premarital Interpersonal Choices and Knowledge* (PICK) program (Van Epp, 2010) was developed to provide individuals in the mate selection phase with research-based knowledge on (a) what to look for in a potential partner, and (b) how to effectively pace a romantic relationship.

The reach of the PICK program has expanded in recent years. For example, the instruction manual is currently in its fifth edition (Van Epp, 2010) and there are PICK certified instructors in all 50 states. Furthermore, the program has been taught to over 500,000 individuals (J. Van Epp, personal communication, January 13, 2014). Although the reach of the program has expanded, there is a paucity of studies examining its effectiveness; indeed, only two published studies and a few unpublished reports have examined the effectiveness of PICK (Brower et al., 2012; Van Epp, Futris, Van Epp, & Campbell, 2008). Thus, further evaluation of PICK is warranted.

This dissertation includes two studies that evaluate the PICK program. The purpose of the first study is to examine the effectiveness of PICK with a community sample of emerging adults using a pretest/posttest design with a nonequivalent comparison group from a university. More specifically, I have compared the two groups' four outcome variables and differences in various demographic factors and life stage events. There are two reasons to compare the emerging adults from the community sample with university emerging adults. My main rationale for including a group of university students in the first study is that I used this sample to serve as a (presumably)

less at-risk nonequivalent comparison group. This group offered a comparison point to the emerging adults in the treatment group. To the extent that this university group was less at-risk than the treatment group in terms of demographic variables such as income, education, and prior divorce status, the potential gains among the (presumably more at-risk) treatment emerging adults, as compared to the university emerging adults, may be all the more meaningful. Another reason to use emerging adults from the university is that programs used for individuals in the mate selection phase have largely been offered in university settings. Therefore, understanding some of the differences in these populations might help educators tailor the intervention to the group they are teaching.

The overall aim of the second study is to examine *how* and *for whom* PICK works by examining which factors predict outcomes for attendees of PICK. The purposes of the second study are to (a) test the change mechanism of facilitator characteristics in PICK, and to (b) examine the effect of several demographic factors on the outcome variables. These demographic predictor variables include age, gender, relationship status, number of divorces, presence of children, income, ethnicity, religiosity level, and education level.

Organization and Formatting

Although I used Utah State publication guidelines, the multiple paper dissertation is an option not many doctorate students use; therefore, I will outline briefly the format of the current dissertation. This dissertation is comprised of four chapters which include: (a) Chapter I, the introduction, which sets up two studies, (b) Chapter II, study 1, entitled the Effectiveness of the *Premarital Interpersonal Choices and Knowledge* Program in Emerging Adulthood, (c) Chapter III, study 2, entitled Facilitator Effects and Predictors

of *Premarital Interpersonal Choices and Knowledge*, and (d) Chapter IV, the discussion, which provides a synthesis of the two studies. The two studies will be in the American Psychological Association (APA) style (6th edition), the format required by most social science journals, and has included all the sections of an article including Introduction, Literature Review, Method, Results, Discussion, and References.

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CHAPTER II

EFFECTIVENESS OF THE *PREMARITAL INTERPERSONAL CHOICES AND KNOWLEDGE* PROGRAM WITH EMERGING ADULTS

Introduction

Relationship formation and mate selection in America has changed in the last sixty years from a stepwise progression to relationship "churning" which includes sliding into cohabiting relationships (Stanley, Rhoades, & Fincham, 2011), increases in serial cohabitation (Lichter, Turner, & Sassler, 2010), reconciliations and sex with exes (Halpern-Meekin, Manning, Giordano, & Longmore, 2013), and casual sex (Giordano, Manning, Longmore, & Flanigan, 2012). Two key factors that influence mate selection behaviors are the increasingly high median age at marriage, and the current divorce rate. Many individuals spend increased time before marriage and between marriages looking for intimate relationships (Sassler, 2010). These time gaps before marriage and between marriages allow for various types of intimate relationships including "hooking up," internet dating, visiting relationships, cohabitation, marriage following childbirth, and serial cohabitation (Sassler, 2010).

Although most Americans hope to marry (around 90% of emerging adults are planning and expecting to get married; Whitehead & Popenoe, 2001), relationship "churning" has been associated with lower levels of marriage stability and commitment (Busby, Carroll, & Willoughby, 2010; Vennum & Johnson, 2014; Willoughby, Carroll, & Busby, 2014) and, therefore, might not be conducive to some individuals' aspirations of lifelong marriage (Whitehead & Popenoe, 2000). Being in a healthy marriage has been

associated with better physical health, increased wellbeing, more financial stability, more satisfying sexual relations, and living longer when compared to other relationship types (Proulx, Helms, & Buehler, 2007; Waite & Gallagher, 2001). However, about half of all first marriages end in divorce (Amato, 2010).

Given these trends in relationship formation and relationship dissolution, premarital interventions have been developed for individuals in the mate selection phase – often targeted to emerging adults – to increase their odds at achieving healthy relationships. The purpose of this study is to examine the effectiveness of the *Premarital Interpersonal Choices and Knowledge* (PICK) program among emerging adults. PICK provides research-based knowledge regarding relationship formation and marriage preparation before individuals enter into intimate relationships. The curriculum is designed to help individuals make healthy, deliberate choices about whom and how they commit in relationships (Hawkins, Carroll, Doherty, & Willoughby, 2004). In the current study, we examined the effectiveness of PICK using prevention theory as a foundation (Coie et al., 1993). We used a pretest/posttest design with two groups of emerging adults: a treatment group drawn from the community, and a nonequivalent control group drawn from the university.

Literature Review

Prevention Theory

The principles of prevention theory are the heart of premarital intervention. Coie and colleagues (1993) outlined the essence of prevention science as an interplay between (a) risk factors — variables with high probability of onset that increase the occurrence,

duration, and intensity of dysfunction, and (b) protective factors — variables that increase resistance to risk factors and dysfunction (Coie et al., 1993). In prevention theory, risk factors should ideally be addressed early when they can be most influenced and have not yet developed into predictors of dysfunction. Additionally, individuals more likely to develop dysfunction should also be identified promptly and given skills to buffer the processes that contribute to eventual dysfunction. Coie and colleagues (1993) pointed out that those most at-risk are often the most difficult to reach and, therefore, often do not receive tools or resources.

Premarital Relationship Education in Emerging Adulthood

With the rationale of reaching individuals early before dysfunction develops, programs are now targeting emerging adults in the mate selection phase — even before committed, intimate relationships occur (Cottle, Thompson, Burr, & Hubler, 2014). Fincham and colleagues (2011) argued that emerging adulthood is an ideal time for couple relationship education (CRE) because: (a) individuals often have not yet married, but often form committed, sexual relationships, (b) dating violence continues to be a widespread problem that may be addressed at least somewhat by CRE, (c) there are many negative consequences to risky sexual behaviors that CRE may address, and (d) healthy dating relationships have been associated with fewer mental health issues (Braithwaite, Delevi, & Fincham, 2010). In light of these arguments, Fincham and colleagues outlined a program called Project RELATE with content largely based on the *Within My Reach* (Pearson, Stanley, & Kline, 2005) curriculum taught to university students experiencing emerging adulthood.

Emerging adulthood occurs approximately during the ages of 18 and 25 and is characterized by (a) self-exploration, (b) instability, (c) self-focus, (d) feeling in between and (e) increased possibilities (Arnett, 2014). As Hamilton and Hamilton (2006) noted, emerging adulthood has many paths. Only a proportion of emerging adults in the U.S. attend universities; many attend two year colleges, work full-time, or work while attending a trade school or junior college. In a study of emerging adults who participated in individually based CRE at the university, Braithwaite, Lambert, Fincham, and Pasley (2010) noted the limited reach of that venue alone. They concluded that "future research is needed to examine the impact of this kind of intervention on individuals who do not pursue higher education" (p. 745). Currently only one published study (Antle et al., 2013) has evaluated this kind of intervention with a community sample. By offering programs outside the university, there is a potential to reach more emerging adults.

In general, because there is relatively little educational programming for individuals in the mate selection phase, there is a corresponding paucity of evaluative research on prepremarital programs. Markman and Rhoades (2012) reviewed CRE programs from 2002 to 2010, and of the 32 studies in the review, only two featured programs targeting individuals in the mate selection stage: *Within My Reach* (WMR), and PICK (Antle et al., 2013; Van Epp, Futris, Van Epp, & Campbell, 2008). To the authors' knowledge, there are currently only seven published, quantitatively evaluated programs offered to those in the mate selection phase: five in the university setting (Braithwaite, Lambert et al., 2010; Cottle et al., 2014; Fincham et al., 2011; Laner & Russell, 1995; Olmstead et al., 2011) one to individuals from low socioeconomic backgrounds in the community (Antle et al., 2013), and one to military personnel (Van Epp et al., 2008).

Current Studies on Effectiveness

The relatively few studies examining the effectiveness of programs targeting individuals in the mate selection phase provide a foundation from which to build, but they also have limitations. One of the main rationales for providing relationship education to singles is to offer support upstream before they enter relationships (Cottle et al., 2014). One strength of WMR is that it was designed to target not only singles, but those in less committed, intimate relationships — helping them to make decisions about leaving or staying in these relationships. That strength, however, may make evaluation difficult in terms of determining which population to focus on: those with partners versus those who are single. The current evaluations of WMR have largely focused on evaluating attendees in less committed, intimate relationships. In one study, over 70% of the 186 participants in the sample reported being in a relationship with over half the sample having a relationship of 2 years or longer (Cottle et al., 2014). Braithwaite and colleagues (2011) purposely focused on those in long-term relationships to study the behavioral outcome of extra-dyadic involvement outside the relationship. With a community sample, Antle et al. (2013) did not report on the relationship status of participants, but used relationship-based outcome measures including communication skills and conflict resolution, which suggests that many in the sample were already in relationships. As an exception, one book chapter did provide preliminary evidence for the efficacy of preintimate relationship CRE with singles in the university setting (Fincham et al., 2011). In summary, the current offerings have largely focused on those already in relationships and contexts involving subsamples of the community namely the

university. More research is needed on CRE for emerging adults in the community outside the university setting, particularly those not yet in relationships.

Couple Relationship Education (CRE) for Emerging Adults

The most common settings for programs targeting individuals in the mate selection phase tend to be universities (Cottle et al., 2014; Fincham et al., 2011; Olmstead et al., 2011). As others have pointed out, emerging adulthood offers a unique development stage for this type of intervention; yet, emerging adults from the community as a whole are likely very different than those attending universities. Therefore, comparing the two groups might shed light on key differences, and highlight potentially divergent ways which educators might intervene with emerging adults.

In this study, we used emerging adults from the university as a nonequivalent comparison group, along with a treatment group of emerging adults from the community. This offered an opportunity to compare the risks and outcomes of the two groups. In extant literature, certain demographic variables have been associated with a higher likelihood of divorce including being poor, having higher order marriages (i.e., married and divorced multiple times), being less educated, and having children from prior relationships (Amato, 2010). To the extent that university attendance constitutes privilege, and thus potential for lower levels of risk, it may be that the emerging adults in the treatment group experience more risk, which may more strongly warrant intervention (Coie et al., 1993). Knowing differences in emerging adults in the treatment group versus university group with regard to divorce rates, presence of children, education levels, income levels, and cultural backgrounds might also help future facilitators more

succinctly focus their content to those in attendance. Such findings might also help in the formation of future editions of the program. For example, if a majority of those in attendance for the community have children, including information about child outcomes might be beneficial (see Fomby & Cherlin, 2007). Regarding relationship knowledge, comparing the baseline scores of the treatment emerging adults with those from the university would help to determine differences in perceived skills and attitudes, thereby shedding light on the potential risk levels of those in attendance. For example, one group might have less knowledge than the other which may justify further intervention or a higher dosage of the program.

Reach and Effectiveness of Premarital Interpersonal Choices and Knowledge (PICK) Program

To date, over 500,000 individuals have attended a PICK course, and certified instructors reside in all 50 states (J. Van Epp, personal communication, January 13, 2015). Additionally, the PICK curriculum has been around for many years — the instructor's manual is on its fifth edition (Van Epp, 2010). Yet, there have been only two published quantitative studies and a handful of preliminary unpublished evaluations of PICK. The initial findings from these evaluations are promising. Van Epp and colleagues (2008) provided PICK to military personnel and found a significant increase in retrospective pre to post scores in relationship confidence and knowledge. Brower and colleagues (2012) applied the content of PICK to adolescents and, using a retrospective prepost design, found significant increases in knowledge about healthy relationships. In addition to these two studies, three separate unpublished reports showed that pre/post

scores in knowledge and attitudes increased for attendees (Marriage Works Ohio, n.d.; Michigan Healthy Marriage Coalition, n.d.; Schumm & Theodore, 2014). Although these reports provide initial evidence for the effectiveness of PICK, more rigorous evaluative research on PICK is needed.

Premarital Interpersonal Choices and Knowledge (PICK) Program Content

There are two overarching goals featured in the PICK program, including (a) recognizing characteristics of a potential partner, and (b) appropriately pacing a relationship (see Van Epp et al., 2008 for a review). The program's first goal is to educate individuals on areas that contribute to marital stability and quality. These areas include: **F**amily dynamics and childhood experiences, **A**ttitudes and actions of the conscience, **C**ompatibility potential, **E**xamples of other relationships, and **S**kills for relationships (F.A.C.E.S.). The second goal of PICK is to provide individuals with knowledge concerning pacing in the dating process, and to help them effectively balance increased levels of closeness using factors such as knowledge, trust, and commitment. PICK content is supported by empirical research but having a base in research is not the same as having empirically-established effectiveness (Adler-Baeder, Higginbotham, & Lamke, 2004); it is possible for a program to be supported by empirical research, but not produce effective results. Because the only two published evaluations of PICK involved military personnel and adolescents, the program still needs to be evaluated in other contexts including emerging adulthood.

In the current study, we compared emerging adult attendees with nonparticipants from the university. The purpose was to (a) compare the differences in the two groups on

several demographic and life course variables, and (b) compare scores on the four outcome variables at pre and post intervention. This design is somewhat comparable to a nonequivalent group design in which groups are formed under circumstances that permit no control (or limited control) of assignment of individuals. In addition, the between-subjects comparisons allowed us to examine outcomes relative to two groups with potentially differing risk levels, thus allowing us to test the outcomes according the principles of prevention theory.

Purpose of the Current Study

The primary purpose of the current study was to (a) test the effectiveness of PICK in a treatment group of emerging adults by determining differences between pre (and retrospective pre) and post mean scores on four outcome variables including perceived relationship skills, partner selection, relational patterns, and relationship behaviors and attitudes, and (b) examine differences in mean scores for the treatment group of emerging adults versus the university sample on the four outcome measures.

Methods

Procedures

Participants were recruited from eight predominantly urban/suburban communities in a western state through newspapers advertisements, internet advertisements, word-of-mouth, collaboration with local Extension faculty, distribution of flyers, announcements in university classes, and commercials in local movie theatres. These participants attended 180 courses that took place from October 2, 2012 to August

6, 2014. Any individual over the age of 18 was eligible; registration was via internet but walk-ins were allowed. Participants completed a two page pretest survey prior to the first lesson, and a similar posttest survey at the conclusion of the last session of the course. All courses were six hours in length with identical content. Multiple formats of PICK were offered, ranging from one day six hour sessions to six one hour sessions spread out over six weeks. In terms of format, 2.1% attended a one time workshop, 16% attended two, 3-hour sessions over two weeks, 42% attended three 2-hour sessions over three weeks, and 8% attended four 1.5 hour sessions over four weeks, or six 1-hour sessions over six weeks (32% missing data on this item). A meal from a local restaurant was provided at each group meeting as an incentive for individuals to participate. Each of the nine facilitators completed the Instructor Certification Packets and passed the online test to become certified PICK instructors. Additionally, the nine instructors participated in a training conference that oriented them to the curriculum and to project procedures. To further ensure treatment fidelity, site visits were performed periodically by the initiative's project director who observed classes and gave feedback.

A nonequivalent comparison group of university students was recruited at a western university during the spring semester of 2013. A project coordinator distributed surveys to students in eight classes (five family science courses and three business courses). Students used the first 10 to 15 minutes of class to complete the two page pretest survey. This project coordinator returned to the same eight classes two weeks later and students again took the first 10 to 15 minutes of class time to complete the two page posttest survey. Survey completion was voluntary; extra credit was not offered to the students.

Participants

For this study, emerging adults were selected from the full sample of PICK participants, which consisted of 2,760 individuals. Because the program was designed primarily for single individuals, and because the outcome measures focus on aspects such as partner selection, we dropped participants who were engaged or married (n = 312). Additionally, we chose to limit our sample to emerging adults ages 18 to 25 in order to make the treatment group and university group equivalent in terms of developmental stage. This resulted in a sample of 682 emerging adults from the community in the treatment group, and 462 emerging adults from the university in the comparison group.

Treatment group. The mean age of the treatment group (n = 682) was 21.5 (SD = 2.24). The participants were 73.5% women and 26.3% men. Regarding race and ethnicity, 84.7% were White, 6.8% were Hispanic/Latino, 3.4% indicated Other, 1.3% were Native American, .6% were Asian-American, and .9% were African American. In this sample, 72.4% were single, 27.5% were dating, and .1% were widowed. Regarding education, 6.3% had attended some high school, 19.1% were high school graduates or had a GED, 52.5% had attended some college, 17.8% had obtained a college or technical degree, and 2.4% had obtained a Graduate degree. There were 7.8% that had at least one child and 3.0% had experienced a divorce. The median income of the treatment group was $10,000.

Nonequivalent comparison (university) group. Data were also collected from a university group that originally included 725 college students recruited from various undergraduate classes from a local university. We eliminated from this sample

individuals older than 25 who were not in emerging adulthood (n = 263). This resulted in a sample of 462 individuals including 69.7% women and 29.9% men. The mean age of the group was 21.35 (SD = 3.98). Regarding race and ethnicity, 91.6% of the sample was White, 3% Latino, 1.9% other, 1.7% Asian-American, .6 Native American, and .4% African-American. Regarding relationship status, 67.7% were single, 32% were dating. Only .4% had at least one child and 1.1% had experienced a divorce. Median household income was $7,000.

Measures

Because of the lack of established measures to determine effectiveness for a program like PICK, new items were generated to reflect the content of the course. Two measures focused on perceived personal knowledge about relationship skills and partner selection. Two measures focused on perceived knowledge about a potential partner including relational patterns and relationship behaviors and attitudes. Because of the emphasis PICK places on forming relationships, traditional premarital outcome measures such as communication skills, problem-solving, empathy, and marriage quality do not suffice because such measures assume an extant intimate relationship. Instead, due to the program's focus on mate selection, appropriate variables include factors such as knowledge, attitudes, and perceptions. Fincham and colleagues (2011) discussed this difficulty, stating that one of the main difficulties in evaluating Within My Reach (WMR) was identifying appropriate measures. Fincham and colleagues (2011) thus began to develop measures to meet the needs of WMR (see Vennum & Fincham, 2011). These measures were not yet published at the inception of the current initiative. We developed

items that measured knowledge, attitudes, and perceptions of those attending the course. The first two scales measure an individual's perceived knowledge about (a) relationship skills, and (b) partner selection. The last two scales measure perceived importance of knowledge about a potential partner's (c) relationship patterns, and (d) his or her relationship behavior and attitudes. Although most of the items reflect prior research, some of the items on these measures reflect unique content featured in PICK. Reliability results for these measures are reported in Tables 1 and 2.

Perceived knowledge about relationship skills. To measure perceived relationship skills, participants rated three statements on a 5-point Likert scale ranging from 1 *disagree* to 5 *strongly agree*. These statements included: "I understand what it takes to have a healthy relationship," "I know how to communicate well with a partner," and "I have good conflict management skills." Mean scores were calculated.

Perceived knowledge about partner selection. Participants rated partner selection using four statements including, "I know how to choose the right partner for me," "I know the important things to learn about a potential partner," "I know how to pace a relationship in a safe way," and "I can spot warning signs in relationships." These statements were placed on 5-point Likert scales ranging from 1 *disagree* to 5 *strongly agree*. Mean scores were calculated.

Perceived importance of knowledge about a potential partner's relationship patterns. Participants were given the stem "how important is it to you to know the following about someone prior to becoming seriously committed?" The variable of

relational patterns was measured using four items including: "what he/she learned from his/her family when growing up," "what he/she has been like in past relationships," "how well he/she gets along with his/her parents," and "what his/her friendships are like."

Table 1

Results for the Principal Component Factor Analyses for Perceived Personal Knowledge about Relationship Skills and Partner Selection

		Perceived Personal Knowledge About…				
		Relationship skills factor loadings			Partner selection factor loadings	
Item #	Personal Knowledge about:	Pre	Retro	Post	Pre	Post
1	what it takes to have a healthy relationship.	.75	.79	.79		
2	how to communicate well with a partner.	.85	.86	.86		
3	good conflict management skills.	.77	.82	.83		
4	how to choose the right partner for me.				.82	.78
5	the important things to learn about a potential partner.				.83	.77
6	how to pace a relationship safely.				.82	.80
7	how to spot warning signs in relationships.				.77	.80
	Eigenvalue	1.88	2.0	2.0	2.6	2.5
	% of variance	62.8	68.0	67.9	65.5	61.7
	α	.70	.76	.76	.82	.79

Attendees rated these four items ranging from 1 *unimportant* to 5 *crucially important*. Mean scores were calculated.

Perceived importance of knowledge about a potential partner's relationship behavior and attitudes. Relationship behavior and attitudes were measured using three statements on 5-point Likert scales ranging from 1 *unimportant* to 5 *crucially important*. Participants were given the stem "how important is it to you to know the following about

someone prior to becoming seriously committed?" and asked to rate a list of statements ranging from 1 *unimportant* to 5 *crucially important*. These statements included: "how he/she fights when angry," "how he/she reacts when my feelings are hurt," and "what he/she believes about right and wrong." Mean scores were calculated.

Table 2

Principal Component Factor Analyses for Knowledge about a Potential Partner's Relational Patterns and Relationship Behaviors and Attitudes

		Perceived Importance of Knowledge About A Potential Partner's…					
		Past relationship patterns factor loadings			Relationship behavior and attitudes factor loadings		
Item #	Knowledge about potential partner:	Pre	Retro	Post	Pre	Retro	Post
9	What he/she learned from his/her family when growing up.	.72	.83	.74			
11	What he/she had been like in past relationships.	.70	.76	.79			
13	How well he/she gets along with his/her parent(s).	.80	.83	.77			
14	What his/her friendships are like.	.76	.83	.82			
8	How he/she fights when angry.				.79	.83	.75
10	How he/she reacts when my feelings are hurt.				.81	.83	.83
12	What he/she believes about right and wrong.				.67	.65	.77
	Eigenvalue	2.2	2.7	2.4	1.7	1.8	1.8
	% of variance	55.5	66.1	60.5	57.1	59.5	61.3
	α	.73	.77	.78	.62	.66	.68

Plan of Analysis

Mixed models testing. To test differences between the various means at the various times in the treatment group emerging adults, we used a linear mixed models analysis for longitudinal data (see Everitt, 2010). Within a linear model, there are fixed

effects and error (Winter, 2013). Not only does the mixed model analysis account for fixed effects, it also accounts for randomness introduced by individual differences — "essentially giving structure to the error" (Winter, 2013, p. 3). The mixed model analysis has several advantages over other options, especially repeated measures ANOVA, because time is accounted for as a continuous variable thus accounting for different periods of time; moreover, cases need not be dropped because of missing data. We also used mixed models to compare the pretest and posttest scores of the treatment group with the scores from the university sample on all four outcome measures.

Chi-square comparisons. We used chi-square tests to explore the differences between the treatment group and the university sample, and compared them on the following variables: gender, race/ethnicity (White, Latino, and Other), income (0 to $20,000, $20,001 to $35,000, and $35,000 or higher), education level (high school degree or less, some college, college degree, and graduate degree), previous divorce (yes/no), and presence of children (yes/no).

Response shift bias. As a class participant's understanding changes from pre to post intervention, it is hypothesized that the way they interpret questions on presurveys differs on post surveys. Because individuals do not know the course content beforehand, they will likely produce biased scores in the pretest due to a lack of understanding about the questions themselves. This is known as response shift bias (Howard, 1982). Response shift bias has been tested by comparing pretest means with retrospective pretest means to determine if the differences are statistically significant (Drennan & Hyde, 2008). Significant differences between the two means is presumed to indicate altered understanding about the construct being measured, and show that response shift bias has

occurred. To test this phenomenon, we used mixed models design to compare pretest means with retrospective pretest means. Three of the four measures in this study featured posttest then retrospective pretest evaluations (Marshall, Higginbotham, Harris, & Lee, 2007) in the post survey, including perceived relationship skills, partner selection, and relationship behavior and attitudes. To test for response shift bias, participants were asked on the posttest survey to "mark the boxes that reflect your opinion *before* and *after* attending this course" for perceived relationship skills, and "how important was it to you before the course *and* how important *is it now* to know the following about someone *prior to* becoming seriously committed" for mate selection and behaviors and attitudes.

Results

Reliability testing. Because the outcome measures were psychometrically untested, we conducted principal components factor analyses to determine the reliability of the measures before testing the difference scores in the mixed models analyses. The results are reported in Tables 1 and Table 2. Eigenvalues, factor loadings, and Cronbach's alpha levels were sound.

Class format. Because the 6-hour program was offered in different formats (including one, two, three, four, or six session formats), we tested for potential difference in outcome scores by program format. We combined the four week and six week formats because of the relative similarity and because there were too few attendees in each group alone to produce statistically meaningful results. On all four outcome variables, there were no significant differences except for the variable relationship behavior and attitudes:

the post score mean for the four to six week format, on average, was significantly higher than the mean of the three week format (t = -2.01, p < .05).

Differences in Means for the Treatment Group

Using a mixed models analysis, we tested for changes in the treatment group over time for the four variables, including perceived knowledge of (a) relationship skills, and (b) partner selection, as well as perceived importance of knowledge about (c) past relationship patterns, and (d) relationship behaviors and attitudes. In mixed models, one must specify a reference point. The posttest was used as the reference point; the t test scores reflect differences compared to the posttest means.

Knowledge about relationship skills. Means for perceived relationship skills differed significantly across each time point (see Table 3). The mean was highest at the posttest. The posttest mean (M = 4.28, SD = .53) was significantly higher than the retrospective pretest (M = 3.23, SD = .72, t = -33.76, p < .001), and the pretest (M = 3.44, SD = .66 t = -28.62, p < .001). Means differed by gender (t = 2.15, p < .05) indicating that men scored higher than women on perceived relationship skills.

Table 3

Mixed Model Results for Perceived Knowledge of Relationship Skills

Parameter	Mean scores	Estimate	Std. error	*t* statistic	*p*
Intercept		4.25	.027	157.49	.001
Pre	3.53 *3.41*	-.84	.029	-28.62	.001
Retro pre	3.35 *3.18*	-1.06	.031	-33.76	.001
Post	4.34 *4.27*	-	-	-	-
Gender		.099	.046	2.15	.032

Note. Women's means are italicized.

Knowledge about partner selection. Mean scores for perceived personal knowledge about partner selection differed significantly across each time point, again with highest scores found at the posttest (see Table 4). The mean score at the posttest (M = 4.20, SD = .55) differed significantly compared to the pretest mean (M = 3.20, SD = .79, t = -27.83, $p < .001$). Due to space considerations on the survey, no retrospective pretest data were collected for this measure.

Knowledge about a potential partner's relational patterns. For both men and women, means for relational patterns at posttest (M = 4.51, SD = .52) were significantly higher than the means at pretest (M = 4.00, SD = .66, t = -19.14, $p < .001$) and retrospective pretest (M = 3.70, SD = .80, t = -23.32, $p < .001$; see Table 5). The test for gender differences was also significant (t = -8.67, $p < .001$) showing that women, at all points, rated themselves significantly higher on knowledge of relational patterns.

Knowledge about a potential partner's relationship behaviors and attitudes. Mean differences on relationship behaviors and attitudes were significantly higher at posttest (M = 4.66, SD = .45) compared to the pretest (M = 4.31, SD = .58, t = -14.87, $p < .001$) and retrospective pretest (t = -19.25, $p < .001$; see Table 6). Means varied significantly by gender (t = -8.77, $p < .001$). On average, women scored higher than men regarding the importance of knowing about their partner's dynamics before becoming committed.

Table 4

Mixed Model Results for Perceived Knowledge about Partner Selection

Parameter	Mean scores	Estimate	Std. error	*t* statistic	*p*
Intercept		4.11	.028	144.67	.001
Pre	3.20	-.95	.034	-27.83	.001
Post	4.20	-	-	-	-
Gender		.01	.051	.21	.837

Table 5

Mixed Model Results for Knowledge about a Potential Partner's Relational Patterns

Parameter	Mean scores	Estimate	Std. error	*t* statistic	*p*
Intercept		4.60	.026	178.2	.001
Pre	3.61 *4.13*	-.51	.026	-19.14	.001
Retro pre	3.44 *3.78*	-.81	.035	-23.32	.001
Post	4.31 *4.57*	-	-	-	-
Gender		-.38	.044	-8.67	.001

Note. Women's means are italicized.

Table 6

Mixed Model Results for Knowledge about a Potential Partner's Relationship Behaviors and Attitudes

Parameter	Mean scores	Estimate	Std. error	*t* statistic	*p*
Intercept		4.73	.022	211.65	.001
Pre	3.98 *4.43*	-.33	.022	-14.87	.001
Retro pre	3.83 *4.19*	-.55	.029	-19.25	.001
Post	4.47 *4.72*	-	-	-	-
Gender		*-.35*	*.040*	*-8.77*	*.001*

Note. Women's means are italicized.

Response Shift Bias

The pretest means were compared with the retrospective pretest means on the measures of perceived knowledge about relationship skills, knowledge about potential partner's relational patterns, and knowledge about potential partner's relationship behaviors and attitudes. All three tests yielded significant differences. For perceived knowledge of relationship skills, the pretest mean ($M = 3.44$, $SD = .66$) differed significant from the retrospective pretest mean ($M = 3.23$, $SD = .72$) ($t = 7.51$, $p < .001$).

Regarding knowledge of a potential partner's relational patterns, the pretest mean (M = 4.0, SD = .66) differed significantly from the retrospective pretest mean (M = 3.70, SD = .80; t = 6.79, $p < .001$). For knowledge of a potential partner's relationship behaviors and attitudes, the pretest mean (M = 4.31, SD = .58) differed significantly from the retrospective pretest mean (M = 4.10, SD = .71; t = 7.97, $p < .001$). On all three comparisons, the pretest mean was significantly higher than the retrospective pretest mean, indicating the presence of response shift bias.

Treatment Group versus Nonequivalent Group

As stated previously, we hypothesized that emerging adults from the community on the whole would likely be different from those attending universities. To understand differences between groups, we used chi-squared tests to examine differences between emerging adults (ages 18 to 25) in single or dating relationships in the treatment group and emerging adults attending university courses for the following variables: gender, race/ethnicity (White, Latino, and Other), income (0 - $20,000, $20,001 - $35,000, and $35,000 or higher), education level (high school degree or less, some college, college degree, and graduate degree), previous divorce (yes/no), and presence of children (yes/no). Compared to the university emerging adults, the treatment emerging adults differed in ethnicity (χ^2 = 12.46, $p < .01$) with the treatment group having more Latinos and more individuals from other ethnic groups. They also differed in income levels (χ^2 = 29.69, $p < .001$) with those from the treatment group making more money on average than the university group. In the treatment group, education levels (χ^2 =136.41, $p < .001$) were more diverse than the university group with more individuals having only high

school degrees, fewer individuals with some college, but more with college degrees. Emerging adults in the treatment group were more likely to have experienced a divorce ($\chi^2 = 7.04$, $p < .01$), and were more likely to have children ($\chi^2 = 35.41$, $p < .001$).

Group Comparisons

Using mixed models, we compared differences in the means of outcome variables between the single emerging adults from the university and those from the treatment relationship skills, partner selection, a potential partner's relational patterns, and a potential partner's relationship behaviors and attitudes.

Knowledge about relationship skills. At pretest, the mean for perceived relationship skills was higher for the university emerging adults ($M = 3.79$, $SD = .58$) than for the treatment group ($M = 3.44$, $SD = .67$; $t = 9.47$, $p < .001$). The nonequivalent (university) group by treatment by time variable differed significantly for perceived relationship skills ($t = 18.88$, $p < .001$). This test compares the treatment group and comparison group scores from pretest to posttest, and showed significant improvement in the treatment group, and not for the comparison group. Results indicated that emerging adults in the treatment group improved from pre to post treatment (3.44 at pretreatment versus 4.28 at post treatment) when compared with those from the university (3.79 versus 3.85). Results did not differ by gender (see Table 7).

Knowledge about partner selection. At pretest, the mean score for partner selection was again significantly higher for the emerging adults in the university group ($M = 3.58$, $SD = .71$) compared with the mean for those in the treatment group ($M = 3.19$, $SD = .79$) ($t = 8.67$, $p < .001$). At posttest, the mean score for partner selection was significantly

higher for the treatment group compared with the posttest score for the university group. The nonequivalent by treatment by time variable differed significantly for partner selection ($t = 17.31$, $p < .001$), indicating that those in the treatment group improved in scores from pre to post treatment (3.19 at pretreatment versus 4.15, $SD = .55$ at post treatment) when compared with the university group (3.58 versus 3.71, $SD = .63$). Once again, mean scores did not differ significantly by gender (see Table 8).

Table 7

Mixed Model Results for Perceived Relationship Skills with Nonequivalent Group

Parameter	Estimate	Std. error	*t* statistic	*p*
Intercept	4.26	.025	169.05	.001
Nonequivalent x treatment	-.41	.038	-11.28	.001
Pre to post	-.83	.026	-32.11	.001
Nonequivalent x treatment x time	.76	.040	18.88	.001
Gender	.06	.035	1.75	.08

Table 8

Mixed Model Results for Perceived Knowledge about Partner Selection with Nonequivalent Group

Parameter	Estimate	Std. error	*t* statistic	*p*
Intercept	4.15	.029	145.42	.001
Nonequivalent x treatment	-.44	.042	-10.47	.001
Pre to post	-.95	.031	-30.16	.001
Nonequivalent x treatment x time	.82	.048	17.31	.001
Gender	-.012	.04	-.312	.755

Knowledge about a potential partner's relational patterns. At pretest, the mean score for knowledge about relational patterns did not differ significantly for the university group ($M = 4.03$, $SD = .57$) compared with the treatment group ($M = 4.00$, SD

= .67). The nonequivalent by treatment by time variable differed significantly, suggesting that the treatment group improved more over time compared with the university students ($t = 12.90$, $p < .001$): the mean for emerging adults in the treatment group went from 4.00 at pretreatment to 4.51 post treatment, while the mean for emerging adults from the university went from 4.03 at pretreatment to a mean of 4.04 post treatment. The scores for men in both the university group and the treatment group on average were significantly lower than scores for women on knowledge about potential partner's relational patterns ($t = -10.21$, $p < .001$; see Table 9.

Table 9

Mixed Model Results for Knowledge about Potential Partner's Relational Patterns with Nonequivalent Group

Parameter	Estimate	Std. error	*t* statistic	*p*
Intercept	4.0	.026	178.19	.001
Nonequivalent x treatment	-.46	.038	-12.14	.001
Pre to post	-.51	.025	-20.32	.001
Nonequivalent x treatment x time	.50	.039	12.90	.001
Gender	-.35	.040	-10.21	.001

Knowledge about a potential partner's relationship behaviors and attitudes. Regarding knowledge about a potential partner's relationship behaviors and attitudes, the treatment group mean ($M = 4.31$, $SD = .58$) was higher at pretest compared with the university students ($M = 4.25$, $SD = .58$; $t = -1.97$, $p < .05$). The nonequivalent by treatment by time variable differed significantly, suggesting again that the treatment group improved more over time compared to the university group (4.31 at pretest to 4.66 at posttest, versus 4.25 to 4.32) ($t = 7.31$, $p < .001$). Women's mean scores were higher,

on average, than men (t = -10.83, p < .001) in both the university and treatment groups (see Table 10).

Table 10

Mixed Model Results for Knowledge about Potential Partner's Relationship Behaviors and Attitudes with Nonequivalent Group

Parameter	Estimate	Std. error	*t* statistic	*p*
Intercept	4.73	.023	205.60	.001
Nonequivalent x treatment	-.30	.033	-8.99	.001
Pre to post	-.33	.022	-15.06	.001
Nonequivalent x treatment x time	.25	.034	7.31	.001
Gender	-.34	.032	-10.83	.001

Discussion

The current study focused on emerging adults in the mate selection process prior to entering committed intimate relationships (Cottle et al., 2014). The purpose of the PICK program is to provide singles with information that might help them make healthier relationship decisions in the future, thereby decreasing risk. By offering the program to a community sample, we attempted to reach emerging adults who might be relatively more at-risk for divorce. Divorce tends to be more likely for individuals with lower education levels, for those in remarriages, those with children from past relationships, and those from lower socioeconomic backgrounds (Amato, 2010).

The current study is one of the first evaluations to examine the effectiveness of PICK with a community sample. The results of this study provide evidence that PICK helps individuals gain knowledge about forming healthy relationships. Attendees

demonstrated significant pretest to posttest gains in all four outcomes: perceived knowledge about relationship skills, knowledge about partner selection, knowledge about a potential partner's relational patterns, and knowledge about a potential partner's relationship behaviors and attitudes.

In the treatment group, men scored higher than women on perceived relationship skills (e.g., healthy communication and conflict management), but there were no gender differences regarding knowledge of partner selection. Scholars have emphasized that there are far more gender overlaps than gender differences in communication, and that dichotomous views are typically inaccurate; this finding may possibly support a nuanced view (Dindia & Canary, 2006). Conversely, women scored higher than men on two of the four outcome measures, including perceived knowledge about a potential partner's past relational patterns, and a potential partner's relationship behaviors and attitudes. This finding suggests that women in the study were more likely to carefully examine their potential partners' relationships and personality characteristics. This finding is in agreement with past research that suggests women, more than men, tend to be relatively more particular about the characteristics of a potential partner (Schwarz & Hassebrauck, 2012) and have been found to value generosity, intellect, sociability, reliability, kindness, and humor whereas men tend to place more emphasis on physical attractiveness, creativity, and being a domestic partner.

Using prevention theory as a guide, we compared means of emerging adults in the treatment group to means in a university nonequivalent comparison group. Our purpose in including a nonequivalent comparison group in this study was to compare both pre and post intervention scores among a more diverse treatment group, versus a university

control group. As expected, the pre to post gains on the four outcomes made by the emerging adults in the treatment group were significantly higher compared with the pre to post means of the emerging adults from the university, thereby offering further support for the effectiveness of PICK. Regarding outcomes, the current results are consistent with research on PICK that has documented increases from pre to posttests in areas of compromise, trust, knowledge, and understanding (Marriage Works Ohio, n.d.; Michigan Healthy Marriage Coalition, n.d.; Schumm & Theodore, 2014; Van Epp et al., 2008).

By targeting emerging adults in the community with PICK we attempted to (a) reach individuals early before dysfunction develops, and (b) reach those most at-risk for dysfunction. Regarding risk factors (Coie et al., 1993) that contribute to divorce (Amato, 2010), the differences in demographics between emerging adults from the community and university emerging adults suggest that in some ways the treatment group may have been at higher risk for relationship dysfunction. Overall, the treatment group emerging adults had significantly less education than the university group (e.g., 26% of the treatment group had a high school education or less compared to 6.5% of the university group), higher rates of divorce (3.1% compared with 1.1%), and higher likelihood of having children (7.8% compared with .4%). Contrariwise, there were potential protective factors among some in the community sample: nearly 20% had obtained a college degree, and mean income levels were higher for this group ($7,000 for university students versus $10,000 for the treatment group). This suggests, perhaps not surprisingly, that the emerging adults in the treatment group were more diverse than the emerging adults in the university group.

The initial scores for each group (that is, the preintervention scores) may be also be viewed as potential markers for risk. However, comparing the means on the four outcomes for the two groups produced mixed results. For example, the university group had higher scores than the treatment group on perceived relationship skills and knowledge about partner selection; thus, it may be that the emerging adults in the treatment group were relatively more at risk when it comes to these two aspects. Conversely, those in the treatment group scored higher than university emerging adults on knowledge about a potential partner's relationship behaviors and attitudes. Taken together, the pretreatment means suggest that the university group was more confident in their initial personal relational knowledge, but that the community (treatment) group was at least somewhat more confident in their initial knowledge about partner selection.

Response shift bias. In the current study, we found evidence of response shift bias. On the three scales in which we used retrospective pretreatment measures (perceived relationship skills, knowledge about relational patterns, and knowledge about a potential partner's relationship behaviors and attitudes), mean scores between pretest and retrospective pretest differed significantly. We found that participants tended to rate their knowledge higher before the intervention, but lower on the retrospective post, perceiving (presumably) they actually knew less than they thought they did before they started. These findings provide clear evidence for response shift bias, which has implications for pretest/posttest designs. Some studies have shown that employing retrospective pretest designs are more accurate than pre/post designs because they more closely reflect behavioral indices (Howard, 1982; Pratt, McGuigan, & Katzev, 2000). Others have also demonstrated that participants' perceptions of the construct being

measured shifts from pre to posttest because of exposure to program content (Drennan & Hyde, 2008). Although the retrospective pretest design might not replace traditional pretest/posttest design, the current findings demonstrate empirical differences in each method, and suggest that a retrospective design may be useful in measuring the impact of relationship education. Conversely, Hill and Betz (2005) argued and also showed that other biases besides response shift bias were at work in their research. They showed that retrospective pretests were susceptible to such biases as faulty recall, emotionality, and cognitive distortion (i.e., individuals naturally want to feel they invested their time wisely in a program). Because of these biases, Hill and Betz (2005) recommend using retrospective pretests on measures of attendee's subjective experience, but also using pre/post designs on outcome measures such as skills and knowledge. More research on retrospective pre/post designs is needed to further examine the pros and cons.

Strengths and Limitations

Strengths of the current study include sample sizes with ample statistical power. A mixed models approach was used to appropriately account for random effects in subjects and time. In addition, the inclusion of a nonequivalent group of university emerging adults provided a way to test prevention theory through demographic comparisons and mixed model comparisons, thus allowing us to examine program outcomes with more confidence. Despite these strengths, there are also limitations to the current study. One limitation is that the current measures lack thorough psychometric testing. We established one form of reliability through principal components analyses and internal consistency using Cronbach's alpha tests which produced acceptable internal

consistency scores ranging from .62 to .82, but other forms of reliability including test/retest and parallel forms are not established for these measures, nor was validity (e.g., predictive, concurrent, convergent, or divergent validity). Moreover, the nature of the program is preventative and the measures are attitudinal, gauging perceived knowledge about variables such as relationship skills and partner selection that presumably have not yet occurred. That is, we did not determine how the tested knowledge and attitudes transforms into behavior.

Future Research

Because PICK has been relatively less evaluated compared to other premarital programs such as PREP and PREPARE-Enrich, there are many opportunities for future research. As other evaluations targeting individuals in the mate selection phase have noted (Antle et al., 2013; Braithwaite et al., 2010; Van Epp et al., 2008), participants should be followed to see how the program affects their behavior longitudinally — namely their choice of partners, and correlations of ratings of relationship knowledge with actual relationship behaviors. Because the current measures were self-report, future researchers might employ behavioral coding longitudinally as relationships progress (Antle et al., 2013; Van Epp et al., 2008) thereby eliminating issues such as social desirability bias, helping to further establish the effectiveness of the program. Change mechanisms and predictor variables might also be examined in order to examine such issues as how, and for whom this type of CRE works. Because the current sample was somewhat diverse in terms of age, life course stage, income, and education level, it would be advantageous to understand for whom PICK works. Because the program continues to

expand in reach, future evaluations should also seek to establish the effectiveness of PICK with various target groups including high school students, incarcerated individuals, and individuals with low socioeconomic backgrounds. Finally, future research might also examine the cost effectiveness of the PICK program.

Implications

Based on the current findings, it appears that PICK helps those searching for relationships (Markman & Rhoades, 2012), including emerging adults who had already experienced divorce. In addition, the formative data showed that 96% of attendees would recommend the course to others and 97% thought the program was a good experience suggesting that regardless of life course stage (having children, having experienced a divorce, and experiencing emerging adulthood or mid to later adulthood), individuals were highly satisfied with the program. Because of the prevalence of attendees who have children, those who host future PICK courses might consider eliminating potential barriers by providing child care to parents.

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CHAPTER III

FACILITATOR CHARACTERISTICS AND PREDICTORS IN THE *PREMARITAL INTERPERSONAL CHOICE AND KNOWLEDGE* PROGRAM

Introduction

The efficacy of couple relationship education (CRE) is increasingly a topic of empirical study. Several meta-analyses show that CRE programs help couples in established relationships increase in communication skills and marriage quality (Hawkins, Blanchard, Baldwin, & Fawcett, 2008; Hawkins & Fackrell, 2010). Although efficacy evaluation is still needed, especially with underserved populations (Bradbury & Lavner, 2012), the efficacy of CRE has been documented sufficiently enough that researchers are calling for an examination of (a) change mechanisms (Wadsworth & Markman, 2012), and (b) which programs work for whom (Rauer et al., 2014). Beyond the important step of testing the impact of a CRE program, understanding change mechanisms and which programs work for whom is important to help educators provide effective education for specific populations. Yet, CRE serves as an umbrella term for many different interventions, some of which have received relatively less empirical attention.

One type of premarital relationship education that has been studied relatively less often is premarital education targeting individuals in the mate selection phase. These programs seek to influence individuals as they form intimate relationships, and are fewer in number than programs that target established relationships (Antle et al., 2013; Cottle, Thompson, Burr, & Hubler, 2014; Van Epp, Futris, Van Epp, & Campbell, 2008). The

content of these programs is somewhat different from traditional CRE because the instruction is not necessarily focused on the current relationship dynamics of the couple. Instead, the instruction is targeted to individuals, and focuses on elements that lead to successful long-term intimate relationships, including what to look for in a partner and how to make commitment decisions. Because programs that target individuals in the mate selection phase tend not to focus on a current dyadic relationship and may target individuals who are not yet in romantic relationships, traditional outcome measures such as marital satisfaction and communication are typically inappropriate in terms of examining program effectiveness (Fincham, Stanley, & Rhoades, 2011; Stewart, Bradford, Higginbotham, & Pfister, 2015). Instead, initial evidence suggests that these programs can help individuals increase in areas of relationship pacing, perceived relationship skills, relationship knowledge, and confidence in one's ability to communicate (Antle et al., 2013; Cottle et al., 2014; Stewart et al., 2015; Van Epp et al., 2008). However, empirical testing of such interventions is in a relatively early stage, and much more work is needed to examine the effectiveness of programs that target those in the mate selection stage.

The purpose of this study is to examine predictors of outcomes in the *Premarital Interpersonal Choices and Knowledge* (PICK) program (Van Epp, 2010), an educational intervention that targets singles. In this study, we tested (a) facilitator characteristics, and (b) demographic variables as predictors of change scores on four variables: perceived relationship skills, partner selection, relationship patterns, and relationship behaviors and attitudes. Because little is known in terms of which factors contribute to change in individually based CRE, we used empiricism as a guide. We started by testing predictors

of each of the four outcomes using general linear model analyses. We then tested the remaining significant predictors of change in a multivariate context in order to test the relative importance of each predictor using structural equation modeling (SEM). The use of SEM allowed us to examine these predictors simultaneously to understand the relative importance of each predictor, and to determine concurrently the amount of variance explained in the four outcome measures.

Literature Review

Prevention Theory

One rationale for testing predictor variables is rooted in prevention theory (Coie et al., 1993), a framework that considers the balance between risk and protective factors. According to this framework, risk factors are seen as typically cumulative, and may fluctuate with developmental stages. Protective factors that help individuals resist tendencies toward dysfunction should be provided to those who are at-risk. Additionally, intervention should be provided early when predictors of dysfunction are in their nascent stage, when problems are most adaptable to positive change. An assumption of prevention theory is that there is a unique interaction effect between individuals and their environments. For this reason, Coie and colleagues argued that "analyses of differential responses by subgroups of participants may help to identify tentative boundary conditions on the effectiveness of the interventions" (p. 1017).

Similarly, other researchers argue that CRE interventions should be tailored to specific groups in terms of timing across the life course. Hawkins and colleagues (2004) stated "an important reason for temporal specificity is that it makes curricula more

concrete. The more tailored educational offerings are to the temporal and life circumstances of their participants, the more likely they are to meet perceived needs" (Hawkins et al., pg. 550). Similarly, Bradbury and Lavner (2012) pointed out,

> because we often assume 'one size fits all,' we rarely examine whether a given program is more or less effective depending on relationship status or duration within a given study, or whether programs tested with different populations differ in their effect size across studies. (pg. 119)

Therefore, as programs are provided to individuals across developmental stages, it is important to examine whether, and how, the program might affect attendees differently. The commonality of everyone in our current sample was that they indicated they were not in established relationships. In order to examine other differences, we used participant age, presence of children, and having been divorced to serve as basic proxy variables for timing across the life course (Hawkins et al., 2004).

How Couple Relationship Education (CRE) Works: Change Mechanisms in Couple Relationship Education (CRE)

Research examining change mechanisms for CRE targeting individuals is sparse. In a recent review, Wadsworth and Markman (2012) stated, "future research needs to specify the mechanisms of change for *individual*-focused interventions" (pg. 110). But many of the change mechanisms in CRE that Wadsworth and Markman (2012) outlined assume an existing intimate relationship; thus, their list included variables appropriate to extant couple relationships such as communication dynamics, self-regulation in interacting with a partner, positive connections, and dyadic coping. Such variables focus

overtly on interpersonal processes, and so could arguably be identified in prior relationships, or to some extent in friendships or family relationships. However, there are only a handful of change mechanisms mentioned by Wadsworth and Markman that apply well to CRE with individuals who are not in established relationships: knowledge about relationships, group processes, and (with regard to the actual education), facilitator/participant alliance.

Given that facilitator-related factors might contribute to change in individual-based CRE, we propose to test facilitator characteristics as a change mechanism on the four outcome measures of PICK (i.e., self-report measures of perceived relationship skills, partner selection, relational patterns, and relationship behaviors and attitudes). Much like in family therapy (Barber, 2009), it is possible that facilitator characteristics might be further pared down to techniques and alliance. In therapy, techniques and alliance work in tandem in their impact on therapeutic outcomes. CRE differs in important ways, of course: education is its primary tool, and its main purpose is to "help families build knowledge and skills" (Myers-Walls, Ballard, Darling, & Myers-Bowman, 2011, p. 362) rather than to repair relationships. We now consider facilitator quality (i.e., skill) and facilitator/participant alliance.

Facilitator quality. Many scholars conclude that effective education by a facilitator contributes to positive outcomes in CRE (Arcus, 1995; Duncan & Goddard, 2010; Hughes, 1994). Hawkins and colleagues (2004) concluded that "teaching processes might be as crucial to educational outcomes as the content itself" (p. 549). But surprisingly, facilitator effectiveness is little studied. Higginbotham and Myler (2010) showed that the facilitators' abilities of explaining course material clearly and drawing on

experiences in helpful ways significantly and positively predicted wife's ratings of the quality of the program, and the quality of the facilitation while managing time well and drawing on experiences in helpful ways predicted higher ratings of program quality for husbands. Adding to their work, Bradford and colleagues (2012) found that participant-reported facilitator quality was associated with significantly higher participant ratings of both couple and individual functioning. The results of these two studies suggest that facilitator quality has an impact on participant outcomes in CRE. Other research on *Within My Reach* showed that participant ratings were higher for facilitators who had at least three years of experience (Olmstead et al., 2011). In the same study, participants indicated that facilitator characteristics were ranked fourth in terms of helpfulness, behind curriculum delivery (i.e., use of videos, application activities), teaching specific relationship skills (i.e., speaker/listener technique), and class structure (i.e., class size, interaction).

Facilitator-participant alliance. In psychotherapy research, the therapeutic alliance between client and therapist has been linked with positive therapeutic outcomes (Friedlander, Escudero, Heatherington, & Diamond, 2011; Horvath, Del Re, Flückiger, & Symonds, 2011). Research shows that the therapeutic alliance accounts for roughly 30% of change in therapy, whereas techniques only account for around 15% (Lambert & Barley, 2001). Because of the important role the client/therapist relationship plays in therapy outcomes, Markman and Rhoades (2012) argued that researchers should examine the facilitator/participant alliance in CRE. In doing so, however, we hasten to note that there are several key factors that make the alliance in CRE different from the alliance in therapy: (a) CRE is often briefer than therapy, (b) CRE is education-based and, therefore,

individuals tend to share relatively less personal information, and (c) the presence of other participants in the room might "dilute" or alter the impact of the alliance. Thus, it is possible that alliance in CRE may be less impactful than alliance in therapy.

In CRE specifically, we are aware of only four studies that have examined the facilitator/participant alliance (Bourgeois, Sabourin, & Wright, 1990; Owen, Antle, & Barbee, 2013; Owen, Rhoades, Stanley, & Markman, 2011; Quirk, Owen, Inch, France, & Bergen, 2014), and the results are mixed. One study showed that leaders accounted for 1.3% change in relationship adjustment, 4.5% change in positive communication, 5.2% change in negative communication, and 10.5% change in confidence about the future of the relationship (Owen et al., 2011). The variance diminished greatly when leader/participant alliance was examined by itself: less than 1% for relationship adjustment, positive communication, and negative communication. Quirk and colleagues (2014) showed that positive alliance in CRE was associated with more positive communication, less negative communication, and more dedication. Bourgeois, and colleagues (1990) showed that the leader/participant alliance was a significant predictor of relationship outcomes for husbands, but not for wives. In a study using PREP, Owen, Antle, and Barbee (2013) showed that there was no impact of the alliance on outcomes of relationship functioning and relationship dynamics. They concluded that the nonsignificant results might be due to (a) the size of the groups (the intervention featured large groups), (b) the group dynamics of the program (i.e., collaboration and interaction between participants), and (c) individuals attending without their partners.

Given the mixed results of these studies, further examination of the facilitation in CRE is needed, particularly in CRE for individuals. Besides examining the change

mechanism of facilitator characteristics (which includes facilitator quality and facilitator alliance) in the current study, we propose to also test predictors, including (a) demographic factors (i.e., age, ethnicity, gender, income, and education level), and (b) timing factors (i.e., presence of children, number of divorces, and relationship status).

For Whom Couple Relationship Education (CRE) Works: Predictors of Effectiveness

One step toward knowing which CRE programs work for whom is to examine the potential impact of various demographic variables on intervention outcomes. Because the current program is offered to the community, the individuals who attend come from differing life stages and have varying degrees of distress. Due to the number of predictor variables we propose to test, we review briefly the current research on predictor variables in general.

Current research for predictor variables in relational CRE has produced mixed results. For example, one study showed that marital status and income for men predicted program efficacy (Adler-Baeder et al., 2010), but not for women; married men experienced a greater increase in relationship confidence and lower-income men experienced greater gains in couple functioning. In another study, Rauer and colleagues (2014) showed that income and race were predictors of CRE program outcomes, with low-income men and women experiencing greater gains in relationship quality and positive behaviors respectively, and Whites experiencing greater gains in marriage quality when compared to Blacks. Although these studies suggest that low-income individuals experience greater gains in outcomes, income is not a consistent predictor.

For example, in a meta-analysis, effect sizes for those with low incomes ranged from *d* = .25 to .29, whereas effect sizes for those with middle incomes effect sizes ranged from *d* = .30 to .40 (Hawkins & Fackrell, 2010), which is contrary to the results produced by the two studies mentioned previously. In a premarital intervention, variables such as gender, race, education level, age at marriage, children, use of public assistance, and marital status did not predict program outcomes of satisfaction, conflict, and commitment (Stanley et al., 2006). Level of risk was found not to be a significant predictor in one study (Halford & Wilson, 2009), but significant in another (Barton, Futris, & Bradley, 2014). In a meta-analysis of 117 outcomes, Hawkins and colleagues (2008) showed that gender, income, and ethnicity were not predictors of CRE outcomes, although the authors noted a lack of ethnic and economic diversity in the samples of the extant studies.

The studies mentioned above were predominantly of CRE targeting couples, not individuals in the mate selection stage. Outcome predictors for programs targeting individuals in the mate selection phase are less studied. One study targeting individuals in the mate selection stage tested predicting variables and showed that older adults learned relatively less compared to their younger counterparts (Antle et al., 2013). Specific to PICK, Van Epp and colleagues (2008) tested several predictor variables including sex, race, current relationship status, previously married, and presence of children on four dependent variables and found that only gender by time significantly predicted the dependent variable of attitudes about mate selection: women were more likely than men to endorse the belief that they should wait for a perfect partner, and less likely to agree that love is a sufficient reason to marry. Therefore, more evaluation of predictor variables for PICK is needed.

Measures for Couple Relationship Education (CRE) with Individuals

As mentioned previously, there are few instruments that measure variables appropriate to individually focused CRE. Until recently, researchers have had to either (a) develop their own measures to determine the effectiveness of their programs, and/or (b) modify existing measures to fit singles (Cottle et al., 2014; Fincham et al., 2011; Stewart et al., 2015). The current study employs four scales of a measure designed to reflect the information gained from PICK developed by the authors (see Stewart et al. for tests of reliability including principal components analyses and Cronbach's tests of internal consistency). Two of these measures focus on perceived personal knowledge (i.e., relationship skills and partner selection), and two others focus on the perceived importance of knowledge about a potential partner (i.e., the potential partner's relational patterns, and potential relationship behavior and attitudes).

Study Purpose

Although there is some evidence to suggest that PICK is effective (see Stewart et al., 2015), less is known about the change mechanisms and the predictors of participant outcomes. Understanding what contributes to change and for whom these changes occur might allow educators to tailor interventions to better help potential attendees. In sum, given that researchers are calling for a better understanding of the change mechanisms (*how* CRE works), and the predictors of CRE (*for whom* CRE works; Rauer et al., 2014; Wadsworth & Markman, 2012; Rauer et al., 2014), we propose to test facilitator characteristics and several demographic variables as predictors of four PICK outcome

variables. The purpose of the current study is to examine (a) the potential impact of facilitator characteristics, and (b) demographic predictor variables on four PICK outcome variables including perceived relationship skills, partner selection, relational patterns, and relationship behavior and attitudes.

Methods

Procedures

PICK has two main goals (see Van Epp et al., 2008). The first is to educate individuals on factors that contribute to marital stability and quality, including the potential partner's family dynamics, attitudes, compatibility, and relationship history and skills. The second goal is to help individuals pace a relationship, balancing increasing levels of closeness using cumulative factors such as knowledge, trust, and commitment. PICK shares some similarities with content in three premarital surveys, including RELATE (Busby, Holman, & Taniguchi, 2001), PREPARE-Enrich (Fowers & Olson, 1989, 1993), and FOCCUS (Larson, Newell, Topham, & Nichols, 2002).

The PICK program was offered in eight different locations in a Western state. Classes were offered as part of a federal healthy marriage initiative grant. Participants were recruited through local newspaper advertisements, billboards, movie theatre advertisements, and by word-of-mouth advertising. The participants attended a variety of formats of a six hour PICK course. These courses ranged from single day six hour sessions, to six one hour sessions spread out over six weeks. Regarding attendance format, 5.4% attended a one day workshop, 15.7% attended two, 3 hour meetings that took place over two weeks, 35.1% attended three, 2 hour meetings over three weeks, and

4.6% attended meetings spread out over four to six weeks (32% missing data). Tests for potential difference in outcome scores by program format yielded no significant differences except for the variable relationship behavior and attitudes: the post score mean for the four to six week format, on average, was significantly higher than the mean of the three week format (t = - 2.01, p < .05). All classes were provided at no charge in locations readily accessible by the community. Meals were catered at no charge for those who participated. All group facilitators were PICK Instructor certified, which includes online training and passing an exam. Facilitators also attended a training conference that provided them with course policies and procedures. Several site visits were performed by the project coordinator and feedback was given to the instructors to further ensure treatment fidelity.

Participants

The participants included 2,760 individuals recruited from communities throughout the state. We opted to drop those from the sample who were in long-term relationships (n = 312) because the content of the course and the outcome measures were designed for singles. The final sample included 2,448 individuals including 71.3% women and 25.2% men. The mean age was 36.93 (SD = 14.15), and ranged from 18 to 79. Regarding Ethnicity, 83.4% were White, 5.4% were Hispanic/Latino, 2.7% indicated Other, 1.2% were Native American, 1.2 % were Asian-American, and .7% were African American. Regarding relationship status, 71.2% were single, 17.6% were dating, and 2.7% were widowed. In terms of education level, 15.1% were high school graduates or had a GED or less, 32.2% attended some college, 33% obtained a college or technical

degree, and 14.3% had obtained a Graduate degree. Forty-three percent reported having experienced at least one divorce and 46% had at least one child. The median income was $25,000. Regarding level of religiosity, 7% reported not being religious at all, 7.8% reported being slightly religious, 14% were somewhat religious, 34.1% were very religious, and 31.4% were extremely religious. In terms of class size, the classes ranged in size from 1 to 78 with a mean of 15.33 (*SD* = 9.24).

Measures

Because programs that target individuals in the mate selection stage are relatively new, there is a paucity of tested measures to examine the effectiveness of such programs. We wrote items that reflect the content of the curriculum, and included four scales: two that focused on perceived personal knowledge, and two that focused on perceived knowledge about a potential partner. All of the measures were self-reported (Stewart, Bradford, Higginbotham, & Pfister, 2015). In this study, we used difference scores as the dependent variable. This method is accepted as representing adjusted change (Dalecki & Willits, 1991). The four dependent variables were the post minus pre ($T_2 - T_1$) differences for each of the four outcome variables: (1) perceived personal knowledge about relationship skills, (2) perceived personal knowledge about partner selection, (3) perceived importance of knowledge about a potential partner's relational patterns, and (4) perceived importance of knowledge about relationship behaviors and attitudes.

Perceived knowledge about relationship skills. Perceived relationship skills were measured using three items that ranged on a 5-point Likert scale from 1 *disagree* to 5 *strongly agree*. These statements included: "I understand what it takes to have a

healthy relationship," "I know how to communicate well with a partner," and "I have good conflict management skills." Items were combined and a mean was calculated for pre and post scores. Cronbach's alphas were .73 for pretest and .79 for posttest.

Perceived knowledge about partner selection. This measure included four items: "I know how to choose the right partner for me," "I know the important things to learn about a potential partner," "I know how to pace a relationship in a safe way," and "I can spot warning signs in relationships." A 5-point Likert scale was used ranging from 1 *disagree* to 5 *strongly agree*. The item scores were combined and a mean was computed for pre and post scores. Cronbach's alphas were .83 at pretest and .81 at posttest.

Perceived importance of knowledge about a potential partner's relationship patterns. The relationship patterns variable was measured using four items scaled on 5-point Likert scale. Participants were given the question, "how important is it to you to know the following about someone prior to becoming seriously committed?" and asked to rate a list of statements ranging from 1 *unimportant* to 5 *crucially important*. These statements included: "what he/she learned from his/her family when growing up," "what he/she has been like in past relationships," "how well he/she gets along with his/her parents," and "what his/her friendships are like." The item scores were combined and a mean was computed for pre and post scores. Cronbach's alphas were .78 at pretest and .81 at posttest.

Perceived importance of knowledge about a potential partner's relationship behavior and attitudes. Relationship behavior and attitudes were measured using three statements on 5-point Likert scales ranging from 1 *unimportant* to 5 *crucially important*. Participants were given the stem, "how important is it to you to know the following about

someone prior to becoming seriously committed?" and asked to rate a list of statements ranging from 1 *unimportant* to 5 *crucially important*. These statements included: "how he/she fights when angry," "how he/she reacts when my feelings are hurt," and "what he/she believes about right and wrong." Means were computed for pre and post. Cronbach's alphas for this measure were .67 at pretest and .72 at posttest.

Facilitator quality and facilitator/participant alliance. Participants rated facilitator quality on five statements using a Likert scale ranging from 1 *disagree* to 5 *strongly agree* (see Higginbotham & Myler, 2010). These statements included: "the facilitator explained the course material clearly," "the facilitator answered questions well," "the facilitator was effective in getting people to participate," "the facilitator managed the time well," and "the facilitator drew on his/her own experiences in helpful ways." Cronbach's alpha for this measure was .85.

Three items were used to measure the facilitator/participant alliance, modified from the "bond" subscale of the Working Alliance Inventory (Horvath & Greenberg, 1989) to be appropriate to the context of relationship education. These items included three statements on a 5-point Likert scale ranging from 1 *disagree* to 5 *strongly agree*. These statements included: "I feel the facilitator appreciates me and my concerns," "I believe the facilitator cares, and likes me as a person," and "I trust the facilitator." A mean score was computed. Cronbach's alpha for this measure was .86.

Facilitator quality and facilitator/participant alliance have been treated as conceptually distinct, but in our data we found evidence that these two measures were collinear, which is perhaps not surprising given the relatively short duration of the class. The two variables correlated highly (r = .70), and when analyzed as predictors in the

same model, the estimates became unstable. We thus decided to collapse the measures into a single construct. When analyzed via principle components factor analysis, the rotated solution yielded a single factor (eigenvalue = 4.78, with 59.8% variance explained) with factor loadings ranging from .74 to .83, $\alpha = .90$, suggesting that these constructs should be combined into one: facilitator characteristics.

Plan of Analysis

Our purpose in this study was to examine facilitator characteristics and demographic variables as potential predictors of difference scores on the four outcome variables (perceived knowledge about relationship skills, partner selection, a potential partner's relational patterns, and a potential partner's relationship behavior and attitudes). We did this in two steps: first, using four *separate* general linear model analyses to test predictors of each of the four difference scores; and second, using structural equation modeling (SEM) to *simultaneously* test the relative importance of each significant predictor in a multivariate environment. The demographic variables included age, gender, prior divorce (yes/no), relationship status (single or dating), ethnicity (White, Latino-American, and other), income (broken down as follows — 0 to $20,000, $20,001 to $35,000, $35,001 to $60,000, $60,001 to $99,999, and $100,000 and over), level of religiosity (ranging on a 5-point Likert scale from 1 *not at all* to 5 *extremely*), education level (high school educated or less, some college, college or technical degree, and graduate degree), being raised in a stepfamily (yes/no), and whether the participant has a child/children in the home (yes/no).

We included all variables in the four separate general linear model analyses because few studies have examined outcome predictors of CRE with individuals. We also

wanted to simultaneously test facilitator characteristics with other predictors to more accurately represent the actual context of relationship education. Age and facilitator characteristics were treated as covariates because they are continuous variables while all other variables are categorical. Thus, when age or facilitator characteristics were significant predictors, we performed a Pearson correlation test between each variable and the difference score to determine the direction of the relationship, in place of posthoc analyses. Because the GLM procedure only produces posthoc tests when there are no covariates in the model, we opted to examine the direction of the relationships of the remaining categorical variables by calculating and contrasting the mean difference scores on the four outcome variables. Using structural equation modeling (SEM; AMOS version 22; Arbuckle, 2013), we then tested all significant predictors of the four outcomes in a multivariate context in order to examine the relative importance of each predictor. The use of SEM allowed us to determine concurrently the amount of variance explained by all the significant predictors.

Results

General Linear Model Analyses

Using GLM analyses, we tested variables to understand *how* and *for whom* the program was most effective. The four dependent variables were the post minus pre (T_2 - T_1) differences for each of the four outcome variables: perceived relationship skills, knowledge about partner selection, a potential partner's relational patterns, and a potential partner's relationship behaviors and attitudes. The results for the four GLM

models are reported in Table 1. In the narrative, mean difference scores are reported as *D* rather than *M* to distinguish them from ordinary pre or post mean scores.

Table 11

Predictors of Difference Scores: GLM

Predictor		Perceived skills	Partner selection	Relational patterns	Behaviors and attitudes
	df		*F*		
Facilitator characteristics	1	59.01***	43.49***	6.40*	3.36
Gender	1	.90	6.61*	10.38***	7.43**
Level of religiosity	4	3.67**	4.88***	1.12	2.71*
Relationship type	2	3.50*	3.65*	2.58	.88
Presence of children	1	3.21	7.67**	.22	2.79
Age	1	.44	.77	4.67*	.61
Income level	4	1.52	1.02	1.65	2.57*
Education level	4	.52	.40	.61	1.33
Presence of divorce	1	.21	.05	1.41	2.39
Ethnicity	2	1.68	.76	.61	1.37
Raised in stepfamily	2	1.36	.57	2.43	2.43

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

Predictors of difference scores. There were three significant predictors of difference scores on *perceived knowledge of relationship skills*: facilitator characteristics ($F = 59.01$, $p < .001$), level of religiosity ($F = 3.67$, $p < .01$), and relationship type ($F = 3.50$, $p < .05$). For facilitator characteristics, the Pearson's correlation between the difference score and facilitator quality was positive and significant ($r = .22$, $p < .001$) demonstrating that those with higher facilitator quality scores had greater difference scores (i.e., experienced greater change in the course of the intervention). For level of religiosity, individuals with lower levels of religiosity had mean difference scores ranging from .90 to 1.1 while those with higher levels had scores ranging from .79 to .83. With regard to relationship type, singles had slightly larger difference scores ($D = .87$, $SD =$

.73) compared to dating individuals (*D* = .84, *SD* = .77), and widows (*D* = .80, *SD* = .90).

There were five significant predictors of difference scores on *perceived knowledge about partner selection*: facilitator characteristics ($F = 43.49$, $p < .001$), gender ($F = 6.61$, $p < .05$), level of religiosity ($F = 4.88$, $p < .001$), relationship type ($F = 3.65$, $p < .05$), and presence of a child ($F = 7.67$, $p < .01$). Once again, ratings of facilitator characteristics were positively correlated with difference scores ($r = .19$, $p < .001$). Women had larger difference scores (*D* = 1.18, *SD* = .84) than men (*D* = .92, *SD* = .79). Those with lower levels of religiosity had larger difference scores (ranging from 1.21 to 1.29) than highly religious individuals (1.09 for very religious; 1.06 for extremely religious). Singles had larger difference scores (*D* = 1.16, *SD* = .83) than dating individuals (*D* = 1.00, *SD* = .86) and widows (*D* = .972, *SD* = .78). Those with children had larger difference scores (*D* = 1.24, *SD* = .91) than those without children (*D* = 1.02, *SD* = .75).

There were three significant predictors of difference scores on *perceived knowledge about potential partner's relational patterns*: facilitator characteristics ($F = 6.40$, $p < .05$), gender ($F = 10.38$, $p < .001$), and age ($F = 4.67$, $p < .05$). Facilitator characteristics were positively, but not significantly correlated with difference scores ($r = .05$, $p = .053$). Men's difference scores (*D* = .54, *SD* = .63) were higher than women's difference scores (*D* = .43, *SD* = .57). Regarding age, there was a negative, significant correlation between age and difference scores ($r = -.11$, $p < .001$) suggesting that younger participants experienced larger gains than older participants.

Finally, there were three significant predictors of difference scores on *perceived knowledge about potential partner's relationship behavior and attitudes*: gender ($F =$

7.43, $p < .01$), level of religiosity ($F = 2.71$, $p < .05$), and income level ($F = 2.57$, $p < .05$). Men's difference scores were again higher ($D = .35$, $SD = .57$) than those for women ($D = .26$, $SD = .50$). Those with lower levels of religiosity had larger difference scores (ranging from .35 to .37) than "very" and "extremely religious" individuals ($D = .26$ and .24 respectively). Those with lower income levels (0 to $20,000; $20,001 to $35,000) had larger difference scores ($D = .30$ and .31 respectively) than those with higher incomes (ranging from $D = .23$, $SD = .48$ [$35,001 to $60,000] to $D = .17$, $SD = .74$ [$100,000 or greater]).

Structural Equation Model Analysis

All significant predictors from the general linear model analyses were then entered into a structural equation model to allow a simultaneous test in a multivariate environment, thereby assessing their relative importance. Maximum likelihood estimation was used to handle missing data. This method creates a covariance matrix with existing data and then imputes data with expected values.

The structural model is presented in Figure 1 with standardized path coefficients. Fit indices for this model were good ($\chi^2 = 310.05$, $df = 103$, $p < .001$, CFI = .981, TLI = .969, RMSEA = .029). For *perceived knowledge of relationship skills*, two of the original three predictors remained significant in the multivariate environment. Facilitator characteristics predicted larger difference scores ($\beta = .23$, $p < .001$). Religiosity was predictive ($\beta = -.09$, $p < .001$), with those with lower religiosity having larger difference scores. Relationship type was insignificant ($\beta = -.02$, $p = .51$). Together, these variables

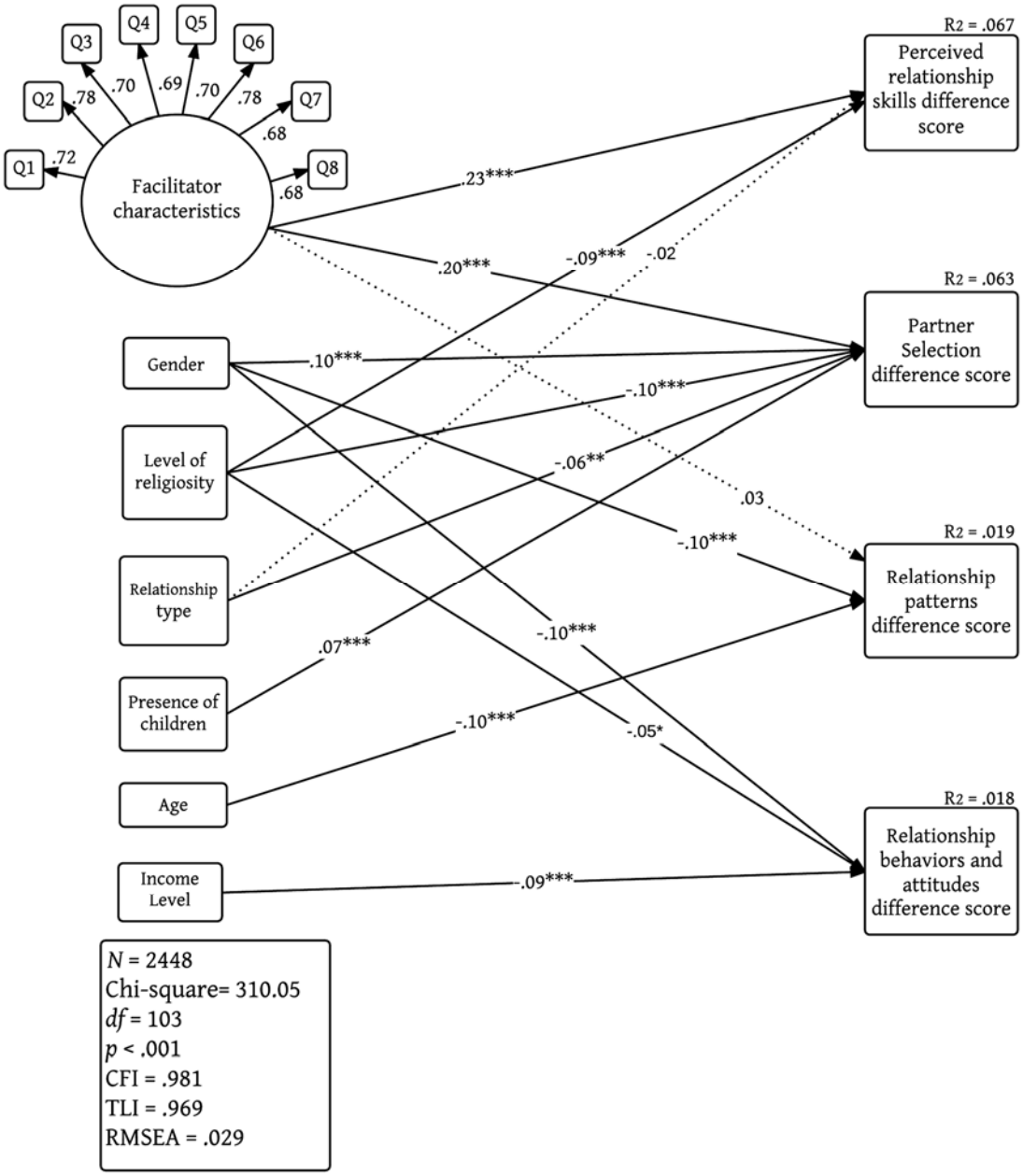
explained 6.7% of the variance in the difference scores about perceived knowledge of relationship skills.

For *perceived knowledge about partner selection*, all five of the original predictors remained significant. Higher scores on facilitator characteristics predicted larger difference scores ($\beta = .20$, $p < .001$). Other significant predictors included: gender ($\beta = .10$, $p < .001$) — women had larger difference scores than men; level of religiosity ($\beta = -.10$, $p < .001$) — those who reported lower levels of religiosity had larger difference scores; relationship type ($\beta = -.06$, $p < .01$) — singles had larger difference scores than those dating and widows; and presence of children ($\beta = .07$, $p < .001$) — those with children had larger difference scores than those without children. Together, these variables explained 6.7% of the variance in the difference scores about perceived knowledge of partner selection.

Regarding *perceived knowledge about a potential partner's relational patterns*, two of the original three predictors remained significant. Gender was predictive ($\beta = -.10$, $p < .001$) indicating again that in this model men had greater difference scores than women, and age ($\beta = -.10$, $p < .001$); younger participants had relatively larger difference scores. Facilitator quality was insignificant ($\beta = .03$, $p = .18$). Together, these variables explained 1.9% of the variance in knowledge in the difference scores about a potential partner's relational patterns.

Figure 1

Structural equation model results



Note: Gender: 0 = *male,* 1 = *female*; relationship type: 0 = *single or widowed*, 1 = *dating*; presence of children: 0 = *no children*, 1 = *children*.
*$p < .05$. **$p < .01$. ***$p < .001$.

Finally, for *perceived knowledge about a potential partner's relationship behavior and attitudes*, all of the original three predictors remained significant in the multivariate environment. The following predictors were significant: gender (β = - .10, $p < .001$) suggesting that men had higher difference scores than women, level of religiosity (β = - .05, $p < .05$) suggesting that being less religious was predictive of higher difference scores, and income level (β = - .09, $p < .001$) or having a lower income was associated with higher difference scores on knowledge about a potential partner's relationship behaviors and patterns. Together, these variables explained 1.8% of the variance in the difference scores about knowledge of a potential partner's relationship behavior and attitudes.

Discussion

The current study was performed in response to the call to better understand change mechanisms and predictors for attendees of CRE (Rauer et al., 2014; Wadsworth & Markman, 2012). Recent research on these same data (Stewart et al., 2015) provided prior evidence that – relative to a comparison group – PICK participants experienced significant pretest to posttest gains in all four outcomes: perceived knowledge about relationship skills, partner selection, a potential partner's relational patterns, and a potential partner's relationship behaviors and attitudes. Although more modest, the results of this study provide some insight to the question of *how* and *for whom* PICK works. We first discuss our findings regarding facilitator characteristics as one aspect of how, then demographic predictors as one aspect of for whom CRE works.

How Couple Relationship Education (CRE) Works: Facilitator Characteristics

When tested in conjunction with participant demographics, facilitator characteristics (e.g., explaining course material, answering questions, facilitating participation, appreciation, caring, and trust from the facilitator) positively predicted change in two out of the four outcome variables. Overall, facilitator characteristics was the most important factor in operation in this CRE. Relative to other variables, the comparatively larger coefficients suggest that facilitator characteristics accounted for a relatively larger amount of the 6.7% of the variance explained in perceived relationship skills and the 6.3% of the variance explained in perceived knowledge about partner selection. For perceived knowledge of relationship patterns, facilitator characteristics was a significant predictor of change scores in the GLM analysis, but was not significant in the structural equation model and was not significant in either model for relationship attitudes and behaviors. Taken together, these findings suggest that facilitator characteristics were relatively *more* important in terms of participants' personal knowledge (i.e., relationship skills and partner selection), but relatively *less* important in terms of participants' knowledge about a potential partner. That said, one might not expect facilitator characteristics to account for large portions of the variance given that the program was only six hours long,

The results for facilitator characteristics largely support past findings. For example, Higginbotham and Myler (2010) showed that certain facilitator qualities were associated with the overall quality of the CRE experience but these facilitator qualities overall produced small effect sizes. Bradford and colleagues (2013) showed that higher

ratings of the facilitator quality were associated with larger gains in marital and individual functioning. These findings also support past research which suggests that facilitator/participant alliance is important, but alone accounts for relatively little overall variability. For example, Owen and colleagues (2011) showed that leader/participant alliance in premarital education accounted for less than 1% change in negative communication, 1% change in positive communication, 1% change in relationship adjustment, and 10.5% change in confidence about the future of the relationship.

Other possible explanations for the modest results of the facilitator characteristics in the current study include the briefness of the intervention and teaching in a group setting. It is possible that if the intervention were longer, some facilitator characteristics such as facilitator/participant alliance might become somewhat more impactful, and individuals might have more time to establish an alliance with the facilitator; although how predictive the alliance might be is obviously an empirical question. Additionally, as Owen and colleagues (2013) noted the size of the group may affect how much the alliance contributes to changes in outcomes variables. Regarding group size, dosage, outcome measures, and facilitator/participant alliance, more research is needed to better understand in what CRE contexts the alliance is important.

Barber (2009) argued that competence and alliance are likely intertwined, and that both play an essential role in therapeutic outcomes. Given the results of this study, it would appear that this argument may hold true for CRE; it is likely that facilitator quality and alliance are far more intertwined in CRE than they are in psychotherapy setting, and thus might be combined in future research studies (see Owen et al., 2011) but more empirical testing of facilitation is warranted. One possible explanation for the high

correlation between facilitator quality and alliance is the amount of time spent in the program. Because the course was only taught for a total of six hours, there may be relatively little time for educator quality (i.e., explaining content, answering questions) to become distinct from alliance (i.e., participant perceptions of appreciation and care from the facilitator). It is possible that with more course time, quality and alliance might begin to diverge as attendees developed a closer alliance with the facilitator.

There are likely other factors besides facilitator characteristics that contribute to change in CRE. These results support prior research that suggests that other factors also predict CRE outcomes, including curriculum delivery, teaching specific relationship skills, and class structure (Olmstead et al., 2011). There may be some overlap between our measure of facilitator characteristics (explaining course materials clearly, effectively getting people to participate, and effective use of personal experience) and what Olmstead and colleagues labeled curriculum delivery (using effective role plays, using videos, and using Power Point slides relevant to the group).

For Whom Couple Relationship Education (CRE) Works: Demographics

Again, although modest, the results of this study also provide some insight to the question regarding *for whom* CRE works. Taken together, it was unusual for demographic variables to remain predictive of change scores, which may suggest that on the whole, the PICK program worked somewhat similarly for most attendees. The model yielded a short list of predictors that were statistically significant — gender and level of religiosity significantly predicted three out of the four outcome variables while relationship type, presence of children, age, and income level each predicted only one

outcome variable. Because these factors were tested concurrently, the results suggest that facilitator characteristics contributed more to outcome gains on perceived skills and partner selection while specific demographic variables and life course events including gender, level of religiosity, relationship type, presence of children, age, and income level contributed somewhat more to change in relational patterns and relationship behaviors and attitudes. Yet these specific demographic variables and life course events only contributed to 1.9% and 1.8% of the variability in the outcomes of relational patterns and relationship attitudes and behaviors respectively. The very small amount of variance explained in this model regarding the latter two variables (i.e., relational patterns, and relationship attitudes and behaviors) may suggest that especially with regard to these two variables, the PICK program worked somewhat similarly for most attendees.

Summary

In response to the question *how* PICK works, the results suggest that facilitator characteristics are modestly, but perhaps substantively important. Of the predictors in the study, this was most impactful, particularly with regard to participant gains in personal knowledge. Regarding *for whom* this program works, in general, the results for predictor variables in the current study suggest that the program outcomes are fairly stable among demographic variables. Our results generally support past research that shows no prediction for CRE participants in areas of ethnicity, income levels (not significant on three out of the four outcome variables in this study), presence of children (not significant on three out of the four outcome variables in this study), and education levels (Hawkins et al., 2008; Stanley et al., 2006). Specific to predictors of the PICK program, the current

research also supports past research (Van Epp et al., 2008) that showed no prediction for variables of race and current relationship status (not significant on three out of the four variables).

Strengths and limitations. This study has several strengths and limitations. The strengths of this study include: (a) testing facilitator characteristics as one mechanism of *how* change occurs in CRE, (b) testing *for whom* CRE works by examining demographic variables as predictors of four outcomes, and (c) examining these predictors concurrently using data from a large group of singles from a statewide initiative, to allow an assessment of relative importance.

There are also several limitations to the current study involving measurement and sampling. As outlined in Stewart et al. (2015), neither the predictor variable of facilitator characteristics nor the outcome measures in this study have subjected to thorough testing, particularly in terms of validity. However, the results of the structural equation models (e.g., factor loadings and model fit indices) suggest that these measures have good initial reliability. Other limitations include the lack of a culturally diverse sample, which has traditionally been problematic for CRE in general (Ooms & Wilson, 2004). Additionally, scholars have noted that data collection usually happens at the conclusion of the program, which is problematic when testing for certain facilitator characteristics such as the facilitator/participant alliance (Owen et al., 2011). It may be that certain facilitator characteristics including facilitator/participant alliance is more of a process variable and, therefore, needs to be measured over the course of the program. Because it was not collected multiple times during the program, we do not know whether better outcomes led to higher alliance ratings or the other way around (see Owen et al., 2011).

Furthermore, we chose to test facilitator quality and facilitator/participant alliance together, but other researchers might easily argue to separate them based on conceptual grounds. Additionally, the current findings apply to the PICK course and perhaps other premarital interventions, but not necessarily to CRE in general. Given these limitations, interpretation of the results should be done cautiously.

Future Research

Future research directions include a focus on measurement, change mechanisms, and further exploration of predictors. Regarding measurement, future research is needed to establish the validity and reliability of the current measures. Measurement for programs targeting individuals in the mate selection phase is still in its initial stage. Measures for *Within My Reach* were developed by Vennum and Fincham (2011) and reflect some of the questions in the outcome measures for this study. For example, the Relationship Deciding Scale has subscales of confidence (e.g., "I believe I will be able to effectively deal with conflicts that arise in my relationships" and "I have the skills needed for a lasting stable romantic relationship") which has questions similar to those asked in the perceived relationship skills measure, warning signs (e.g., "I am able to recognize early on the warning signs in a bad relationship" and "I know what to do when I recognize the warning signs in a bad relationship") which has questions similar to those found in the knowledge about partner selection measure in this study. Still, establishing the validity of the current measures would help to strengthen future research that uses these measures. Future researchers might also attempt to triangulate the data by having multiple data collection methods including qualitative interviews, self-report measures,

and behavioral observation to more fully and accurately understand the impact of the intervention on attitudes, perceptions, and behavior. In terms of change mechanisms, further work needs to be performed to understand more specifically how, and to what extent, facilitator quality and alliance affect CRE outcomes. For example, length of the program and group size likely affect the facilitator quality and alliance, but a better understanding of the mechanisms by which this occurs might further inform facilitators to more effectively intervene. Future research might also focus on other areas as potential change mechanisms for PICK. Some researchers have already begun to examine other change mechanisms, such as class format and educational processes. For example, Owen and colleagues (2013) examined group cohesion among participants as a possible change mechanism in CRE.

Implications

The current findings confirm that facilitators played a significant role in effecting change among the participants in this particular sample. Facilitator characteristics was a significant positive predictor on two of the four outcome variables. Although these findings were modest in terms of effect sizes and outcomes, the findings suggest that how facilitators educate (i.e., responding to questions, getting individuals to participate, time management, and drawing on personal experience) and the relationship they have with individuals (i.e., can help attendees understand and gain more knowledge) is somewhat important.

In terms of tests for predictor variables, what we did not find is instructive. Because there were few predictor variables that were significant and even fewer that

contributed to substantially to the effect sizes on the four outcomes, it would appear that the PICK program may be relatively consistent in helping many different individuals gain knowledge including those from various life stages (i.e., those with children, those that have been divorced, and those in mid to later adulthood). In addition, an overwhelmingly large percentage, 94.5% of attendees that filled out the satisfaction survey reported that they agreed or strongly agreed to the three questions on the satisfaction measure (e.g., attending this course was a good experience, I would recommend this course to others, and the information in the course was useful to me) further suggesting that individuals from multiple life stages found the program useful. Because the test on predictors is meant to determine *for whom* the program is most effective, it would appear that PICK might be effective and beneficial for a wide array of individuals. Although the results do suggest that those with lower levels of religiosity benefit more from the program than the highly religious, therefore, future researchers and interventionists should consider setting (perhaps using other locations besides religious centers) to reach those that might benefit the most from this program. Although this study provides initial evidence, continual evaluation of PICK with various groups and further testing of predictor variables is still needed.

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CHAPTER IV
DISCUSSION

The two studies in this dissertation are some of the first published evaluations of the *Premarital Interpersonal Choices and Knowledge* (PICK) program. There have only been two published quantitative studies and a few unpublished manuscripts evaluating PICK. These past evaluations have relied on retrospective pre/post measures (Brower et al., 2012; Van Epp, Futris, Van Epp, & Campbell, 2008) or pre/post designs (Marriage Works Ohio, n.d.; Michigan Healthy Marriage Coalition, n.d.; Schumm & Theodore, 2014) and only one study employed a control group analyzing the data with MANOVA (Van Epp et al., 2008). Therefore, *t* tests have been the primary statistical analysis used to understand pre to post changes in areas such as understanding, confidence, and trust. These initial results provided a preliminary gauge on the effectiveness of PICK, but more needs to be done to understand how PICK helps individuals.

The two studies in this dissertation advance the evaluation of PICK to the next level by: (a) using more advanced statistical analyses (e.g., linear mixed models), (b) evaluating the program using a large sample size of emerging adults (n = 682), (c) using university students as a nonequivalent comparison group, and (d) examining facilitator characteristics and demographic and life course variables as possible predictors using a general linear model analyses followed by structural equation modeling. Although these studies advance the evaluation of PICK, there is still much more research that needs to occur.

Future research of PICK should focus on these general areas: (a) measurement refinement, (b) longitudinal designs, (c) change mechanisms, and (d) contexts or settings.

Regarding measurement, scales with established psychometric properties should be developed or located in order to increase the internal validity of future evaluations. A measure that might work in the future to evaluate PICK is the Relationship Deciding Scale (RDS; Vennum & Fincham, 2011). There are three subscales that fit the content of PICK well including Relationship Confidence, Knowledge of Warning Signs, and Deciding. Furthermore, the RDS measure has established convergent, divergent, concurrent, and predictive validity and reliability. Regarding longitudinal designs, ideally, future research should track individuals over months and even years to determine how the program affects actual partner selection behaviors. These designs might even randomly assign individuals into two groups with one group receiving the book *How to Avoid Falling in Love with a Jerk* (Van Epp, 2010) and the other attending the PICK program. Such longitudinal, experimental designs would more clearly determine gains made from attending the PICK program. Facilitator characteristics including facilitator quality and facilitator/participant alliance might be more fully explored to better understand how they affect change in those that attend PICK. In addition, other change mechanisms might also be examined including group dynamics and programming content. More specifically, determining which content, FACES or RAM, plays a greater role and for whom might help in future programming. Finally, PICK is currently being offered in various settings including jails, high schools, communities, and military locations. To establish external validity, PICK should be continually evaluated in each of these settings to determine how effective PICK is with different populations.

The evaluative research for PICK is still very much in its incipient stage. There are many other avenues not mentioned above including using qualitative methods to

better understand for whom and how PICK works. Based on the findings of the current studies, it appears that the future of the PICK-a-Partner program is bright. With promising prior findings and the current research in these two studies providing a preliminary foundation, hopefully researchers can move to further establish PICK as an effective program.

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Author.

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Appendix:

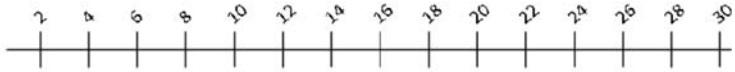
Measures

Adult Pre Program Survey
PICK Program

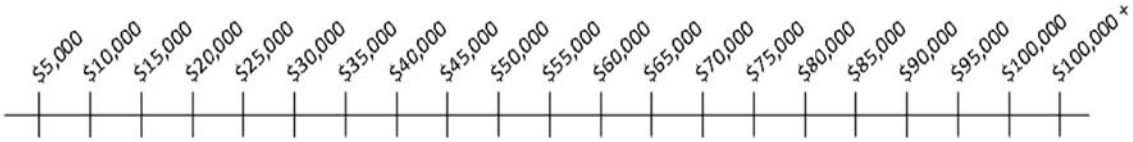
Office Use Only		9.12 PRE
Class: _____	ID: _____	Entered: _____

PLEASE MARK YOUR CHOICES CLEARLY. ANSWER AS HONESTLY AS POSSIBLE. THERE ARE NO "RIGHT" ANSWERS. ANSWERS ARE CONFIDENTIAL AND WILL NOT BE SEEN BY YOUR PARTNER, CLASSMATES, OR THE FACILITATOR.

1. **Your name:** *(first)* _____ *(last)* _____
2. **Your partner's name** *(if attending): (first)* _____ *(last)* _____ *(or, **N/A**)*
3. **How did you find out about this course?** _____
4. **Age:** _____
5. **Gender:** ① Male ② Female
6. **Ethnic background** *(mark one)*:
   ① African-American ② Asian-American ③ Caucasian ④ Hispanic/Latino ⑤ Native American ⑥ Other
7. **I am currently** *(mark one)*: ① Married ② Single ③ Dating ④ Engaged ⑤ A Widower/Widowed
8. **I live with:** ① My parent(s) ② My partner or spouse ③ Friends or roommates ④ On my own ⑤ Other
9. **Time in current romantic relationship** *(if applicable)*: *Years* ____, *Months* ____.
10. **How many times have you been divorced?** _____
11. **How religious are you?** ① Not at all ② Slightly ③ Somewhat ④ Very ⑤ Extremely
12. **Have you ever lived in a stepfamily?** ① Yes ② No
13. **How many children do you have?** _____
14. **Ages of children?** *(mark using X's)*



15. **How many of your children live in your home, full or part-time?** _____
16. **Your highest level of education completed** *(mark only one):*
    ① Elementary / middle ② Some high school ③ High school graduate or GED ④ Some college
    ⑤ College or technical degree ⑥ Graduate degree
17. **What is your individual income per year?** *(mark using an X)*



18. **How often do you worry that your income will not be enough to meet your expenses and bills?**
    ① Never ② Hardly ever ③ Once in a while ④ Often ⑤ Almost all the time
19. **Why did you decide to attend this course?** _____

_____

20. **How much relationship education have you had previously** (e.g., classes, workshops, or counseling)?
    ① None ② Some ③ A lot

21. Please mark your level of agreement:	Disagree	Slightly Disagree	Agree Somewhat	Agree	Strongly Agree
a. I understand what it takes to have a healthy relationship.	①	②	③	④	⑤
b. I know how to communicate well with a partner.	①	②	③	④	⑤
c. I have good conflict management skills.	①	②	③	④	⑤

22a. Please *INDICATE YOUR RELATIONSHIP STATUS* by marking ① or ②:

① **I'm in a relationship.**

② **I'm NOT currently in a relationship.**

22b. Please mark your satisfaction with your current relationship (*or past relationships, if currently single*):

Completely Unhappy	Moderately Unhappy	Slightly Unhappy	Neither Happy or Unhappy	Slightly Happy	Moderately Happy	Completely Happy
①	②	③	④	⑤	⑥	⑦

23. How important is it **to you** to know the following about someone **prior to** becoming seriously committed?	Unimportant	Less Important	Somewhat Important	Important	Crucially Important
a. *How he/she fights* when angry.	①	②	③	④	⑤
b. *What he/she learned* from his/her family when growing up.	①	②	③	④	⑤
c. *How he/she reacts* when my feelings are hurt.	①	②	③	④	⑤
d. *What he/she has been like* in past relationships.	①	②	③	④	⑤
e. *What he/she believes* about right and wrong.	①	②	③	④	⑤
f. *How well he/she gets along* with his/her parent(s).	①	②	③	④	⑤
g. *What his/her friendships* are like.	①	②	③	④	⑤

24. Do you feel there is need to change ***how you are in relationships*****?** Mark one:

① No change is needed at all.
② A few changes are needed.
③ Some changes are needed.
④ Many changes are needed.
⑤ There is a need for almost total change.

25. Would you like resources on any of these topics? Mark as many as apply:

Please see the resource packet for related services

Alcohol/Drugs	① Yes ② No	Child Support	① Yes ② No	Employment	① Yes ② No
Housing	① Yes ② No	Health/Nutrition	① Yes ② No	Finances	① Yes ② No
Parenting	① Yes ② No	Relationships	① Yes ② No	Violence/Abuse	① Yes ② No

26. Please mark your level of agreement:	Disagree	Slightly Disagree	Agree Somewhat	Agree	Strongly Agree
a. I know how to choose the right partner for me.	①	②	③	④	⑤
b. I know the important things to learn about a potential partner.	①	②	③	④	⑤
c. I know how to pace a relationship in a safe way.	①	②	③	④	⑤
d. I can spot warning signs in relationships.	①	②	③	④	⑤
e. I plan to use what I learn from this course in my relationships.	①	②	③	④	⑤

27. What **can you do** to avoid **falling** for a Jerk(ette)? _____

_____

_____

28. What **can you do** to avoid **being** a Jerk(ette)? _____

_____

_____

29. What do you want in a **committed relationship**? _____

_____

_____

Adult Post Program Survey
PICK Program

Office Use Only		9.12 POST
Class: _____	ID: _____	Entered: _____

PLEASE MARK YOUR CHOICES CLEARLY. ANSWER AS HONESTLY AS POSSIBLE. THERE ARE NO "RIGHT" ANSWERS. ANSWERS ARE CONFIDENTIAL AND WILL NOT BE SEEN BY YOUR PARTNER, CLASSMATES, OR THE FACILITATOR.

1. Your name: _____ _____
First Name Last Name

2. Are you willing to **fill out a follow-up survey** and/or be interviewed to help us better understand the impact of the course? We'll keep all data entirely confidential. If yes, please provide your email address: _____

3. For each statement, please mark your level of agreement.	Disagree	Slightly Disagree	Agree Somewhat	Agree	Strongly Agree
a. The facilitator explained the course material clearly.	①	②	③	④	⑤
b. The facilitator answered questions well.	①	②	③	④	⑤
c. The facilitator was effective in getting people to participate.	①	②	③	④	⑤
d. The facilitator managed the time well.	①	②	③	④	⑤
e. The facilitator drew on his/her own experiences in helpful ways.	①	②	③	④	⑤
f. I feel the facilitator appreciates me and my concerns.	①	②	③	④	⑤
g. I believe the facilitator cares, and likes me as a person.	①	②	③	④	⑤
h. I trust the facilitator.	①	②	③	④	⑤
i. Attending this course was a good experience.	①	②	③	④	⑤
j. I would recommend this course to others.	①	②	③	④	⑤
k. The information in the course was useful to me.	①	②	③	④	⑤

4. What are the **two most useful** things you learned in this course?

a. _____

b. _____

5. Do you have any **suggestions** to make this class more helpful and/or enjoyable? _____

_____

6. Please mark the boxes that reflect your opinion **BEFORE** and **AFTER** attending this course.

	BEFORE the course:					**Now, AFTER the course:**				
	Disagreed	Slightly Disagreed	Agreed Somewhat	Agreed	Strongly Agreed	Disagree	Slightly Disagree	Agree Somewhat	Agree	Strongly Agree
a. I understood/understand what it takes to have a healthy relationship.	①	②	③	④	⑤	①	②	③	④	⑤
b. I knew/know how to communicate well with a partner.	①	②	③	④	⑤	①	②	③	④	⑤
c. I had/have good conflict management skills.	①	②	③	④	⑤	①	②	③	④	⑤

7. Do you feel there is a need to change ***how you are in relationships*****?** Mark one:

① No change is needed at all.
② A few changes are needed.
③ Some changes are needed.
④ Many changes are needed.
⑤ There is a need for almost total change.

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

_____

9. How much did this course help with your concern, problem, or question? ① None ② A little ③ Some ④ A lot

10a. Please *INDICATE YOUR RELATIONSHIP STATUS* by marking ① or ②:

① **I'm in a relationship.**

② **I'm NOT currently in a relationship.**

10b. Please mark your **satisfaction** with your current relationship (*or past relationships, if currently single*):

Completely Unhappy	Moderately Unhappy	Slightly Unhappy	Neither Happy or Unhappy	Slightly Happy	Moderately Happy	Completely Happy
①	②	③	④	⑤	⑥	⑦

11. How important **was it to you before the course** AND how important **is it now** to know the following about someone *prior to* becoming seriously committed?	**BEFORE the course:**					**Now, AFTER the course:**				
	Unimportant	Less Important	Somewhat Important	Important	Crucially Important	Unimportant	Less Important	Somewhat Important	Important	Crucially Important
a. *How he/she fights* when angry.	①	②	③	④	⑤	①	②	③	④	⑤
b. *What he/she learned* from his/her family when growing up.	①	②	③	④	⑤	①	②	③	④	⑤
c. *How he/she reacts* when my feelings are hurt.	①	②	③	④	⑤	①	②	③	④	⑤
d. *What he/she has been like* in past relationships.	①	②	③	④	⑤	①	②	③	④	⑤
e. *What he/she believes* about right and wrong.	①	②	③	④	⑤	①	②	③	④	⑤
f. *How well he/she gets along* with his/her parent(s).	①	②	③	④	⑤	①	②	③	④	⑤
g. *What his/her friendships* are like.	①	②	③	④	⑤	①	②	③	④	⑤

12. Please mark your level of agreement:	Disagree	Slightly Disagree	Agree Somewhat	Agree	Strongly Agree
a. I know how to choose the right partner for me.	①	②	③	④	⑤
b. I know the important things to learn about a potential partner.	①	②	③	④	⑤
c. I know how to pace a relationship in a safe way.	①	②	③	④	⑤
d. I can spot warning signs in relationships.	①	②	③	④	⑤
e. I plan to use what I learned from this course in my relationships.	①	②	③	④	⑤
f. As a result of this course, I will choose partners more carefully.	①	②	③	④	⑤
g. As a result of this course, I will have healthier relationships.	①	②	③	④	⑤

13. What **are you going to do** to avoid **falling** for a Jerk(ette)? _____

_____

_____

_____

_____

14. What are **you going to do** to avoid **being** a Jerk(ette)? _____

_____

_____

_____

_____

Adult Follow-up Program Survey
PICK Program

Office Use Only		9.12 Follow-up
Class: _____	ID: _____	Entered: _____

It was great having you in our course. We'd love to have an update from you and get your thoughts on the classes you attended. We value *your* input in particular because we use it to make these classes more meaningful and relevant. Thanks for filling in these answers!

1. Your name: _____ _____
First Name Last Name

2. What **have you done** to avoid **falling** for a Jerk(ette)? _____

3. What **have you done** to avoid **being** a Jerk(ette)? _____

4a. Please *INDICATE YOUR RELATIONSHIP STATUS* by marking ① or ②:
① **I'm in a relationship.**
② **I'm NOT currently in a relationship.**

4b. Please mark below your satisfaction with your current relationship (*or past relationships, if currently single*):

Completely Unhappy	Moderately Unhappy	Slightly Unhappy	Neither Happy or Unhappy	Slightly Happy	Moderately Happy	Completely Happy
①	②	③	④	⑤	⑥	⑦

5a. Since taking our course, have you experienced a change in your relationship status: ① Yes ② No

5b. If yes, what was the change:
a. Slowed a relationship down
b. Broke up with someone
c. Started dating
d. Began dating someone seriously
e. Got engaged
f. Got married
g. Other

5c. How did information from our course influence, if at all, the change(s) in your relationship status?

6. Please mark your level of agreement:	Disagree	Slightly Disagree	Agree Somewhat	Agree	Strongly Agree
a. I understand what it takes to have a healthy relationship.	①	②	③	④	⑤
b. I know how to communicate well with a partner.	①	②	③	④	⑤

c. I have good conflict management skills.	①	②	③	④	⑤
d. I know how to choose the right partner for me.	①	②	③	④	⑤
e. I know the important things to learn about a potential partner.	①	②	③	④	⑤
f. I know how to pace a relationship in a safe way.	①	②	③	④	⑤
g. I can spot warning signs in relationships.	①	②	③	④	⑤
h. I have used the information I learned from this course in my relationship(s).	①	②	③	④	⑤

7. As a result of this course…	**Disagree**	**Slightly Disagree**	**Agree Somewhat**	**Agree**	**Strongly Agree**	**N/A**
a. I have chosen partners more carefully.	①	②	③	④	⑤	☐
b. I have had healthier relationships.	①	②	③	④	⑤	☐

8. Since taking the course, I have….	**Disagree**	**Slightly Disagree**	**Agree Somewhat**	**Agree**	**Strongly Agree**	**N/A**
a. Worked on improving myself.	①	②	③	④	⑤	
b. Talked about what I learned in the course with my friends.	①	②	③	④	⑤	
c. Noticed things I would like to do differently in my relationship(s).	①	②	③	④	⑤	
d. Done nothing different in my approach to relationship(s).	①	②	③	④	⑤	
e. Made changes in my relationship(s).	①	②	③	④	⑤	☐
f. Tried to get to know my partner(s) more deeply.	①	②	③	④	⑤	☐
g. Worked to build trust in relationships.	①	②	③	④	⑤	☐
h. Been careful about how much I depend on partners.	①	②	③	④	⑤	☐
i. Paid attention to how well I know, trust, and depend on someone before becoming committed.	①	②	③	④	⑤	☐
j. Enforced sexual boundaries in my relationship(s).	①	②	③	④	⑤	☐

9. If single *(or in a relationship)*, please rate these statements:	**Very low**	**Low**	**Even**	**High**	**Very High**
a. What do you think the chances are that you and your future *(or current)* partner/spouse will eventually separate?	①	②	③	④	⑤
	Strongly Disagree	**Disagree**	**Mixed**	**Agree**	**Strongly Agree**
b. My relationship with my future *(or current)* partner/spouse will be more important to me than almost anything else in my life.	①	②	③	④	⑤
c. I will think of me and my future *(or current)* partner/spouse more in terms of "us" and "we" than "me" and "him/her."	①	②	③	④	⑤
d. I will *(do)* want my committed relationship to stay strong no matter what rough times we may encounter.	①	②	③	④	⑤

10. Do you feel there is a need to change ***how you are* in relationships?** Mark one:

① No change is needed at all.
② A few changes are needed.
③ Some changes are needed.
④ Many changes are needed.
⑤ There is a need for almost total change.

11. How important to you **is it now** to know the following about someone *prior to* becoming seriously committed?	**Now:** Unimportant	Less Important	Somewhat Important	Important	Crucially Important
a. *How he/she fights* when angry.	①	②	③	④	⑤
b. *What he/she learned* from his/her family when growing up.	①	②	③	④	⑤
c. *How he/she reacts* when my feelings are hurt.	①	②	③	④	⑤
d. *What he/she has been like* in past relationships.	①	②	③	④	⑤
e. *What he/she believes* about right and wrong.	①	②	③	④	⑤
f. *How well he/she gets along* with his/her parent(s).	①	②	③	④	⑤
g. *What his/her friendships* are like.	①	②	③	④	⑤

12. Please respond to the following open-ended questions.

a. Looking back, why did you attend the course?

b. Before taking this course, how had relationships gone for you?

c. What were the positive aspects of taking the course?

d. Where there any negative aspects? If yes, what things posed problem(s) for you?

e. Was there anything that surprised you? If yes, please explain.

f. What were your experiences with the other people in your course?

g. What were some of the main things you learned?

h. How has taking the course changed your approach to dating and/or how you interact in relationships?

i. Do you think this course would be useful to others? If so, how?

j. What else would you like to share?

THANK YOU!