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# Identity as a Moderator of Intervention-Related Change: Identity Style and Adolescents' Responses to Relationships Education

Jennifer L. Kerpelman, Joe F. Pittman,  
and Francesca Adler-Baeder  
*Auburn University*

We propose that interventions targeting youth should consider the effects of identity formation on outcomes. In this study, data from 935 high school students address the potential moderating effects of identity style (high vs. low informational, normative, diffuse orientations) on intervention-related change in faulty relationship beliefs, future orientation, perceived interpersonal communication skills, salience of future marital and parental roles, and perception of knowledge gains. Four moderating effects suggest that high use of informational style promotes active exploration of curriculum content. Two moderating effects suggest that high use of the normative style limits responsiveness to some topics. Finally, three moderating effects reveal a tendency for diffuse students to resist the positive messages of the curriculum. Taken together, findings support the idea that identity style is an important influence on intervention outcomes.

Through their pioneering work, Erikson (1950, 1959, 1968, 1980) and Marcia (1966, 1980) launched what has become a rich body of literature addressing identity formation. *Identity* is described as a complex system of self-definition shaped within a social context that provides interpretation for life experiences and helps to guide life choices (Erikson, 1968). Since Marcia's initial publication of the iden-

tity status paradigm in 1966, hundreds of studies have examined the identity statuses across diverse samples and research questions. The statuses are derived from two underlying processes: exploration and commitment.

Theoretical elaboration and direct empirical examination of identity processes have increased during the past 15 years (e.g., A. M. Berman, Schwartz, & Kurtines, 2001; Grotevant, 1987, 1997; Kerpelman, Pittman, & Lamke, 1997; Kunnen & Wassink, 2003; Nurmi, Berzonsky, Tammi, & Kinney, 1997; Schwartz, Kurtines, & Montgomery, 2005). Also increasing have been efforts that consider identity in the context of intervention work (S. L. Berman, Kennerley, & Kennerley, this issue; Ferrer-Wreder, et al., 2002; Ferrer-Wreder, Palchuk, Poyrazli, Small, & Domitrovich, this issue; Kurtines et al., this issue; Schwartz, 2002; Schwartz, Mason, Pantin, & Szapocznik, this issue).

In 1994, a collection of articles edited by Archer addressed whether and how identity should be a part of intervention efforts. The chapters in the book considered in depth the question of interventions with goals that were directly focused on affecting the process of identity formation. Josselson (1994) opened the collection by reviewing what years of research have revealed about the nature of identity and its linkages with psychological health. She also raised several questions about intervening in identity formation; most importantly, "Can we help in this process ... (and do we want to)?" (p. 24). In his chapter addressing curricular identity interventions, Dreyer (1994) highlighted the importance of such interventions in providing a supportive context for facilitating personal expressiveness, where students have choice and opportunities for self-selected exploration. Waterman (1994), in a closing chapter, provided a benefit-cost analysis. He emphasized the positive outcomes (e.g., meeting the need an individual has to make life changes) associated with effective identity interventions, but also cautioned against engagement in intervention without considering potential negative consequences (e.g., financial costs, potential value conflicts between curriculum and parental goals). Waterman noted that, whereas educational interventions (universal or targeted) designed to promote adolescent identity formation may facilitate better psychological and interpersonal functioning for some, they may undermine existing identity for others (i.e., destabilize current commitments without supporting a process for replacing these commitments).

Discussion continues regarding the extent to which changes in identity should be the goal of intervention work. This article, however, takes a somewhat different perspective. First, we argue that identity is an integral part of development during adolescence that must not be overlooked when developing, implementing, and assessing the impact of interventions targeting youth. Indeed, interventions with adolescents may necessarily affect identity processes if they encourage or require adolescents to envision or revise aspects of self, clusters of values, or lines of action. Furthermore, at any given time, adolescent identity formation processes are under way to some degree. This raises the interesting question of the role of identity, not

only as an outcome, but also as a potentially important part of the intervention process.

Intervention studies typically take into account factors that may influence the effectiveness of an educational program or clinical treatment. These factors often include demographic variables associated with the intervention recipients (e.g., age, race, gender, and socioeconomic status), the qualifications of the program implementers (e.g., amount and type of education or training), or nature of the context in which the intervention is being delivered (e.g., school-based, community-based, or family-based). However, psychological or psychosocial factors of participants that may influence intervention—such as identity processes—are typically not addressed. Yet, identity processes would seem to be an important consideration when interventions designed for adolescents are assessed. As the central task of adolescence (Erikson, 1968; Marcia, 1966), the approach that adolescents take to the identity formation process may influence their receptivity and ability to incorporate information presented through intervention programs. To the extent that the identity formation process actually affects the outcome of an intervention, whether intentionally or not, it would be said to moderate the impact of the intervention (Archer, this issue; Holmbeck, 1997). It is just such a moderating role that this study explores.

### IDENTITY PROCESSING STYLE

One particular conceptualization of identity processes, identity style (Berzonsky, 1989), offers a means for measuring how individuals approach identity formation and provides an initial step toward examining how identity processes may moderate the effectiveness of intervention. Three identity processing styles—informational style, normative style, and diffuse style—were identified and examined in initial conceptual and empirical work conducted by Berzonsky and colleagues (Berzonsky, 1992, 1993; Berzonsky & Neimeyer, 1994; Berzonsky & Sullivan, 1992). *Identity style* is the method that an individual uses to acknowledge and examine identity-relevant information. *Informational style* refers to being open to and gathering varied sources of information in order to make identity decisions, *normative style* means basing identity decisions primarily on expectations of significant others, and *diffuse style* suggests the avoidance of identity decisions (Berzonsky, 1990). Berzonsky assumed that, by adulthood, most individuals are capable of using all of the three styles. During adolescence, considerable shifting in the degree to which each style is used can and does occur.

Much of the identity style research conducted during the past 10 years has examined direct associations between identity style and adolescent outcomes (e.g., general adjustment, procrastination, academic attainment, quality of interpersonal relationships, and decision making). Across these studies, the informational style

typically has been associated with the best outcomes and the diffuse style with the worst outcomes (Adams, Munro, Doherty-Poirer, Munro, Peterson, et al., 2001; Berzonsky & Ferrari, 1996; Berzonsky & Kuk, 2000; Ferrari, Wolfe, Wesley, Schoff & Beck, 1995; Nurmi et al., 1997; Vleioras & Bosma, 2005). Mixed findings have emerged for the normative style (Adams et al., 2001; Dollinger & Dollinger, 1997; Soenens, Duriez, & Goossens, 2005; Vleioras & Bosma, 2005).

### Identity Style and Intervention

Two recent identity style studies, although they did not test for moderation, have suggested the possibility that identity style may in fact moderate outcomes after exposure to an educational or clinical intervention. Boyd, Hunt, Kandell and Lucas (2003) examined associations between identity style and academic success. A sample of 2,818 entering freshmen completed surveys as they began their college careers and then were tracked for 4 years. Findings showed that students with a salient informational or normative identity style felt prepared for college and were sure about their choice of major, but also were open to receiving new information regarding majors. In contrast, students with a salient diffuse identity style were worried about the difficulty of college courses and their ability to attain academic success. College retention was found to be lowest, and change in major was found to be highest, for men who preferred a diffuse identity style.

Findings from another study focusing on a sample of 252 adults (mean age = 36 years) recovering from substance abuse also suggested a moderating role for identity style (White, Montgomery, Wampler & Fischer, 2003). Participants varied in the type of treatment they had received (i.e., court ordered or voluntary inpatient treatment facilities, halfway houses, aftercare groups, Alcoholics Anonymous meetings). Findings indicated that compared to the informational style, the diffuse style was related to shorter length of continuous abstinence from substance abuse and fewer recovery-associated behaviors and experiences.

Although moderation was not tested in these studies, it may be that, in addition to direct linkages with outcomes, greater or lesser use of a particular style increases or decreases beliefs and behaviors indicating benefit from an intervention. In other words, in both of these studies, the main effects for style suggested that style could condition perception of, and openness or responsiveness to, educational or therapeutic content in an intervention.

Understanding how identity style is linked to intervention outcomes may help to clarify why some adolescents benefit from intervention programs more than others do. Most importantly, it will be useful to consider how identity style moderates adolescents' responses to intervention. Because identity style addresses how people process identity-relevant information, the more a given style is used by an adolescent, the more that style may affect how that adolescent understands and uses information provided through an intervention. It would be anticipated that the

use of an informational style would enhance receptivity to and thus benefit from intervention; greater use of diffuse style should show the opposite pattern. Predictions for use of a normative style may vary according to the topic of the intervention, where greater use of the normative style may be associated with greater openness to learning about conventional topics and less openness to learning about controversial topics.

### THE YOUTH-FOCUSED RELATIONSHIPS EDUCATION INTERVENTION

The current study is situated within a larger, 5-year intervention project examining the impact of a statewide 13-lesson relationships education curriculum targeting high school students in Alabama. The curriculum employs experiential activities to help adolescents understand intimacy and commitment within romantic relationships and marriages. The primary goals of the intervention are to increase knowledge of healthy and unhealthy relationship qualities and processes and to increase behaviors that facilitate well-functioning relationships.

We believe that identity processing style should be particularly meaningful for understanding the impact of this educational intervention focusing on adolescents' romantic relationships, given that strong associations exist between identity and intimacy development (Adams & Archer, 1994; Dyk & Adams, 1987; Marcia, 1993; Orlofsky, Marcia, & Lesser, 1973; Paul & White, 1990). In a recent study of adolescents and young adults ranging in age from 12 to 24, Montgomery (2005) found that greater intimacy was positively associated with psychosocial identity resolution for both young men and young women.

#### Purpose

The specific aim of the current study was to test identity style as a moderator of the response to a relationships education program for youth. Specifically, our goal was to go beyond the common model of direct effects by examining whether identity styles also affect the strength or direction of response to educational interventions. It was expected that greater use of an informational style would show more positive pre- to posttest changes, including reduction in faulty beliefs about relationships, increased perceived ability to be assertive and manage conflict within close relationships, increased future orientation, increased salience of marital and parental roles, and greater gains in perceived knowledge about relationships. Greater use of the diffuse style was anticipated to show a lack of change in the areas assessed. Finally, for those using a higher normative style, the same level of openness as that anticipated for those using a higher informational style was anticipated when the topics covered were of a conventional nature. However, because a high normative

style may indicate rigid beliefs (especially in regard to controversial topics), it was anticipated that significant change would occur in fewer areas assessed, relative to those with a high informational style.

## METHOD

### Sample

A total of 1,232 adolescents enrolled in Family and Consumer Science (FCS) classes in Alabama high schools (grades 9–12) received the relationships education course (Relationship Smarts plus [RS+], adapted from Pearson, 2004). This study uses the 935 cases that completed both pre- and postevaluation surveys, had valid data on the constructs of interest (including sex, age, and race), and identified their race/ethnicity as African American (33.5%,  $n = 313$ ) or Caucasian (66.5%,  $n = 622$ ). Most cases lost to the analysis were due to missing pretests ( $n = 24$ ) or posttests ( $n = 197$ ); however, 43 students reported other race/ethnicities than African American or Caucasian. The analysis sample contained 702 (75.1%) girls and 232 (24.9%) boys. The average age of participants was 16.0 years ( $SD = 1.23$ ). They were distributed somewhat unevenly across grade levels, with 9th (36%) and 10th grades (27%) more heavily represented than 11th (19%) and 12th (18%) grades.

Adolescent reports of parental education and work pattern served as proxies of socioeconomic status. Although 16.4% of mothers and 18.4% of fathers never completed high school, many others had education beyond high school. Among mothers, 26.3% completed high school, 28.9% went to trade school or some college, 18.3% completed college, and another 10.1% had advanced or professional degrees beyond college. Among fathers, 33.4% finished high school, 19.3% went to trade school or some college, 15.8% completed college, and 7.1% had advanced or professional degrees. The adolescents also reported that 63.9% of their mothers and 88.6% of their fathers worked full time.

In terms of family structure, 45.7% of participants reported living with both of their original (biological or adoptive) parents. Another 35.7% reported experiencing the divorce of their parents and 23.5% of participants said they were currently living with a biological or adoptive parent and a stepparent. Fully a quarter of the sample reported living in single-parent homes (25.3%).

The sample also represented the rural and urban mix of Alabama. Rural Alabama was represented with 35 classes (549 students) from 26 high schools. Urban Alabama was represented by 21 classes (364 students) from 10 schools. About 60% of study participants were from rural areas.

### Measures

Data were collected as part of a larger evaluation study of the relationships education curriculum. Our survey tapped many constructs including the knowledge, atti-

tudes, and behaviors that the intervention was intended to affect as well as potentially important individual differences. In order to balance the number of constructs measured against class time spent in data collection and participant fatigue, some constructs were measured with fewer items than the original scale. To derive viable subsets of items, factor analysis of data collected previously from college students was used (where available). Items were then selected so that (a) the conceptual range of the construct was tapped, (b) the correlation between the original composite and the retained items was large, and (c) the coefficient alpha in the reduced set was acceptable.

*Identity style.* Six items from each of the style subscales of the Identity Style Inventory-III (Berzonsky, 1992) were used to assess the informational, normative, and diffuse styles. The items were selected based on factor analysis in a college sample of 291 mostly female participants. In this sample, the 6 retained informational items loaded on one factor with  $\alpha = .65$  (compared to  $\alpha = .63$  for 11 items),  $r = .79$  between the 6- and 11-item scales. The 6 normative items again yielded one factor with  $\alpha = .75$  (compared to  $\alpha = .69$  for 9 items),  $r = .93$  between the 6- and 9-item scales. Although the 6 diffuse items loaded on two factors (as did the original 10 items), the scale  $\alpha$  was .74 (compared to  $\alpha = .80$  for the 10 items), and  $r = .94$  between the 6- and 10-item scales.

All items were answered on a 5-point scale ranging from 1 (*not at all like me*) to 5 (*very much like me*). In the current high school sample, for each style, scores were averaged across items ( $\alpha = .76, .68,$  and  $.66$ , respectively, for informational, normative, and diffuse styles). Next, each range was divided at the median (i.e., 3.8, 3.5, and 3.0, respectively, for informational, normative, and diffuse styles), yielding high and low indicators for each style. The current sample included 460 high informational, 546 high normative, and 425 high diffusion participants. (It was possible to be high on more than one style simultaneously.)

*Relationship beliefs.* Cobb, Larson, and Watson (2003) described a variety of faulty relationship beliefs, three of which were examined in the current study. Each was tapped with the four items developed by Cobb et al. One and Only assessed the notion that only one ideal mate exists for each person (e.g., "There is only one *true* love out there who is right for me to marry"). Love Is Enough tapped the idea that love should "trump" all other factors in the decision to marry (e.g., "In the end, our feelings of love should be enough to sustain a happy marriage"). Finally, Cohabitation examined the somewhat controversial belief that cohabitation enhances the likelihood of a happy, stable marriage (e.g., "Living together before marriage will improve our chances of remaining happily married"). All scales were answered on 5-point agreement scales ranging from 1 (*strongly disagree*) to 5 (*strongly agree*). Higher scores represented more faulty beliefs. Respectively, for One and Only, Love Is Enough, and Cohabitation, pretest  $M (SD) = 3.62 (0.85)$ ,



3.77 (0.85), and 3.01 (1.19), and  $\alpha = 0.65, 0.70,$  and  $0.91$ ; posttest  $M (SD) = 3.18 (0.91), 3.44 (0.84),$  and  $2.63 (1.16),$  and  $\alpha = 0.68, 0.73,$  and  $0.91.$

**Communication.** Two skills in relationship communication, Conflict Management and Negative Assertion (Buhrmester, Furman, Wittenberg, & Reis, 1988) assessed changes in perceived ability to effectively communicate in romantic relationships. For both constructs, respondents evaluated their perceived ability to handle situations in relationships using a 5-point scale ranging from 1 (*I am poor at this*) to 5 (*I am extremely good at this*). Conflict Management measured the respondents' perceived ability to manage interpersonal conflict in an effective manner (e.g., "Being able to take a close companion's perspective in a fight and really understand his/her point"). Negative Assertion examined the perceived ability to stand up for oneself in a situation where a partner may be mistreating the respondent (e.g., "Telling a close companion you don't like a certain way s/he has been treating you"). Both constructs were originally measured with eight items, but we reduced this number to five. The two five-item sets each produced single-factor solutions. For Conflict Management, the five-item  $\alpha = 0.74$  (compared to 0.79 for the eight-item measure) and  $r = 0.92$  between the full and reduced subscales. For Negative Assertion, the five-item  $\alpha = .82$  (compared to 0.83 for the eight-item measure), and  $r = 0.95$  between full and reduced item sets.

In the current sample, for Conflict Management and Negative Assertion, respectively, the pretest  $M (SD) = 3.38 (0.77)$  and  $3.79 (0.85),$  and  $\alpha = 0.77$  and  $0.83;$  posttest  $M (SD) = 3.47 (0.79)$  and  $3.75 (0.83),$  and  $\alpha = 0.84$  and  $0.87.$

**Future orientation.** Eight items were adapted from the Future Orientation Questionnaire (Nurmi, Seginer, & Poole, 1990) to assess Future Orientation in the areas of education and career. In each domain, four items tapped the anticipated level of future achievement, its importance, the respondent's determination to accomplish the domain's goals, and the frequency with which respondent's behavior moved them toward those goals. Response alternatives were tailored to each question, but all used a 5-point scale where higher scores meant greater Future Orientation. The eight items are averaged to yield one score. Respectively, at pretest and posttest, the  $M (SD) = 3.34 (0.46)$  and  $3.38 (0.49),$  and  $\alpha = 0.82$  and  $0.89.$

**Role salience.** Two subscales from the Life Role Salience Scales (Amatea, Cross, Clark, & Bobby, 1986) measured Marital Role Salience and Parental Role Salience. Role salience reflects the perceived importance of the role to one's future life (e.g., "I expect to put a lot of time and effort into building and maintaining a marital relationship"; "It is important to me to feel I will be an effective parent"). Respondents answered these items with 5-point Likert-type agreement scales where a higher score meant greater salience. Although originally tapped with 10 items apiece, we used 5 per subscale. The five retained items yielded a single-fac-

tor solution for each construct with respective  $\alpha = 0.73$  and  $0.85$ . The correlations between the original and abbreviated subscales were  $0.84$  for Marital Role Salience and  $0.94$  for Parental Role Salience. In the current sample, respectively, for Marital and Parental Role Salience, the pretest  $M (SD) = 3.82 (0.85)$  and  $4.02 (0.82)$ ,  $\alpha = 0.84$  and  $0.73$ ; posttest  $M (SD) = 3.77 (0.88)$  and  $3.81 (0.90)$ , and  $\alpha = 0.88$  and  $0.73$ .

*Perceived gains in relationship knowledge.* Fifty-two retrospective pre- and posttest items (four per substantive module) were created to reflect the content of the curriculum. These items were included only in the posttest survey and asked respondents to report on the quality of their knowledge on aspects of each module's content before, and then after, taking the relationships education course. Items were answered on 4-point scales ranging from 1 (*poor*) to 4 (*excellent*). A sample item pair follows: "Before taking these classes, my understanding of how family communication may affect future communication styles was ... , After taking these classes, my understanding of how family communication may affect future communication styles is ...". The  $M (SD)$  for before and after items were  $2.71 (0.57)$  and  $3.31 (0.50)$ , respectively, with  $\alpha = 0.98$  and  $0.98$ .

## Procedure

The Alabama State Department of Education provided contact information for FCS teachers and announced the project at teacher conferences and on the FCS Listserv. Interested teachers were eligible to participate if they taught FCS at a public high school. Participating teachers were selected randomly from the pool of eligible teachers and those not selected for Project Year 1 were promised the opportunity to participate in subsequent years. Where necessary, participating teachers obtained permission from their schools to offer the curriculum as part of their regularly scheduled FCS classes.

Before delivering the relationships education curriculum to their students, participating teachers received a 2-day training on the content and its implementation as well as on procedures for collecting all evaluation measures and attaining consent/assent forms from parents and students.

Prior to receiving the curriculum, students completed the pretest survey. The 13-lesson curriculum was implemented in the classroom during regularly scheduled FCS classes. The average implementation period was approximately 21 days, but varied primarily according to whether teachers had 50-minute or 90-minute classes. The next class day after the curriculum was completed, students took the posttest surveys in class. Pre- and posttest surveys took approximately 60–90 minutes to complete. Consent/assent forms and both pretest and posttest surveys were mailed by the teachers to the researchers, using provided prepaid envelopes. Re-

search team members were in regular contact with the teachers to answer teachers' questions throughout the course of the study.

## RESULTS

For this analysis, 3 (styles)  $\times$  2 (high vs. low for each style)  $\times$  2 (time, assessed as pretest and posttest) repeated measures analysis of variance was used. A separate analysis was done for each intervention-related variable. This procedure yielded three sets of findings: those between subjects (showing style-based differences), those within subjects (observed over time), and the interaction of between- and within-subjects effects.

The between-subjects main effects ignore time and show how high versus low users of a given style differed on the perceptions and beliefs measured in the study (i.e., when the pre- and posttest scores for each subject were averaged). Thus, these results reveal general tendencies for high versus low users of a given style to believe or behave in particular ways. The within-subjects main effects were not the focus of this study. They would show pre- to posttest changes ignoring the styles used by participants. If the goal of this study had been to evaluate the intervention, these results would be important, but limited in conclusiveness because we did not include a control group.

Our main interest was in the interactions that test the effects of style in moderating intervention-related pre- to posttest change. Because a full factorial model would test many irrelevant interactions and potentially produce highly idiosyncratic results, a custom model was specified in which only three interactions were tested; these were the interactions between each style (the between-subjects variables) and pre- to posttest change in the dependent variable (the within-subjects variables). A separate analysis was conducted for each dependent variable. Significant interactions between a style and the pre- to posttest change indicated that style moderated that change. In all analyses, age, race, and gender were included as covariates in order to control for their effects.

### Main Effects for Style

Table 1 shows estimated marginal means, standard errors, *F* tests and *p* levels comparing participants who were high versus low in each respective identity style on the nine intervention-related variables, with participants' scores averaged across the two timepoints. Identity style revealed significantly different associations with many of the dependent variables.

Those using a high informational style had higher mean scores than those using a low informational style on all but two of the variables. A high informational style was associated with more of the faulty relationship belief that there is only one

TABLE 1  
Estimated Marginal Means for Main Effects of Styles  
on Outcome Variables

	<i>High</i>		<i>Low</i>		<i>F</i>	<i>P</i>
	<i>Information Style</i>		<i>Information Style</i>			
	<i>M</i>	<i>SE</i>	<i>M</i>	<i>SE</i>		
One and Only	3.43	0.038	3.33	0.035	4.18	0.041
Love Is Enough	3.64	0.035	3.56	0.033	2.57	0.109
Cohabitation	2.87	0.051	2.85	0.047	0.10	0.758
Future Orientation	3.44	0.021	3.25	0.019	44.77	0.000
Conflict Management	3.59	0.032	3.25	0.030	54.74	0.000
Negative Assertion	3.85	0.036	3.66	0.033	15.05	0.000
Marital Role Saliency	3.83	0.037	3.70	0.035	6.41	0.012
Parental Role Saliency	3.93	0.036	3.83	0.033	3.94	0.048
Perceived Knowledge	3.04	0.023	2.94	0.021	9.09	0.003

	<i>High</i>		<i>Low</i>		<i>F</i>	<i>P</i>
	<i>Normative Style</i>		<i>Normative Style</i>			
	<i>M</i>	<i>SE</i>	<i>M</i>	<i>SE</i>		
One and Only	3.48	0.033	3.28	0.040	14.27	0.000
Love Is Enough	3.68	0.031	3.52	0.038	9.59	0.002
Cohabitation	2.68	0.044	3.04	0.055	22.33	0.000
Future Orientation	3.42	0.018	3.26	0.022	29.56	0.000
Conflict Management	3.46	0.028	3.38	0.035	3.16	0.076
Negative Assertion	3.81	0.031	3.70	0.038	4.82	0.028
Marital Role Saliency	3.92	0.030	3.62	0.040	31.96	0.000
Parental Role Saliency	4.02	0.031	3.75	0.038	27.54	0.000
Perceived Knowledge	3.06	0.020	2.91	0.025	20.69	0.000

	<i>High</i>		<i>Low</i>		<i>F</i>	<i>P</i>
	<i>Diffuse Style</i>		<i>Diffuse Style</i>			
	<i>M</i>	<i>SE</i>	<i>M</i>	<i>SE</i>		
One and Only	3.39	0.037	3.37	0.033	0.16	0.690
Love Is Enough	3.71	0.035	3.49	0.031	21.31	0.000
Cohabitation	3.03	0.050	2.69	0.045	25.58	0.000
Future Orientation	3.27	0.020	3.41	0.018	25.41	0.000
Conflict Management	3.35	0.032	3.49	0.029	9.79	0.002
Negative Assertion	3.71	0.035	3.80	0.031	3.08	0.080
Marital Role Saliency	3.74	0.037	3.80	0.033	1.46	0.227
Parental Role Saliency	3.78	0.035	3.98	0.032	17.07	0.000
Perceived Knowledge	2.94	0.022	3.04	0.020	10.89	0.001

ideal partner for each person. It also was associated with greater future orientation, greater confidence about the ability to manage conflict and to make negative assertions in close relationships, greater importance for future marital and parental roles, and greater perceived knowledge related to the intervention.

Use of a high normative style, compared to use of a low normative style, was associated with higher means for all but two variables. As shown in Table 1, the high normative style was linked to more faulty relationship beliefs (stronger belief in the existence of one ideal partner and the notion that love is enough to sustain a relationship). High normative style was also linked with greater future orientation, more confidence in making negative assertions in close relationships, placing greater importance on future marital and parental roles, and greater perceived knowledge related to the intervention. However, consistent with the idea that normative individuals resist controversial attitudes, those with high normative style endorsed the belief that premarital cohabitation increases marital stability significantly less than did those with a low normative style.

Finally, use of a high diffuse style was associated with stronger beliefs that love is enough to sustain a relationship and that premarital cohabitation increases marital stability. Also, high diffuse style was linked to lower future orientation, conflict management ability, salience of the parenthood role, and perceived knowledge related to the intervention.

### Identity Style as a Moderator of Intervention-Related Change

The interactions tested included time (i.e., the pre- to posttest assessments of intervention-related variables) as the moderated variable and style as the moderator. Our analytic strategy embraced the complexity of the theoretical claim that individuals can (and do) use all three styles. Thus, our analyses simultaneously examined all three styles as separate predictor variables. Significant interactions are presented in Figures 1–3 showing estimated marginal means calculated while controlling for the age, gender, and race of the respondents.

Across the nine intervention-related dependent variables, four interactions with informational style were significant. Three involved the faulty relationship belief variables. For all three (One and Only,  $F = 9.64, p < .01$ ; Love Is Enough,  $F = 6.14, p < .05$ ; Cohabitation,  $F = 3.70, p = .05$ ), those with a high informational style started higher, but changed more (endorsed these beliefs less at posttest) than those with a low informational style (see Figures 1a–c). The fourth interaction involved perceived ability to manage conflict ( $F = 18.44, p < .001$ ; see Figure 1d). Those using a low informational style significantly increased their conflict management scores, whereas those using a high informational style remained stable. Nevertheless, the posttest mean score for the low informational group remained significantly lower than the high informational group's pre- and posttest scores.

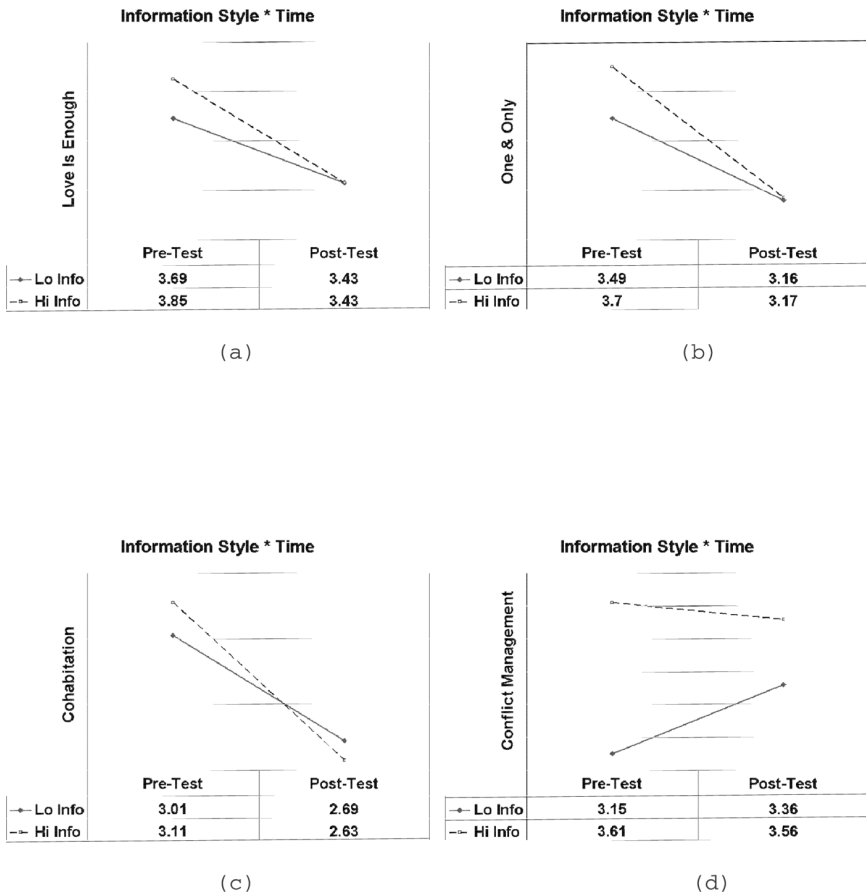


FIGURE 1 (a) Faulty relationship belief: Love Is Enough to Sustain a Relationship. (b) Faulty relationship belief: There Is Only One Person Meant for Me. (c) Faulty relationship belief: Premarital Cohabitation Increases Marital Stability. (d) Conflict Management Competence Within Interpersonal Relationships.

Two of the nine interactions were significant for the normative style (Future Orientation,  $F = 5.72, p < .05$ ; Conflict Management,  $F = 4.36, p < .05$ ). Those using a high normative style remained stable in their future orientation across time, but those using a low normative style increased their future orientation at posttest (but remained lower than the high normative group; see Figure 2a). Those using a high normative style reported increased perceived capacity for conflict management in the pre- to posttest period, whereas those using a low normative style did not (see Figure 2b).

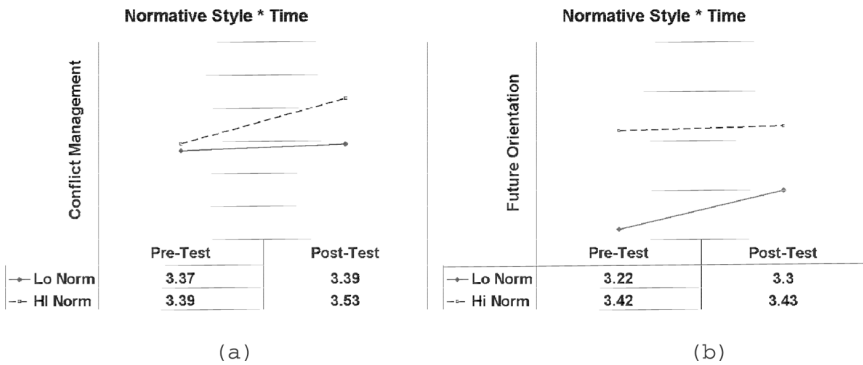


FIGURE 2 (a) Conflict Management Competence Within Interpersonal Relationships. (b) Future Orientation in the Academic and Career Domains.

Finally, two of the nine interactions were significant for the diffuse style (Conflict Management,  $F = 5.68, p < .05$ ; Negative Assertion,  $F = 5.08, p < .05$ ). Those with a low diffuse style reported increased capacity for conflict management from pre- to posttest, whereas those with high diffuse style remained stable and significantly lower than the low diffuse group over the same period (see Figure 3a). Those using a high diffuse style also reported a decline in perceived ability to make negative assertions from pre- to posttest, whereas over the same period the low diffuse group remained stable and higher than the high diffuse group (see Figure 3b). Consistent with expectations for the diffuse style, but significant only with a one-tailed test ( $F = 2.85, p < .10$ ), a final interaction indicated that, although both high and low diffusion groups reported gains in intervention-related knowledge, the low diffuse group perceived greater gains than did the high diffuse group (see Figure 3c).

## DISCUSSION

The goal of this study was to examine: (a) how high versus low endorsers of the identity styles differed in beliefs and skills addressed in a relationships education intervention for adolescents, and (b) the moderating role of identity style in changes of attitude, perceived ability, and knowledge associated with the intervention. The patterns for informational and normative styles with respect to endorsement of relationship beliefs and skills were relatively similar; the diffuse style was, in many ways, opposite to the other two styles and was generally more negative. Moderation of intervention-related change was found for all three styles. Informational style moderated the most pre- to posttest changes, and normative style mod-

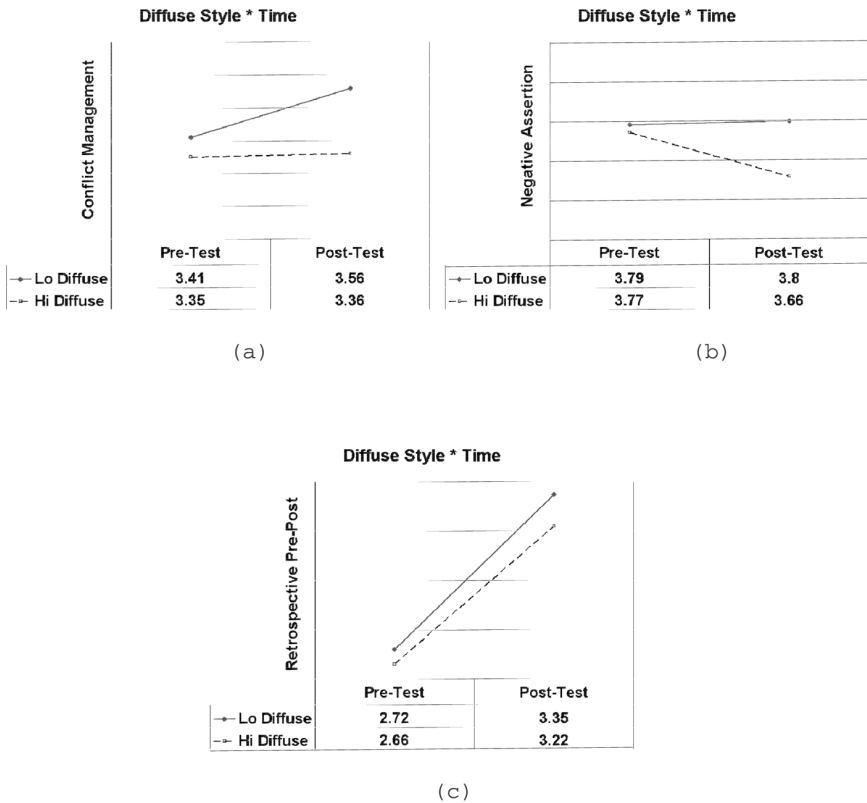


FIGURE 3 (a) Conflict Management Competence Within Interpersonal Relationships. (b) Negative Assertion Competence Within Interpersonal Relationships. (c) Perceptions of Knowledge Gains Due to the Relationships Education Course.

erated the fewest changes. In general, the patterns observed showed interesting distinctions within and across styles.

Most of the changes moderated by the informational style (three of the four) centered on faulty relationship beliefs. Greater reductions in faulty relationship beliefs were seen when use of the informational style was high; however, high informational style was also associated with higher levels of these faulty beliefs at pretest. Use of a high informational style during middle adolescence may indicate adolescents who actively consider alternatives as they encounter new experiences. Their naïve considerations registered at pretest, however, may not reflect the best judgment. The changes seen for the high informational style group from pre- to postintervention suggested an openness to exploring or modifying value positions when given justifying information in an educational context. During middle ado-



lescence, individuals typically do not have vast dating experience, and are in the process of refining their abilities to decipher accurate from inaccurate information about romantic relationships. However, as they gain experience through dating and through educational opportunities, individuals with a high informational style may be particularly willing to reconsider the viability of faulty relationship beliefs. If they receive more accurate information (such as through a relationships education course), they appear to be likely to modify their beliefs in that direction.

The fourth and final change moderated by the informational style was for perceived ability to manage conflict. Those using a high informational style started off and remained high from pre- to posttest; however, those using a low informational style increased from pre- to posttest but remained lower than their counterparts. Thus, it was for those with a low informational style that the intervention topic of conflict management seems to have been most useful.

The normative style showed less moderation of pre- to posttest change, and the findings suggested that individuals with a high normative style may be more open to changing in some areas than others. In particular, a high normative style was associated with a greater increase in reported ability to manage conflict than a low normative style. This may be because the curriculum stressed that this skill is a means for maintaining a healthy dating (and future marital) relationship. The relationships education curriculum may have helped normalize conflict in relationships and differentiate it from aggression. Adolescents using a high normative style would likely embrace activities that promote outcomes consistent with conventional thinking (Berzonsky, 1990, 1992). Thus, they may be more open to making changes that seem likely to offer a better, more stable relationship or marriage. In contrast to the change seen for conflict management skills, future orientation remained high and stable for the high normative style group, and increased for the group using a low normative style. Given that adolescents using a high normative style tend to make their identity choices based on significant others' expectations (Adams et al., 2001; Berzonsky, 1990), future orientation may begin early for these adolescents, especially in the areas of education and career. It is during the high school years that adolescents receive clear messages from parents, teachers, and other influential adults about the expectations for their educational attainments and career commitments. Adolescents using a high normative style may see these messages as clear indicators of the paths they should be on and the commitments they should be making, and do so; hence, they displayed a consistent and strong future orientation in this study. However, those with a low normative style did gain significantly in future orientation from pre- to posttest suggesting that, for these individuals, an intervention might make a difference in compensating for a lack of future-oriented socialization.

Participants using high versus low diffuse styles differed in pre- to posttest gains in only two areas. Those with a low diffuse style reported gains in perceived conflict management skill. However, for reasons not fully understood, those using

a high diffuse style decreased in their perceived ability to make negative assertions in a relationship. Negative assertion may be particularly hard for highly diffuse-oriented individuals. Such individuals have been found to experience social anxiety (Ferrari, 1991) and to have less mature interpersonal relationships (Berzonsky & Kuk, 2000). Rather than confront a relationship problem, they may avoid it and attempt to adapt to situational demands and expectations. Lack of experience in dealing with negative assertion may have led those using a high diffuse style to overestimate their capability prior to taking the relationships education course. The posttest may reflect a more realistic self-assessment after learning what negative assertion actually involves.

Fortunately, both the high and low diffuse style groups indicated positive perceived gains in knowledge after the relationships education course, and those with low use of the diffuse style reported marginally more gain. Consistent with previous research, use of a high diffuse style was generally associated with the fewest positive outcomes, which suggests that interventions for youth who are diffuse or who use a diffuse identity style may require modification or further development in order to be beneficial for those who may need them the most.

### Implications, Limitations, and Future Directions

The results of the current study suggest that identity does matter when considering the impact of interventions on adolescents. Style was found to moderate change that suggested identity processes were playing a role in facilitating or impeding learning. However, it is not clear from this study whether identity style was also being affected by the intervention. Given that middle adolescence is a time when style preferences may still be under development and open to being affected by experience (Berzonsky, 1990), change in style following an educational intervention is plausible.

The more an intervention topic is related to identity, the greater the likelihood it might affect, or be affected by, where adolescents are in the identity formation process. The current study showed that identity styles moderated adolescents' learning about intimate relationships. It is anticipated that identity styles might moderate a range of learning experiences that adolescents have. Much of what adolescents experience in school, family, and other social settings is likely to be influenced by their extent of engagement in the identity formation process. Thus, outcomes associated with learning about career possibilities; being provided opportunities to explore interests in the arts, sports, or sciences; or receiving information about ways to become civically engaged may be affected by how the adolescent processes this information. Identity processing style therefore colors adolescents' perceptions of the relevance of information they encounter and this, in turn, affects the identities they are forming.

Ignoring identity development when assessing influences of an intervention may miss an important psychological influence that needs to be considered whenever adolescents and young adults are targeted with social or psychological interventions. It also seems important that, even when the intervention does not directly target identity, the (unanticipated) influence on identity should be taken into account.

One limitation of the current study is the way that identity was measured. Although the abbreviated version of the identity styles inventory subscales was found to be a good representation of the full measure, it may be that other assessments of identity formation outcomes and processes would yield different results. Future research examining the moderating influence of identity on intervention impact should employ diverse assessments of identity formation as a means for better examining how differing aspects of identity condition adolescents' responses to educational and therapeutic input.

The current study was not an intervention evaluation. Rather, it was a field study designed to monitor changes among individuals before and after an educational curriculum, and test whether identity style moderated these changes. In the absence of a control group, our suggestion that observed changes were due to the intervention are not experimentally verified. Future studies involving more stringent experimental conditions (e.g., random assignment to intervention and control groups) will permit more rigorous analyses of intervention-related change, and how identity moderates it.

Another limitation of our study was that 75% of the sample was female. FCS classes typically are comprised of primarily female students. Thus, although our analyses controlled for gender, it still is to be determined whether identity operates differently in its moderating effects for boys compared to girls. Expansions to this line of research should attempt to include samples with a more balanced gender composition.

A final limitation of this study is that we treated style differently in our analyses than have previous researchers. While controlling for age, race, and gender, our analytic strategy embraced the true messiness of identity style. Rather than forcing cases into a preferred style category based on an adolescent's highest score (or z-score) and ignoring his or her scores on the other styles, we included each style in each model. We believe this is closer to the true role of style because middle adolescents (at least in our sample) appear not to emphasize just one. Indeed, "pure" styles were rare and all possible mixtures of style were represented. Readers may be tempted to assume that being in the low category of one style can also imply membership in the high use category of another. This is not accurate. Rather, our data suggest that most adolescents frequently use at least two styles.

Taken together, the findings of the current study offer insights about the moderating role of identity on intervention impact. Adding to Dreyer's (1994) assertion that interventions have the potential to affect identity formation by providing ado-

lescents with opportunities to engage in exploration, decision making, and self-expression, we suggest that it also is important to consider adolescents' location in their identity work as a moderating influence on the effectiveness of a wide range of youth-focused interventions. Future research directions should expand on this thinking and include identity both as an influence on adolescent receptiveness to, and incorporation of, information presented in a particular intervention, and as an outcome associated with the effects of an intervention regardless of whether it directly or indirectly targets identity formation.

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