

# The Impact of Relationship Education on Adolescents of Diverse Backgrounds

Francesca Adler-Baeder   Jennifer L. Kerpelman   David G. Schramm   Brian Higginbotham   Amber Paulk\*

**Abstract:** Adolescent-focused marriage education is a relatively uncharted research area. Using a quasi-experimental design, this study examined the effectiveness of an adapted version of the curriculum entitled, *Love U2: Increasing Your Relationship Smarts* with an economically, geographically, and racially diverse sample of 340 high school students. Findings suggest that participants showed increases in 5 dimensions of their relationship knowledge, including their ability to identify unhealthy relationship patterns. Participants also had more realistic beliefs about relationships/marriages and reported lower levels of verbal aggression use at postprogram compared to controls. Moreover, these findings existed across race, household income, and family structure type, with all participating students benefiting in similar ways. Implications for future programming and research are discussed.

**Key Words:** adolescent romantic relationships, dating violence, family life education and related areas, marriage, program evaluation.

As part of the Federal Deficit Reduction Act of 2005 (Senate Bill 1932), the U.S. government recently appropriated \$500 million over the next 5 years for marriage-strengthening activities. This money will support new and existing educational programs designed to cultivate the skills necessary to form and sustain healthy marriages. The legislation specifically authorizes relationship education in high schools as one of the eight allowable activities. The impact of youth-focused relationship and marriage education, however, is a relatively uncharted course of study (Pearson, 2000). It is commonly noted that relational attitudes and behaviors develop in adolescence, that adolescents are interested in marriage and in relationship/marriage education (Silliman & Schumm, 2004), and that youth should receive relationship skills and “marriage readiness” courses while in school (e.g., Administration for Children and Families, 2005; Brotherson & Duncan, 2004; Hawkins, Carroll, Doherty, & Willoughby, 2004).

Yet, there is very little programmatic impact data that provide support for these voluntary or mandated program offerings.

We conducted a thorough search of several social science databases (e.g., PsychINFO, Social Science Abstracts) and found only two published studies of relationship or marriage education programs for youth (i.e., Gardner, 2001; Gardner, Giese, & Parrot, 2004). Because these programs contain information on basic relational skills for current dating relationships and for later adult relationships and marriages, we searched for both the terms “relationship education” and “marriage education.” The terms are used interchangeably in this paper.

Participant characteristics of those studies limit the generalizability of the findings. Gardner et al. (2004) evaluated a marriage education program, *Connections: Relationships and Marriage*, with a primarily urban sample of high school adolescents, providing preliminary evidence that suggested

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a research-based relationship education curriculum can positively influence attitudes, knowledge, and behaviors. Although the outcome of Gardner's studies supported the value of relationship education, results were based on a sample of White and Hispanic adolescents in an urban setting. The current study adds to this limited literature base by more broadly considering the issue to include economic, geographical, and racial and ethnic diversity. We contend that regardless of race and ethnicity, income level, geographic location, and family structure, students will experience positive changes in relational skills and thinking after participation in a relationship education program. Our study sample included rural and urban (i.e., geographically diverse) African American and White adolescents from diverse economic backgrounds and who lived in diverse family structures.

### *The Importance of Relationship Education for Youth*

It has been argued that an ideal time for marriage and relationship education is the high school years (Gardner, 2001; Gardner et al., 2004; Silliman & Schumm, 2004). It is during this time period that many adolescents begin dating and forming other bonds and relationships with friends. In fact, research suggests that the quality of adolescent romantic relationships is one of the strongest predictors of adolescent well-being indicators, including self-esteem, depression, and suicide attempts and completions (Brent et al., 1993; Joyner & Udry, 2000).

Unfortunately, as adolescents enter the dating years, many of them will experience relationship problems, including relationship violence. Perpetration estimates of any type of adolescent physical dating violence range from 11 to 41% with 4 – 14% of adolescents reportedly using forms of violence that are likely to result in serious physical injury (Grunbaum et al., 2001). A recent study demonstrated that physical aggression in adolescent dating relationships was relatively stable over a 3-month period. This finding held across gender and was true when adolescents were reporting perpetration or victimization. It also was found that psychological aggression (i.e., control and jealousy) was significantly associated with physical aggression both concurrently and 3 months later (O'Leary & Slep, 2003). Clearly, many relationships in the adolescent years are at risk for both verbal and physical forms

of aggression, and research suggests that experiencing dating violence in adolescence increases the likelihood of experiencing future relationship violence (Close, 2005; Wekerle & Wolfe, 1999; Wolfe, 2006).

Although there is risk of dating violence, it is important to recognize that dating is a normal part of life, can be quite positive, and has developmental purposes (e.g., mate selection; Paul & White, 1990). Often, adolescents do not realize that conflict in romantic relationships is inevitable and believe conflict is negative because they use maladaptive strategies to cope (Shulman, 2003). In fact, conflict and negotiation in adolescent romantic relationships help maintain the important balance of emotional closeness and individuality. When relationships are healthy, adolescent dating builds self-competence and self-worth, provides opportunities to practice conflict management and negotiate trust, and allows adolescents to learn lessons regarding how to form, maintain, and end relationships (Collins, 2003). These skills and this knowledge have important implications for later relational quality and stability.

If dating experience offers a primary way for adolescents to learn how to become a socially competent dating partner, then providing relationship education during adolescence appears to be an optimal time period for instruction. Providing relationship education is especially important given that adolescents tend to hold idealistic, rather than realistic, beliefs about romantic relationships (Montgomery, 2005) and could benefit from the knowledge gained through accurate information provided in a relationships course. In sum, providing education that builds knowledge and skills among adolescents regarding healthy relationships can help prevent unhealthy dating relationships now and unhealthy and unstable relationships in the future.

For adolescents from low-income families, education and training in healthy relationship behaviors and attitudes may be especially beneficial. Low-income and minority youth may be particularly disadvantaged as they are more likely to have experienced family structures that are prone to unhealthy patterns of interaction and relationship instability (Ooms & Wilson, 2004). Similarly, where economic conditions are poor, prospects for quality of life, healthy human development, and family stability are poor as well (Ooms & Wilson). Among low-income youth, African Americans are at the greatest risk for unhealthy and unstable future relationships,

are the least likely to marry, and when they do, are the most likely to divorce (e.g., Teachman, Tedrow, & Crowder, 2000). Research has yet to document if and how the suggested benefits of relationship education are manifest for racially, economically, and geographically diverse samples. The current study was the first, to our knowledge, that empirically assessed the efficacy of youth-focused relationship education with a large proportion of rural and urban African Americans in the sample.

### Curriculum Overview

Our study focused on the evaluation of an adapted version of the curriculum *Love U2: Increasing Your Relationship Smarts (RS adapted)*. *RS adapted* covers material that is consistent with a developmental perspective of romantic relationship formation during adolescence (Furman & Shaffer, 2003) and is designed for schools, youth agencies, clubs, and faith-based organizations that work with youth in Grades 8 through 12. The curriculum is research based, contains validated content, and incorporates materials and activities that are sensitive to diverse backgrounds of youth. Specific studies are cited throughout the curriculum to support program content. The research-based information includes a combination of didactic material and experiential activities designed to enhance adolescents' relationship knowledge and skills.

The original *Love U2: Increasing Your Relationship Smarts* (Pearson, 2004) curriculum was chosen because of features judged to be especially appropriate for lower resource, racially diverse youth. These include a limited amount of didactic material, common "teen language," materials that show diversity, and language that assumes teens are living in diverse family structures. Compared to the original version, *RS adapted* includes increased activities and interaction, more practice of specific relationship skills, greater incorporation of video illustrations, specific discussions of future adult relationships and marriage, and elimination of material designed for a younger audience (e.g., experiencing a "crush"). Thus, the participatory nature of *RS adapted* was designed not only to be highly effective with adolescents but also to be consistent with recommendations for working with low-income individuals, such as actively engaging participants, addressing specific challenges, and building on solid program content (Ooms & Wilson, 2004).

The *RS adapted* curriculum consists of 12, 60 – 90 min lessons that encompass four units (see Table 1 for more details). Unit 1 (Lessons 1 – 4) covers the concepts of maturity, values, infatuation, and love; Unit 2 (Lessons 5 – 7) addresses dating processes and strategies; Unit 3 (Lessons 8 – 9) focuses on relationship problems and identifying unhealthy relationships; and Unit 4 (Lessons 10 – 12) helps students learn and practice relationship/marriage skills. Included in all the lessons are specific activities aimed at getting the adolescents to process how the information applies to their personal relationships and current life experiences.

### Purpose and Hypotheses

The overarching program goals for participants in the RS program focused on reducing the risk of maltreatment in dating relationships, increasing knowledge of

Table 1. *The RS Adapted Lessons*

Unit	Lessons	Content Description
1	1 – 4	Exploring the social, emotional, and mental dimensions of maturity, reflecting on values and determining the ones that are personally important, gaining knowledge about the nature of infatuation, and exploring the dimensions of mature love.
2	5 – 7	Guidelines for "dating smart," learning low-risk dating strategies, and gaining knowledge related to what healthy and unhealthy relationships look like.
3	8 – 9	Identification and discussion of behaviors that demonstrate abuse, recognizing the different types and warning signs of abuse, and learning when and how to end a dating relationship and move on.
4	10 – 12	Understanding the practices associated with healthy stable marriages, understanding the importance of commitment and positive communication skills, learning to manage conflict and understanding the role of forgiveness in relationships, and determining values associated with financial management.

the characteristics of healthy relationships, including modifying beliefs to align with research-based information, and the promotion of future healthy couple and marital relationships as they transition into adulthood and parenthood. This evaluation of *RS adapted* examined changes over time in select areas of students' beliefs, knowledge, and behaviors. We tested several hypotheses that related directly to the goals of this specific curriculum. First, we hypothesized that students participating in the classes receiving the *RS adapted* curriculum would experience (a) increases in knowledge about healthy and unhealthy relationships and (b) increases in their understanding of the skills needed to facilitate healthy relationships.

Because part of the program goals involved the reduction of the risk of maltreatment in dating relationships, we also hypothesized that compared to control students, the participants in the *RS adapted* group would report (c) greater increases in their use of reasoning strategies during interpersonal conflicts and (d) greater decreases in their use of verbal and physical aggression in their close relationships. Finally, we hypothesized that (e) *RS adapted* participants would show a positive trend toward healthier and more realistic beliefs about relationships compared to control participants. Along with the hypotheses related to the curriculum, we also hypothesized that the improvements from pre- to postprogram assessment would hold across race, income level, and family structure, thus providing evidence that the *RS adapted* program may prove helpful for adolescent participants from varying backgrounds.

## Method

### *Participants and Procedures*

*RS adapted* was evaluated in nine public high schools located throughout Alabama (Grades 9 – 12). Teachers were invited to participate after being nominated by local extension agents or responding to listserv advertisements for the Relationship Smarts facilitator training. The Alabama Child Abuse and Neglect Board funded faculty from Auburn University to train Family and Consumer Science (FCS) teachers to deliver the curriculum. All the nine participating teachers were female; seven indicated their race as White, one as African American, and one as Hispanic.

By agreeing to participate in the *RS adapted* program, each teacher agreed to administer a pretest and posttest survey both to the students in the class who received the *RS adapted* curriculum and to another class they taught who did not receive the curriculum (control group). The FCS classes in which *RS adapted* was offered varied according to the kinds of courses being taught by the participating teachers. Courses taught within the FCS Family area included Family Dynamics, Human Dynamics, Parent and Child Dynamics, Family Wellness, and Life Connections. Teachers were free to determine which class would receive *RS adapted* and which would serve as the control. At posttest (approximately 2 months after the pretest), the students who participated in the *RS adapted* classes also were asked to provide subjective feedback by writing any comments they had regarding the classes (e.g., what they enjoyed about the class and what they would change about the class). Prior to participation in the study, both participant and control group students and parents were required to complete student assent and parental consent forms, respectively. Nearly all program participants completed surveys as class time was set aside for completion. The teachers collected all the forms and surveys and mailed them to the research team. Identification numbers were used to match student questionnaires across Time 1 and Time 2 data collections.

A total of 465 students completed and returned questionnaires. Of those, 340 were retained for the final sample for analyses; 235 students participated in the experimental (i.e., *RS adapted*) group and 105 students in the control group. Student surveys were excluded ( $n = 125$ ) if they appeared to systematically mark large portions of the questionnaire (i.e., used visible patterns in response markings). This was judged by independent raters; reliability was  $\alpha = .96$ . The data were not included if only a pretest or posttest (but not both) was completed or because the research team was unable to match up correct pretests with posttests because of students failing to properly complete the survey.

Of the sample of 340 students, 46% were African American, 50% were White, 1% was Hispanic/Latino, and the other 3% included Asian, Native American, and those in the "Other" category. The participants were, on average, 16.1 years old (range 14 – 19 years,  $SD = 1.17$ ), 74% were female, and 26% were male (typical of Alabama FCS classes). Forty percent of students resided in a nuclear family,

whereas 30% were in single-parent households, 23% were in stepfamilies, and the remaining 7% indicated “Other.” Half of the participants reported having experienced at least one parental divorce. Twenty percent of students reported household incomes of less than \$20,000 a year, another 25% reported their parents earning \$20,000 – \$40,000, with 12% between \$40,000 and \$60,000 a year, and 42% reporting a household income of over \$60,000 per year. For the nearly one third of participants in single-parent households, approximately 65% reported a household income of less than \$40,000. Thus, although approximately one fifth of the participants could be considered living in poverty, there are many more who might be considered “low resource.” Studies frequently use the 200% of poverty or below demarcation (approximately \$40,000) when categorizing “low-income” families (e.g., Karney, Garvan, & Thomas, 2003). However, caution should be taken when interpreting the income data as 124 participants did not provide any information related to either parent’s income. These students may not have known this information.

Analyses of demographic variables indicated that the group participating in the *RS adapted* program and the control group did not differ on income, race, or family structure, but there were slight differences in age and gender. Those who participated in the *RS adapted* program were slightly younger ( $M = 16.06$  years old,  $SD = 1.15$ ) than those not in the program ( $M = 16.45$  years old,  $SD = 1.19$ ),  $t(326) = -2.78$ ,  $p < .01$ . Further, although the majority of the students were female, those who participated in the *RS adapted* program were significantly more likely to be female ( $M = 1.79$ ,  $SD = .40$ ) than those not in the program ( $M = 1.60$ ,  $SD = .49$ ),  $t(329) = 3.77$ ,  $p < .001$ .

## Measures

The survey assessed demographic variables, knowledge and awareness of key concepts related to healthy relationships, the frequency of behaviors used during interpersonal conflicts, and beliefs associated with healthy relationships.

### Relationship Knowledge Scale

*Post plus retrospective approach.* Adolescents who participated in the program completed a post plus

(+) retrospective pretest measure that assessed changes in knowledge on specific curriculum learning objectives outlined in each of the *RS adapted* lessons. That is, each lesson had specific learning objectives that were translated into a question on the student evaluation. These questions were designed to tap students’ perceptions, understanding, and knowledge of the curriculum elements before and after participating in the program. This self-reported measure of change avoids pretest sensitivity and response shift bias that may result from pretest overestimation or underestimation (Pratt, McGuigan, & Katzev, 2000). Pratt et al. (2000) demonstrated that the post + retrospective pretest produced a more valid assessment of their program outcomes than did the traditional pretest-posttest evaluation method. They argued that participation in the program served to shift the program recipients’ frame of knowledge about what they knew before receiving the program that would not have been captured using the traditional evaluation method. Thus, traditional methods alone may fail to capture the change that has actually occurred as the result of an intervention. Further, the post + retrospective pretest has been shown to be an effective measure of change that is less susceptible to social desirability than are other retrospective self-report methods. Lam and Bengo (2003) examined the effectiveness of differing retrospective methods for assessing elementary teachers’ self-reported changes in instructional practices. They found that, although all the methods detected change, the post + retrospective pretest method, compared to methods having participants indicating postknowledge only or postknowledge plus estimates of the perceived amount of change, was the most conservative estimate of change. The authors recommended use of the post + retrospective pretest design because it is less sensitive to socially desirable response bias than are the other retrospective methods.

For the current study, participants responded to a total of 36 questions that were tied to specific learning objectives of the *RS adapted* course. These questions, using the post + retrospective pretest design, addressed what they understood now that they have been exposed to the content and, concurrently, what they understood with respect to the same items and corresponding scales before they were exposed to *RS adapted*.

*Factor analysis.* It was expected that there would be some concept overlap across the lessons; therefore,

the 36 items were subjected to principal components analysis (PCA) with varimax rotation and the presence of five components with eigenvalues exceeding 1 (ranging from 1.21 to 13.61) was revealed, explaining a total of 50.4% of the variance, with Component 1 contributing 11.54%, Component 2 contributing 11.35%, Component 3 contributing 10.17%, Component 4 contributing 9.91%, and Component 5 contributing 7.40% of the variance. Of the five factors that emerged from the exploratory factor analysis, three tapped knowledge of healthy/unhealthy relationships: attraction/mature love (seven items; e.g., “my knowledge of social, emotional, and mental dimensions of maturity”), expectations and behaviors (seven items; e.g., “my understanding of how my expectations affect my behavior”), and unhealthy relationships (five items; e.g., “my ability to recognize the signs of an unhealthy relationship”). The remaining two factors tapped knowledge of relationship skills needed to facilitate healthy relationships: communication skills and (nine items; e.g., “my understanding of the attack/defend method of communication”) smart dating strategies (seven items; e.g., “my knowledge of ‘low-risk’ dating strategies”). Cronbach’s coefficient  $\alpha$ s ranged from .81 to .88 for the five factors, indicating good subscale reliability. Factor scores were retained and used in subsequent analyses. For the “Before” questions, answers included four options formatted in a Likert scale that ranged from *Was Poor* (1) to *Was Excellent* (4). “After” response options were written in a corresponding manner (i.e., *Is Poor* [1]; *Is Excellent* [4]).

### Conflict Tactics Scales

A revised form of the *Conflict Tactics Scales* (CTS2; Straus, Hamby, Boney-McCoy, & Sugarman, 1996) was used to assess both frequency of use and type of behaviors used (i.e., reasoning, verbal, physical) when dealing with conflict. Both the control and the participant groups of students completed this scale both at Time 1 (pretest) and at Time 2 (posttest). Students indicated how frequently they had used each of the 18 tactics in settling differences within the past 2 months, with items arranged on a 7-point Likert scale ranging from *never* (0) to *more than 20 times* (6). Before students completed these questions, they were asked to indicate who they were thinking about as they answered the questions. Their choices included a boyfriend, girlfriend, best friend (male),

or a best friend (female). The instrument consists of three subscales derived from instrument development studies (Straus et al., 1996). Nevertheless, the responses from our study’s participants to the 18 items were subjected to a PCA and the presence of four components was revealed with eigenvalues exceeding 1. However, the answer item “Cried” from the verbal aggression scale loaded quite high (.90) on one component, whereas another item “Stomped out of the room or house or yard” cross-loaded with this component, in addition to the verbal aggression component. Therefore, these two items were removed. PCA with varimax rotation was carried out, and the three-factor solution explained a total of 68.39% of the variance, with Component 1 (physical aggression) contributing 35.64%, Component 2 (verbal aggression) contributing 23.12%, and Component 3 (reasoning) contributing 9.63% of the variance. The reasoning subscale consisted of three items, with possible scores ranging from 0 to 18, with higher scores indicating using reasoning more frequently as a conflict tactic. The final verbal aggression subscale had four items, with possible scores ranging from 0 to 24, with higher scores indicating using verbal aggression more frequently to settle differences. Lastly, the physical aggression subscale consisted of six items, with possible scores ranging from 0 to 36, with higher scores indicating the use of violent aggression more frequently to resolve conflicts. Coefficient alphas at posttest for this study were .54 for the reasoning subscale, .85 for verbal aggression, and .94 for physical aggression. Although the reasoning scale has a lower alpha than normally considered acceptable, similar alpha levels have been reported by Straus (1990) and Gardner et al. (2004). Therefore, we decided to retain this measure in analyses.

### Relationship Beliefs

This scale consisted of 17 items (Gardner, 2001) that were answered on a 4-point scale ranging from *YES! strongly agree* (1) to *NO! strongly disagree* (4). We chose this measure as the 17 items related well with the overall objectives of the curriculum. Both the control and the participant groups of students completed this scale both at Time 1 (pretest) and at Time 2 (posttest). For purposes of this study, we again subjected all the items to a PCA with varimax rotation and six components were revealed with eigenvalues exceeding 1 (ranging from 2.42 to 1.10).

However, an inspection of the screeplot revealed a clear break after the third component so it was decided to retain three components for further analyses. These three components explained 15.15, 10.67, and 8.85% of the variance, respectively, with the three-factor solution explaining a total of 34.67% of the variance. We labeled the three factors in the following manner: aggression beliefs (two items; e.g., “in today’s society, slapping a spouse or dating partner is understandable under some circumstances”), faulty relationship beliefs (five items; e.g., “most long-term, happy marriages never have conflict”), and realistic relationship beliefs (four items; e.g., “your communication style is affected by your family members’ style of communication”; in addition, several items were eliminated because of cross-loading). High scores on the aggression beliefs subscale indicated higher levels of *disagreement* with the aggression beliefs. Similarly, higher scores on the faulty relationship beliefs subscale indicated greater disagreement with the faulty relationship belief items. Questions for the realistic relationship beliefs subscale were recoded so higher scores indicate higher levels of agreement with the healthy relationship belief statement.

## Results

### Post + Retrospective Pretest

*Relationship knowledge.* To test the first two hypotheses, we focused only on those students who received the *RS adapted* course. In order to determine whether the adolescents’ perceived knowledge of healthy/unhealthy relationships and skills needed to facilitate healthy relationships changed from the

beginning to the end of the classes, participants completed a post + retrospective pretest measure that assessed changes in knowledge on specific curriculum topics. Paired-samples *t* tests were conducted on the five relationship knowledge subscales (i.e., attraction/mature love, expectations and behaviors, unhealthy relationships, communication skills, smart dating strategies) to evaluate the impact of the curriculum on relationship knowledge from Time 1 to Time 2. Results are presented in Table 2 for all relationship knowledge subscales. Overall, there was a statistically significant increase in perceived knowledge for all five relationship knowledge subscales scores from retrospective pretest to posttest scores. The magnitude of this change was quite substantial; the mean difference exceeded the standard deviation for each subscale.

### Pre- and Posttests

Table 3 provides an overview of the means and standard deviations for the three subscales from the Conflict Tactics Scales and the three relationship beliefs subscales for both the control and the experimental groups. Overall, mean pretest scores for both groups were very similar. The following sections provide further findings pertaining to the specific hypotheses of the study.

### Conflict Behaviors

One of the overall goals of the curriculum involved reducing the risk of maltreatment in dating relationships by encouraging students to utilize more reasoning strategies in their interpersonal conflicts and less verbal and physically aggressive strategies in their close relationships. To address the third and fourth hypotheses, the individual Conflict Tactics

Table 2. Paired-Samples *t* Tests for Relationship Knowledge Subscales for Experimental Group

Relationship Knowledge Subscale	Pretest		Posttest		Mean Difference	SEM	df	<i>t</i>
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>				
Attraction/mature love	2.68	.54	3.36	.49	-.68	.03	220	-18.96***
Expectations and behaviors	2.59	.56	3.38	.50	-.79	.04	216	-20.69***
Communication skills	2.62	.60	3.36	.49	-.74	.04	220	-18.28***
Smart dating strategies	2.62	.54	3.36	.46	-.74	.03	221	-20.10***
Unhealthy relationships	2.71	.65	3.52	.44	-.80	.04	219	-18.59***

\*\*\**p* < .001.

Table 3. Means and Standard Deviations of Relationship Beliefs and Conflict Tactics Scales' Subscales

	Experimental Group				Control Group			
	Pretest		Posttest		Pretest		Posttest	
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>
Conflict tactics subscales								
Reasoning	2.66	1.26	2.73	1.32	2.77	1.55	2.90	1.27
Verbal	1.91	1.45	1.75	1.42	2.05	1.52	2.29	1.61
Physical	.76	1.21	.82	1.33	.99	1.42	1.17	1.67
Relationship belief subscales								
Aggression beliefs	3.37	.83	3.37	.86	3.19	.99	3.26	.94
Faulty relationship beliefs	2.96	.53	3.03	.58	2.97	.50	3.02	.52
Realistic relationship beliefs	2.89	.47	3.01	.52	2.89	.50	2.85	.58

Subscales were used and comparisons were made between the experimental and the control groups of students. Of the three subscales (reasoning, verbal aggression, physical aggression), only the verbal aggression subscale was found to have a statistically significant Time  $\times$  Group interaction effect,  $F(1, 297) = 5.22, p = .02$ . That is, while the two groups did not differ at Time 1 on use of verbal aggression, the *RS adapted* group demonstrated a significantly lower level of use of verbally aggressive tactics following the classes than the control group (see Figure 1). For use of physically aggressive tactics in interpersonal conflicts, results indicated no significant Time  $\times$  Group interaction effect between the groups,  $F(1, 274) = .47, p = .50$ . Similarly, the results showed no significant Time  $\times$  Group interaction effect between the groups in terms of how

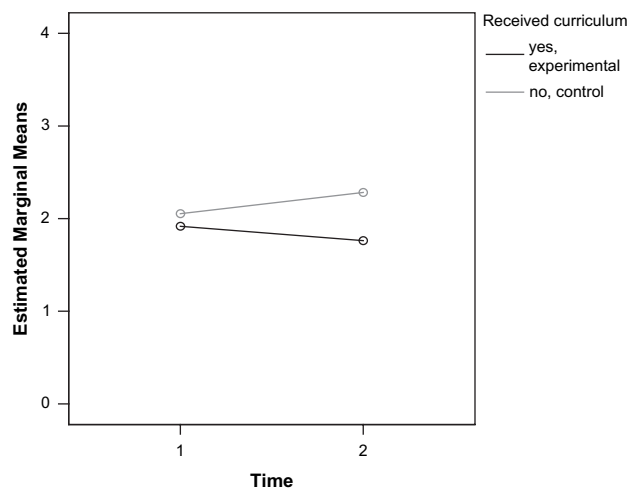


Figure 1. Verbal Aggression.

frequently they used reasoning as a method for settling interpersonal differences,  $F(1, 292) = .003, p = .96$ .

Analyses also were conducted using race, income, and family structure variables with the three Conflict Tactics Subscales. Repeated measures mixed between-within subjects analyses of variance (RMANOVAs) revealed no significant interaction effects pertaining to race (1 = African American and 2 = White), income (1 = less than \$40,000 and 2 = more than \$40,000), or family structure (1 = lives with both biological parents, 2 = lives with a biological parent and a stepparent, and 3 = lives with a single parent), but significant differences were found in the between-subjects analysis. Specifically, regardless of being in the control or experimental group, African American students reported a significantly higher total score than White students on the physically aggressive subscale,  $F(1, 250) = 12.32, p < .001, \text{partial } \eta^2 = .12$ . This finding held true for both the pre- and the posttest scores. A similar trend was observed for the verbal scale, with African American students reporting a significantly higher frequency of using the verbally aggressive conflict tactics in their interpersonal relationships than did White students,  $F(1, 272) = 21.54, p < .001, \text{partial } \eta^2 = .09$ . No other interaction or between-subjects effects were found for race, and there were no significant differences according to income or family structure.

### Relationship Beliefs

Another goal of this evaluation of *RS adapted* was to assess changes in relationship beliefs that may affect



future behaviors and decisions in relationships. To address the final hypothesis, we tested for changes across Time  $\times$  Group for each of the three relationship belief subscales. Of the three subscales (aggression beliefs, faulty relationship beliefs, realistic relationship beliefs), only the realistic relationship beliefs subscale was found to have a statistically significant Time  $\times$  Group interaction effect,  $F(1, 317) = 4.71, p = .03$  (see Figure 2). That is, the *RS adapted* group had more realistic relationship beliefs than the control group at posttest; the groups did not differ at pretest.

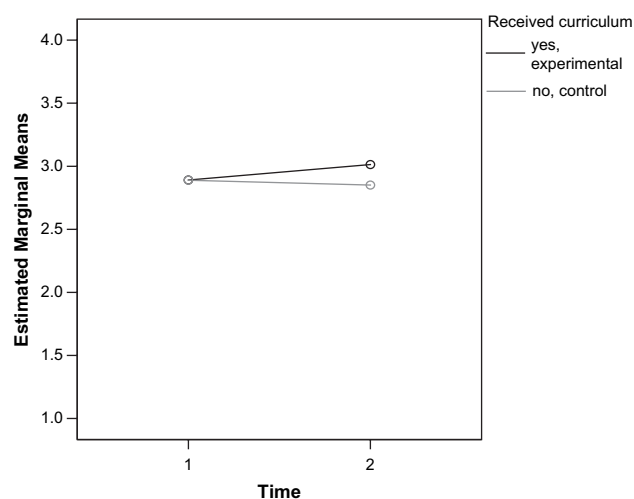
## Discussion

As relationship and marriage education programs become more well known and are implemented with a variety of audiences, it becomes imperative to measure and document the impact on the participants. Although these programs are increasingly widespread, there are surprisingly few published studies of the impact of participation on adults (Carroll & Doherty, 2003) and even fewer focused on youth. Gardner et al. (2001, 2004) documented positive impacts of relationship education among White and Hispanic high school students. The purpose of this study was to add to the empirical basis for providing these educational curricula, by examining the *RS adapted* program's impact on African American and White high school students from diverse socioeconomic status and family structure backgrounds. We

hypothesized that all students who participated in the program, when compared to adolescents in the control group, would experience increases in relationship knowledge, decreases in destructive verbal and physical conflict strategies, increases in reasoning strategies, and positive changes in relationship beliefs that support healthy relationships. The results of this study provide evidence that students who participated showed immediate gains in knowledge in several areas when compared to students who were in the control group.

As expected, the students who participated in classes using the *RS adapted* curriculum experienced significant improvements in scores from Time 1 to Time 2 on all five of the relationship knowledge subscales associated with the specific program content. For each area, the student's knowledge significantly increased from pre- to posttest, providing support for our hypothesis that students would gain relationship knowledge as a result of taking the class. Furthermore, analyses indicated that all the students benefited in similar ways, regardless of race, income, or family structure. This key finding implies that this curriculum has the potential to provide benefits to a range of students with diverse ethnic and socioeconomic backgrounds.

We also hypothesized that as a result of participating in the *RS adapted* classes, students would implement more reasoning strategies during conflict in their interpersonal relationships. Conversely, we expected that students would experience decreases in their use of verbal and physical aggression strategies in their interpersonal conflicts, as a result of participating in the classes. Although the test and control groups were not different at Time 1, the test group was significantly lower than the control group in verbal aggression at Time 2. This finding was very encouraging given that research suggests adolescent aggression in dating relationships is relatively stable and verbal aggression predicts physical aggression (O'Leary & Slep, 2003). Introducing education that promotes learning to resolve conflict and communicate without being verbally condescending in early relationships may provide a stronger foundation for healthier relationships in the future. Our finding is consistent with Gardner et al. (2004) who found, using a different relationships education curriculum, that adolescents who participated in the relationships education course showed decreases in verbal (as well as physical) aggression.



**Figure 2.** Realistic Relationship Beliefs.

However, contrary to our hypothesis (and consistent with the findings of Gardner et al., 2004), the use of reasoning strategies did not show significant improvement over time for the *RS adapted* group. This may be explained by the lower reliability of this subscale (.54), which may indicate that this subscale is not a satisfactory measure of reasoning among high school students. Alternately, the *RS adapted* course may need to be adjusted to more adequately teach relationship reasoning skills. Because reasoning involves regulation of emotions, it is also probable that adolescents are building these skills developmentally and changes may occur over a longer period of time (Labouvie-Vief & Medler, 2002). Recent brain development research supports this notion, indicating that the frontal lobe, responsible for reasoning and judgment, continues to develop during adolescence (National Institute of Mental Health, 2001) and that substantial changes are occurring in the brain that impact perceptions of risk and reward and regulatory competence up through the late adolescent years (Steinberg, 2005).

In considering that a significant Time  $\times$  Group interaction effect was not found for the physical aggression subscale, it is important to note the very low mean scores at pretest, indicating very little variability in response levels and making it difficult to detect a statistically significant change. Because the desired direction for change is a decrease, we note a “floor” effect in that detecting a significant decrease from pre- to posttest when the pretest mean is very low is unlikely. Very few respondents reported high levels of physical aggression (the substantial variability in physical aggression is seen in the larger standard deviations relative to the means). Although higher levels of physical aggression in relationships are expected among only a small proportion of the adolescents (9%; Grunbaum et al., 2001), some variability in reported levels of the use of physical aggression was expected, given recent findings on the use of physical aggression in dating relationships (Ackard, Neumark-Sztainer, & Hannan, 2003). It is possible that students were reporting more socially desirable answers.

A noteworthy finding should be elaborated here. When race was included in the analyses with the conflict subscales, significant between-subject differences were evident. Namely, the African American students, regardless of whether they participated in the *RS adapted* classes, tended to use both verbally aggressive and physically aggressive conflict

strategies more frequently in their relationships than did White students, with moderate to large effect sizes (.09 and .12, respectively; see Cohen, 1988). Moreover, this tendency was true at both pre- and posttest. It is unclear how to interpret this finding. There are some indications that African American children, compared to White children, may be at slightly greater risk of exposure to aggression use in family contexts. For example, research findings indicate that African American children experience more frequent and severe physical punishment as children and adolescents (Lansford, Deater-Deckard, Dodge, Bates, & Pettit, 2004). In contrast, a study using data from Wave 1 and Wave 2 of the National Survey of Families and Households showed little evidence of parenting practices differing between White and African American families (Amato & Fowler, 2002). Relatedly, Sorenson, Upchurch, and Shen (1996), using a national data set, found that African Americans are more likely than Whites to report that marital arguments escalate to physical violence. However, there is some indication of differential effects of exposure to marital aggression. In one recent study, marital conflict predicted children with problem behavior in White families but not in African American families (Nievar & Luster, 2006). Thus, we need more clarity on relative exposure to aggression use in family relationships on the basis of ethnicity, and we need to understand more about the meaning, perceptions, and effects of verbal and physical aggression within African American family and dating relationships.

Because we cannot derive specific meaning for this racial difference found in level of aggression use, it would not be appropriate in practice to specifically target African American teens with different information. Overall, with the high levels of dating violence reported ranging from 11 to 41% (Centers for Disease Control, 2001) and the findings here that a proportion of all teens sampled are using verbal and physical aggression in dating relationships, it is suggested that any adolescent relationship education program have specific modules that cover topics such as conflict management strategies, emotion regulation, and communication skills. Information should also address dating aggression, violence, and abuse. The information we provide here and the evidence from other research can serve to sensitize educators to the potential differences among diverse youth regarding the experiences, meaning, and perceptions of aggression use in family relationships.

Educators can facilitate discussions of family relationship patterns and allow for student self-assessment of the usefulness of learned patterns.

A final goal of this study was to assess relationship beliefs that may affect future behaviors and decisions in relationships. Although only one of the three relationship belief subscales (realistic relationship beliefs) showed a statistically significant interaction effect indicating differences between *RS adapted* participants and controls, all the participants' relationship beliefs showed observed mean changes in the expected direction from true pre- to posttest, whereas those in the control group did not demonstrate such change. This suggests that those who participated in the class may have gained insights that could lead to healthier relationships, knowledge that was not gained by those who did not take the class. Regarding the aggression beliefs and the faulty relationship beliefs subscales, perhaps significant changes were not evident owing to the higher scores at the onset for both groups. Likely, these adolescents had an established grounded belief system in these areas that was consistent with desirable responses at the onset. Thus, a "ceiling effect" may be present for these subscales, as the mean scores for both scales were fairly high to begin with. It is likely that program content affirmed these types of beliefs, rather than changed them with these students. Because there are so few studies of this type, we are interested to see how the scale performs with other samples. Was this a group of students well informed on these beliefs? If future studies replicate these findings (i.e., students scoring high consistently at pretest), it might indicate that program content should be adjusted. Rather than assuming these are beliefs to be addressed/taught, it would be preferable to affirm functional beliefs that teachers could assume students already hold.

Finally, for the majority of the findings, race, family structure, and income were not relevant to gains in relationship knowledge and beliefs. As hypothesized, regardless of race, family structure, or household income level, students taking the *RS adapted* classes experienced gains in relationship knowledge, including gaining a clearer understanding of the linkages between relationship beliefs and knowledge and subsequent healthy dating behaviors and healthy romantic relationships. Additionally, less than half (40%) of the students came from a two-parent nuclear family, which suggests that this curriculum benefited those from a variety of family

backgrounds, in addition to those from a traditional two-parent household.

## Limitations and Future Directions

Importantly, this is the first empirical evidence of short-term positive program impact of marriage education among a diverse sample of high school adolescents that includes a significant number of African American students and a significant number of students from low-resource, geographically, and structurally diverse families. Although positive improvements have been detailed above, important limitations should be noted. First, it is possible that the experimental and control groups differed from the outset of the study. Without random assignment to groups, it is conceivable that unforeseen external factors may have contributed to the significant differences that were found, such as being more motivated to learn the material. Students who participated in the curriculum did self-select into an FCS class; however, controls also selected into an FCS class and therefore showed some interest in Human Science subjects as well. Another limitation is that the participants were slightly younger than those in the control group and proportionately had slightly more females. Future studies would do well to include random assignment to groups to ensure greater confidence in interpreting the findings and increasing the reliability and generalizability of the results. Likewise, the teachers who implemented the curriculum were either self-selected or selected by a local extension agent, which may indicate they had a greater motivation and perhaps had a more personal passion about the topics. This may have further affected a number of factors, including learning and teaching styles and positive impact on the participants. This could be a limitation in generalizing these findings to classrooms in which teachers are directed to use the curriculum as a requirement (e.g., as part of a mandated health curriculum). Less motivated teachers could affect the curriculum's impact on students. This comparison remains an empirical question.

Some potential next steps and future directions for research include carrying out a more rigorous, experimental, longitudinal research design. Although we assessed students' beliefs and knowledge with pretests just prior to the first session, and posttests

shortly after the final session, a longer period of time is needed to determine the longevity of program impact on the adolescents' future relationships, including potential marital relationships. Furthermore, long-term effects may be enhanced with booster sessions, so it would be helpful if future studies could assess the effects of the curriculum with and without such boosters.

Moreover, research will be necessary in order to identify the components of the curriculum that are most beneficial and whether this differs by gender, ethnicity, teacher, course type, or other variables. Given the ethnic differences found on use of verbal and physical aggression, it will be important to further explore the differential effects of specific areas of program content. It will also be important to determine *why* some components of the program have a greater impact on students than do others. Determining which learning objectives are not being met and for whom and why this might be occurring would implicate the areas of program content and delivery that require adjustment. Expanding, altering, or tailoring the curriculum, or all, to the specific needs of the audience may facilitate expanded implementation to allow even greater effectiveness with a diverse group of students in different classroom settings and delivered by teachers with varied backgrounds.

### Implications for Educators and Practitioners

In practice, it is recommended that educators continue to implement curricula that integrate an engaging and active learning process containing experiential learning activities with more practical and experiential components. For example, teachers viewed the "bidding auction" for specific values that adolescents could hold as much more engaging and effective than simply discussing values with students. Similarly, adolescent relationship education programs should include extensive time devoted to identifying abuse and positive healthy dating behaviors and options. Students often focused on this portion of the curriculum in their written feedback, as reflected in this comment: *I enjoyed learning about how to avoid being in an abusive relationship.*

There also lies a challenge in reaching a broader audience with the curriculum. As with other programs (Gardner et al., 2004; Nielsen, Pinsof, Rampage, Solomon, & Goldstein, 2004), many who might benefit from relationships education do not

enroll in FCS classes. It is suggested that the curriculum be implemented in other classes in high schools, perhaps including it in mandatory core classes such as Health or Social Studies and in nonschool-based programs (e.g., 4-H, Boys and Girls Clubs, church youth groups, organized after-school programs).

In summary, educators have initial evidence that relationship and marriage education in high schools is beneficial to White and Hispanic adolescent students in an urban setting (Gardner et al., 2004). This finding is now expanded to include gains in knowledge and positive changes in relationship beliefs and behaviors for lower resource, geographically diverse, and African American students. Together, it can reasonably be said that relationship programs show short-term benefit to adolescents from different racial, family structural, and socioeconomic backgrounds and from rural and urban settings. Widespread research-based educational efforts aimed at teaching young people about healthy relationships may prove valuable in future choices about partnering and increase the chances for healthy relationships and marriages, thus lowering rates of relationship and marital instability and decreasing the risks for individual, family, and community dysfunction associated with family instability.

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