

Does College-Based Relationship Education Decrease Extradyadic Involvement in Relationships?

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We used latent growth curve modeling to examine the effectiveness of a relationship education intervention (Relationship U, or RU) on rates of extradyadic involvement in a sample of 380 college students in committed romantic relationships. RU is designed to be integrated into existing college courses; it educates students about partner selection, making healthy relationship transitions, communication skills, and the potentially negative consequences of cheating in romantic relationships and how to prevent its occurrence. Participants who received the intervention reported trajectories of less extradyadic involvement over time relative to control participants. Being female was not associated with less extradyadic involvement at baseline, but it did predict less extradyadic involvement over time across both intervention and control conditions. Implications for dissemination of relationship education are discussed.

Keywords: relationship education, infidelity, dissemination, emerging adulthood

Relationship education is the provision of information designed to help couples and individuals experience successful, stable romantic relationships. It has progressed to the point at which at least eight preventive interventions have been developed and shown to be efficacious (Braithwaite & Fincham, 2009; Jakubowski et al., 2004). However, in a pattern that mirrors the wider field of clinical psychology, these empirically supported interventions are not typically used in everyday practice (Barlow, Levitt, & Bufka, 1999). Thus, the challenge facing relationship educators is not only to develop more efficacious interventions, but also to further refine them and find methods of dissemination that will increase the likelihood that empirically supported treatments will be used, especially in target populations.

One target population identified by relationship education researchers is college students (see Fincham, Stanley, & Rhoades, in press). This population is important because many individuals experience emerging adulthood in the context of college (e.g., 57% of young adults between 25 and 29 have attended some college; Stoops, 2004). During this period, many health-relevant habits are formed, and the individual and contextual changes that occur throughout

college push to the forefront a host of risky behaviors that can increase risk for immediate and future problems (Braithwaite, Delevi, & Fincham, 2010). For example, infidelity—defined as “a secret sexual, romantic, or emotional involvement that violates the commitment to an exclusive relationship” (Glass, 2002, p. 489)—occurs in as many as 65%–75% of college students (Shackelford, LeBlanc, & Drass, 2000; Wiederman & Hurd, 1999) and is associated with adverse mental and physical health (Hall & Fincham, 2009). When infidelity entails unprotected sex, there is direct risk of exposure to sexually transmitted diseases and indirect risk of exposing the faithful partner to HIV and other sexually transmitted diseases. In short, this population is made up of individuals engaging in risky behaviors, developing relational habits, and forming relationships that often culminate in marriage (Blossfeld & Timm, 2003).

To increase the reach of relationship education, researchers have begun to examine the impact of interventions when they move from the laboratory to the real world (Markman et al., 2004). In contrast to efficacy trials in which strict experimental control is paramount, effectiveness trials examine treatment outcomes under the more practical conditions of everyday implementation (Flay, 1986). The present research is one such trial and examines the effectiveness of relationship education delivered as part of a college course. Based on the Within My Reach curriculum (Pearson, Stanley, & Kline, 2005), RU educates students about risk and protective factors for relationship dysfunction and provides tools to diminish the influence of risk factors and enhance protective factors—it is designed to be applicable to students regardless of their current romantic relationship status. Over the 13 weeks of an academic semester, RU em-

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This research was supported by a grant from the U.S. Department of Health and Human Services.

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phasizes the implications of “sliding” into relationship transitions versus making conscious decisions, how to create safe relationships, how to communicate effectively, the potentially negative consequences of extradyadic involvement, and how to create healthy boundaries to prevent its occurrence. RU was designed to fit seamlessly into existing college courses with the idea that such integration might be a feasible way of disseminating this program on a larger scale in colleges across the United States and abroad.

Notwithstanding its public health relevance, little research has focused directly on interventions for infidelity in emerging adulthood despite the pivotal nature of this developmental period when individuals are particularly focused on romantic relationships. In this study, we therefore examine rates of change in extradyadic involvement over time in response to the RU intervention. We hypothesized that individuals who received RU would engage in less extradyadic involvement. Because extradyadic involvement has been shown to differ across genders in married samples (Atkins, Baucom, & Jacobson, 2001), we also accounted for the impact of biological sex on such behavior.

Method

Participants and Procedure

Data from this study come from a larger study that examined students in a three-credit university-wide course (Introduction to Families Across the Lifespan) that met liberal studies requirements in social science; thus, students could potentially represent all programs of study available at the university. At the beginning of the semester, all students in all sections were invited to participate in “a study examining the effect of this class on your relationships.” The study was one of multiple options for students to obtain course credit. Participants were selected for inclusion in the study if they reported being in an exclusive heterosexual romantic relationship; those in nonexclusive relationships were excluded. To determine this, we first asked, “Are you currently in a romantic relationship?” If students indicated that they were, we asked, “Which statement best describes your relationship?” followed by the options “dating nonexclusively,” “dating exclusively,” “engaged,” “married,” or “other.” Only those who indicated that they were dating exclusively, engaged, or married were included (only 23 students indicated they were engaged, and only 8 indicated they were married).

The larger sample consisted of 770 (175 men, 593 women; data were missing for two participants) students (64% White, 16% African American, 10% Hispanic, 10% other) with an average age of 19.74 years. The subsample in this study consisted of 380 (69 men, 310 women; one with missing data) students (64% White, 16% African American, 10% Hispanic, 10% other) with an average age of 19.96. We examined differences between those in the treatment and control conditions on the basis of relevant demographic characteristics and found no difference for age, $t(377) = 1.02, p > .05$; relationship length, $t(364) = -1.08, p > .05$; or parental divorce, $F(1, 377) = 1.13, p > .05$. The modal relationship duration for the

sample was 1–2 years (6%, less than 2 months; 12%, 3–4 months; 7%, 5–6 months; 13%, 7–12 months; 32%, 1–2 years; and 26%, 2 years or more). Institutional review board approval was obtained before any data collection.

After providing informed consent, participants completed a battery of questionnaires at the beginning of the semester and twice more at 6-week intervals. Assignment to condition was not random because students were free to sign up for any available course section; however, students were unaware of condition. Specific sections were designated as treatment or control conditions before the semester began.

RU. Students ($n = 312$) in this condition had one class each week (50 min/week for 13 weeks) in which they met in small groups (20–30) and received the intervention. These breakout sessions (but not the lecture sessions) were led by graduate student and postdoctoral instructors (naïve to study hypotheses) who had received a minimum of 24 hr of training in curriculum delivery. These breakout sessions were not extra classes; rather, they took the place of one of the existing class sessions each week. A brief description of the content of the 13 RU sessions can be seen in Table 1.

Control condition. Owing to pressure from our funding agency to offer the intervention as widely as possible, the ratio of participants in the intervention condition to participants in the control condition was approximately 5:1. Students ($n = 67$) in the control condition received instruction that was identical to that in the treatment condition except that they did not receive RU content in one of their weekly classes. The class content was based on a widely used introductory text (Lamanna & Riedmann, 2009) that provides an overview of theory and research on marriage and families. Learning this kind of information (e.g., information about mate selection, communication in close relationships, “hooking up” and “friends with benefits”) may serve to promote healthier relationship choices, but the class as usual did not have an applied, skill-based focus as did the RU breakout sessions.

Measurement

At each time point, participants in committed romantic relationships were asked to report whether they had engaged in several sexual or romantic behaviors with someone other than their romantic partner in the previous 6 weeks. These activities were kissing, sexual intimacy without intercourse (two items; one specifically used the phrase “sexually intimate without intercourse,” and the second assessed caressing and hugging) and sexual intercourse (each coded 1 = *yes*, 0 = *no*).

The sex of participants was coded as 0 = *male* and 1 = *female*. Condition was coded as 0 = *control* and 1 = *RU*. At baseline, 11% of participants admitted to extradyadic sexual intercourse, 13% admitted to extradyadic sexual behavior (nonintercourse), 44% admitted to extradyadic caressing and hugging, and 22% admitted to extradyadic kissing.

Results

The data were analyzed using latent growth curve (LGC) modeling in Mplus 5.2. Because we used latent variables

Table 1
Description of Relationship U Intervention

Class	Objective
1	To introduce students to the course, foster commitment from students to put forth effort, and seriously engage in the class and create an educational environment conducive to implementing the intervention.
2	To help raise students' awareness about their relationship beliefs, clarify how setting relationship goals can lead to healthier relationship decisions, and illustrate the connection between family of origin experiences and relationship expectations.
3	To introduce students to the differences between sex, gender, and sexual orientation and how expectations surrounding these constructs can influence romantic relationships.
4	To raise students' awareness about their own personality traits and provide information about ways they can identify positive and negative traits within themselves and within potential partners and illustrate how awareness of personality and traits can lead to better mate selection and relationship decision making.
5	To raise awareness of students' expectations regarding relationships, help students clarify which expectations they possess that are realistic or unrealistic, and promote safety in relationships by identifying that expectations cannot be appropriately addressed in unsafe relationships.
6	To reinforce the ideas of smart love (being thoughtful, purposeful, and judicious in negotiating relationship transitions such as initiation of a sexual relationship), demonstrate how active decision making in the present can affect the future of relationships, introduce the concept of "sliding versus deciding," and help students identify barriers that prevent healthy relationships.
7	To integrate the material from the last two sessions ("Being smart in reaching relationship goals" and "sliding versus deciding") and explore ideas about commitment (negotiation, compromise, sacrifice) and what makes a marriage choice healthy.
8	To help students identify the differences between good and bad communication, briefly familiarize students with the speaker-listener technique, and identify situations in which it might be usefully applied.
9	To continue to explore the speaker-listener technique as a guide for good communication, focusing on active listening; provide students with additional practice of active listening through role-plays and coaching; and introduce the concept of time-out as a strategy for enhancing communication through deescalation.
10	To assist students in continuing to practice and use the speaker-listener technique, review and practice using time-outs, and introduce and assist students in practicing XYZ statements.
11	To continue to explore the use of XYZ statements, briefly explore ideas about problem solving in relationships, provide an overview of the elements of good communication, and assist students with practicing the speaker-listener technique.
12	To help students identify sources of social support in their lives, have students recognize conditions that suggest the need to end a relationship, help students learn how to break up effectively, and increase students' sense of self-worth in relationships by emphasizing the importance of safety and respect for healthy relationships.
13	To help students reflect on their goals in relationships and help students gain closure on the course.

consisting of our binary indicators of extradyadic involvement, we first tested the fit of the measurement models of the latent variables. Each of the models (for Times 1–3) provided a good fit, with the indicators loading well onto the latent variables. Estimation of this type of LGC model requires measurement invariance of the factors at each time point; thus, the loadings from the items that made up the latent factors were constrained to be equal across each of the three time points. When these constraints were imposed, Heywood cases arose as a result of correlations between items that approached 1. As such, we summed the items to form a composite scale of extradyadic involvement and fit a latent growth curve to this scale using a Poisson model for count data. For the purpose of providing evidence of psychometric validity, the measurement model can be seen in Figure 1. In the growth curve model, the intercepts for the three manifest variables were fixed to unity, and each of the paths from the slope latent variable to the three manifest variables was constrained to be equal to the number of weeks from the baseline assessment (0, 6, and 12 weeks). Slope and intercept were regressed on condition and sex. The specified latent growth model can be seen in Figure 2 and descriptive statistics for the two groups across time can be seen in Table 2. Specifying the model as described provides information about the impact of RU on patterns of change or

"growth" in extradyadic involvement over time. Because we could not randomly assign students to condition, and in any case, interventions that are completed by groups are susceptible to clustering effects that can lead to Type I errors (Baldwin, Murray, & Shadish, 2005), we accounted for the effect of clustering by using the TYPE = COMPLEX with CLUSTER = ID functions in Mplus.

Condition and intercept were significantly associated, suggesting that those in the RU condition reported more extradyadic involvement at baseline ($\beta = .17, p < .05$); however, the association between intercept and slope was not significant, suggesting that scores at baseline were not associated with rates of change over time. Condition predicted slope, such that those who received the RU intervention reported larger decreases in extradyadic involvement over time relative to the control group ($\beta = -.47, p < .05$). Sex was also associated with slope ($\beta = -.44, p < .05$), such that being female was associated with larger decreases in extradyadic involvement over time irrespective of condition. To explore this finding further, we conducted an exploratory analysis in which we included a Sex \times Treatment interaction; the interaction term did not significantly predict the slope of extradyadic involvement, indicating that both condition and sex contributed reliable main effects that cannot be accounted for by an interaction of these two variables.

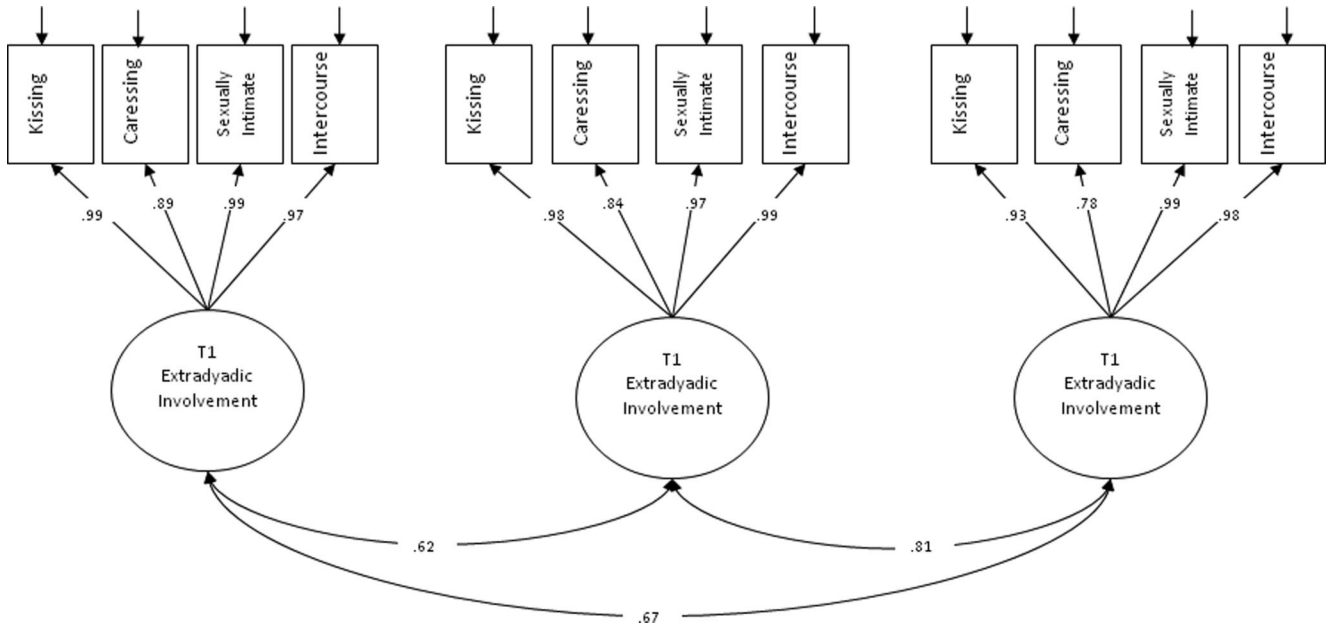


Figure 1. Measurement model for infidelity variables at each time point. $\chi^2(12) = 2,736.21, p < .01$, comparative fit index = .99, Tucker–Lewis Index = .99, root-mean square error of approximation = .06. T1 = Time 1.

Regarding the clinical significance of these findings, we examined the occurrence or absence of each of the behaviors and found that RU produced a 58% reduction in the occurrence of extradyadic sexual intercourse; the reduction in the control group was 33%. Being sexually intimate without intercourse was reduced by 50% among RU participants, whereas it increased by 50% among control participants. Caressing and hugging decreased by 37% for RU participants, but increased by 8% for control participants. Extradynamic kissing reduced by

52% among RU participants, whereas it remained the same among participants in the control condition.

Alternate Models

To rule out the possibility that the changes were being driven by socially desirable responding, we analyzed an alternate model in which social desirability (scores from the Marlowe–Crowne Social Desirability Scale; Reynolds, 1982) was added as an exogenous predictor of the slope and the intercept of extradyadic involvement. Social desirability predicted the intercept but not the slope of extradyadic involvement and did not attenuate the associations between treatment and slope, indicating that individual desire to look good influenced initial reports of how much extradyadic involvement the participant was engaging in, but not the change in extradyadic involvement over time.

Discussion

Our results suggest that RU reduces the overall frequency of extradyadic involvement among college students over the course of an academic semester. We found that individuals in the RU group reported more extradyadic involvement at baseline, but examination of the association between baseline scores and individual slopes showed that initial rates of extradyadic involvement were not reliably associated with changes in extradyadic involvement over time, whereas condition did reliably predict trajectories over the 12 weeks of the study. In addition, we found that being female did not predict less extradyadic involvement at baseline, but it did predict less extradyadic involvement over time across both conditions.

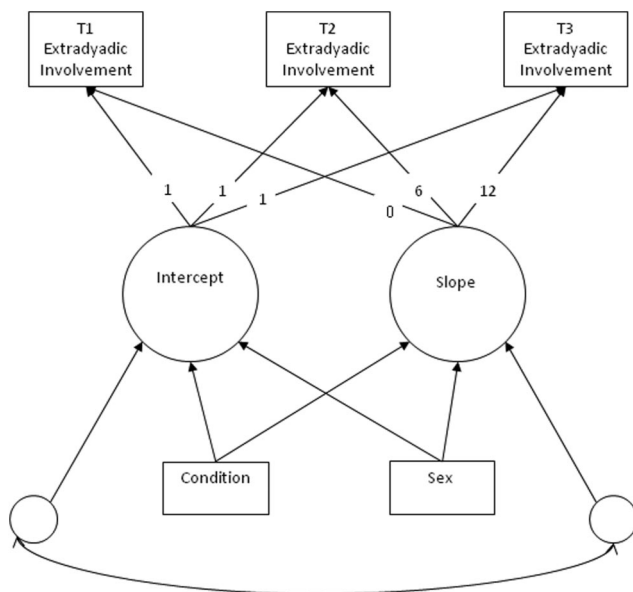


Figure 2. Latent growth curve model. T1 = Time 1.

Table 2
Means Across Three Time Points

Scale	Relationship U			Control			Hedges' <i>g</i>
	Baseline	6 Weeks	13 Weeks	Baseline	6 Weeks	13 Weeks	
Intercourse	0.12 (0.32)	0.07 (0.26)	0.05 (0.22)	0.06 (0.24)	0.08 (0.27)	0.04 (0.20)	.05
Sexual intimacy	0.14 (0.34)	0.09 (0.29)	0.07 (0.26)	0.04 (0.21)	0.08 (0.27)	0.06 (0.24)	.04
Caressing and hugging	0.46 (0.50)	0.37 (0.48)	0.29 (0.46)	0.36 (0.48)	0.38 (0.49)	0.39 (0.49)	-.22
Kissing	0.25 (0.43)	0.18 (0.38)	0.12 (0.33)	0.10 (0.31)	0.13 (0.34)	0.10 (0.31)	.06
Composite	0.96 (1.32)	0.71 (1.15)	0.54 (0.99)	0.57 (0.99)	0.66 (1.13)	0.59 (0.98)	-.06

Note. Values in parentheses are standard deviations.

Why would being female predict changes in extradyadic involvement over time across both treatment and control conditions? It is possible that our education-as-usual control condition was more potent than we had anticipated. Recall that the control condition was identical to the treatment condition in terms of course content with the exception of the weekly breakout sessions. Perhaps the information taught in the introductory family science class was sufficient to change female students' behavior (but not male students') without the addition of the RU component, which would suggest that RU may be more beneficial for men and that non-skills-based relationship education may be sufficient to change women's rates of extradyadic involvement, but further research is needed to examine this question more specifically. A selection bias for an introductory family science class may also be possible—these students (in particular, the women for whom there was a significant main effect) may be more interested in improving their relationships and thus more likely to respond not only to our intervention, but also to the class as usual. If this is true, however, it also suggests that the RU intervention had a higher hurdle to clear to demonstrate incremental decreases in extradyadic involvement than if we had compared it with another class that taught unrelated content (e.g., an introductory biology course). This question would be interesting to explore in future research.

Implications for Dissemination

This study shows that relationship education can be effectively delivered as part of a college course. Even with all of the practical limitations imposed by the structure of a college course (e.g., the need to meet university curriculum requirements), RU can be seamlessly integrated into existing college courses, especially those in family science or psychology departments. This fact is important to establish because one of the obstacles to implementing relationship education in colleges is that it is not feasible or desirable to start new courses that are designed to serve only as a vehicle for relationship education and that have little relevance to the other goals of universities.

The applied nature of this curriculum may seem to differ somewhat from the usual content of college coursework, but it is consistent with the stated goals of most universities. For example, the university at which this intervention took place lists as its primary mission "the development of new gen-

erations of citizen leaders, based on the concepts inscribed in our seal: Vires, Artes, Mores—Strength, Skill and Character." Thus, to develop not only theoretical knowledge but practical knowledge—or skill—of how to develop and maintain healthy relationships across the life span is surely within the scope of a university education. Moreover, many universities seek to discourage alcohol abuse and promote physical and mental health; not only does promoting healthy relationships complement these kinds of effort, but it may also prove a means to improve outcomes across the multiple domains university administrations seek to improve (Braithwaite & Fincham, 2009). The college years are a pivotal opportunity for intervention because risky behaviors predictive of extradyadic involvement such as heavy drinking are prevalent on college campuses (Graham, Fincham, & Lambert, 2009; Slutske, 2005). Also, receiving college credit provides a useful incentive to increase student participation. As such, colleges and universities may become effective platforms to administer empirically validated relationship education without requiring much in the way of start-up costs.

Although this research was conducted at a large university, future research will ideally examine RU when it is delivered at educational institutions that have higher proportions of populations that have not traditionally received relationship education, such as community colleges or colleges in rural areas. It may also be possible to adapt this curriculum to high school populations, which would extend the potential reach of relationship education to an even greater degree and provide for even earlier entry of empirically supported relationship education. This research is the first step in showing that such a dissemination model is viable.

Limitations and Future Directions

Inevitably, our study suffers from a number of limitations. First, because this was an effectiveness study, we did not have the experimental control of an efficacy study; specifically, participants were not randomly assigned to condition. As such, these encouraging findings need to be viewed as preliminary. We have no reason to believe that the sections students choose to sign up for, however, would have an influence on their extradyadic experiences. Moreover, this limitation also represents a strength because it allows for an examination of the impact of RU under the conditions in which it is likely to be

used. Also, it is time for relationship education to move beyond efficacy studies to examine the impact of these interventions under the more practical conditions of implementation. Second, it would be ideal if we could track students for longer periods of time to see whether these gains are maintained. We are currently conducting research to address this limitation; it is likely that the gains will be maintained given the fact that the interventions RU builds on have demonstrated robust and lasting effects for newlywed couples (e.g., Laurenceau, Stanley, Olmos-Gallo, Baucom, & Markman, 2004). Finally, future research is needed to examine the impact of this kind of intervention on individuals who do not pursue higher education; as previously mentioned, RU could easily be adapted for late adolescents and young adults for delivery through community organizations or high school courses.

In conclusion, this study provides evidence that under real-world conditions, RU constitutes an effective preventive intervention for extradyadic involvement. Because couples therapists have indicated that infidelity is the third most difficult problem to treat (Whisman, Dixon, & Johnson, 1997), it addresses early a behavior that, if left unaddressed, is difficult to later treat. Finally, it also represents an important step forward in the dissemination of empirically supported relationship education. As we continue to work to find novel ways of extending the reach of relationship education using existing structures such as colleges and other educational institutions, we will move closer to the goal of getting these interventions to the individuals who will benefit from them the most.

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Received November 11, 2009

Revision received September 2, 2010

Accepted September 9, 2010 ■