Assessing Decision Making in Young Adult Romantic Relationships

Amber Vennum and Frank D. Fincham
The Florida State University

Romantic relationships among young adults are rich with ambiguity and without a clear, universal progression emphasizing the need for active decision making. Lack of active decision making in romantic relationships can lead to increases in constraints (e.g. pregnancy, shared living space or finances) that promote the continuation of relationships that would have otherwise ended, leading to increased risk of relationship distress. Because there is no available assessment of thoughtfulness regarding relationship decisions, the authors of the present studies report data on the development of one such scale, the Relationship Deciding Scale (RDS). Study 1 ($N = 995$) reveals the factor structure of the RDS and provides reliability data for the emergent subscales. In Study 2 ($N = 963$), the obtained three-factor structure (Relationship Confidence, Knowledge of Warning Signs, and Deciding) is tested via confirmatory factor analysis, demonstrates convergent and discriminant validity, and is shown to predict relationship characteristics 14 weeks later. Study 3 ($N = 805$) shows the sensitivity of the three factors to change through examination of the influence of a semester-long intervention targeted at increasing decision making in relationships. Use of this scale for identifying and intervening with couples or individuals who lack active decision making in relationships may decrease their risk for future relationship distress.

Keywords: inertia, romantic relationships, decision making

Pair bonding among young adults in the United States has changed over recent decades into a process that is rich with ambiguity and without a clear, universal progression (see Sassler, 2010). For example, Manning and Smock (2005) found that partners described their process of entering into cohabitation as a fluid, gradual slide. Similarly, Lindsay (2000) reported that most couples say cohabitation "just happened," likely reflecting an absence of decision making about the transition. The lack of conscious decision making (or "sliding") around important relationship transitions, such as sex, cohabitation, marriage, and pregnancy, has been hypothesized to put relationships at greater risk of adverse outcomes (Stanley, Rhoades, & Markman, 2006). Our purpose in this article was to develop a measure of conscious decision making in romantic relationships that could be used in research as well as in educational or clinical settings to identify and intervene with couples or individuals that may be at risk for sliding.

Stanley et al. (2006) offer a model, based on commitment theory and the concept of inertia, to explain the risks related to any relationship transition that may increase constraints. The inertia perspective suggests that some relationship transitions increase constraints and favor the continuance of the relationship regardless of fit, possible relationship problems, or mutual commitment to the future of the relationship (Stanley et al., 2006). *Constraints* refer to forces that constrain an individual to maintain a relationship regardless of their personal dedication to that relationship. *Dedication*, on the other hand, is the desire of an individual to want to improve the quality of the relationship for the benefit of both participants (Stanley & Markman, 1992). Stanley et al. (2006) referred to this process of moving through relationship transitions without fully considering the implications as "sliding versus deciding" (p. 499). According to their model, sliding through relationship transitions creates risk for future relationship distress by increasing constraints in the relationship without necessarily increasing partners' dedication to one another. Constraints may lead to the continuance of unhealthy relationships that would otherwise have ended if the constraints were not present or to an increased vulnerability of an otherwise healthy relationship due to the lack of a clearly formed commitment (Stanley et al., 2006). In other words, sliding increases the chance of constraints that function to make the relationship more stable but do not necessarily increase satisfaction (Stanley & Markman, 1992). Among other things, sliding may increase the risk of pregnancy, sexually transmitted diseases, and prolongation of a relationship that otherwise would have ended, leading to lower relationship quality and eventual divorce (Stanley et al., 2006). Surra, Chandler, Asmussen, and Wareham (1987) found that couples who marry for event-driven reasons, such as pregnancy, finances, and so on, experienced more conflict and ambivalence than those who marry due to positive characteristics in the relationship.

A particularly dangerous instance of sliding occurs when individuals do not pay attention to the warning signs of a destructive relationship (escalation, put-downs or invalidations, avoidance or

---

withdrawal, and negative interpretations) early on in the formation of the relationship (Markman, Stanley, & Blumberg, 1994). Lack of actively assessing for the presence of these characteristics may lead to individuals being in relationships higher in destructive communication and behaviors (Markman et al., 1994).

Why might sliding occur? There are potentially a number of reasons, many of which may lie outside conscious awareness such as ignorance of warning signs, failure to attend to them, and so on. Lack of knowledge of or attention to the warning signs of dysfunctional relationships poses a serious threat, especially when it leads to high levels of conflict that can potentially result in intimate partner violence. Awareness of such warning signs could avert much unnecessary suffering and might be provided through psychoeducational interventions. Documentation of the efficacy of such interventions would, however, require assessment of knowledge of warning signs that portend an unhealthy relationship.

Having knowledge of warning signs alone may be insufficient unless individuals have the confidence or self-efficacy to use the knowledge in their relationship. Bandura's (1986) social cognitive theory indicates that people who view themselves as efficacious in performing certain tasks or engaging in certain behaviors will be more likely to persist in tasks that require these behaviors. It follows that deciding in romantic relationships should be strongly related to people's confidence or belief in their ability to impact their relationship. In other words, in order to enact decisions in relationships, partners have to believe that they can bring about change in the relationship. Sliding may thus occur because the person lacks confidence in his or her ability to change its course, and so they just "go with the flow."

Following extensive pilot testing, we selected a number of items to reflect the ideas outlined regarding deciding, relationship warning signs, and confidence or efficacy. Our purpose in this article is to describe several studies in which the psychometric properties of the proposed three-dimensional measure were examined. In Study 1, we explore the factor structure of the Relationship Deciding Scale (RDS) and provide reliability data. Study 2 presents a confirmatory factor analysis that provides further support for the structure of the scale, along with concurrent and predictive validity. In Study 3, we assess the sensitivity of the scale to change by examining the influence of an intervention targeted at increasing deciding in relationships.

Study 1

Our objectives in the first study were to explore the structure of the underlying factors of the items proposed to measure deciding in relationships and to calculate the reliability of the emergent subscales. We hypothesized that multiple factors would underlie the proposed items. Finally, we recruited a second, community sample to cross-validate the findings in a new sample.

Method

Samples. The initial sample was comprised of 995 undergraduate students (787 women and 208 men) in an introductory family relations course. This class is required for several majors and is also an option for meeting liberal studies requirements, so students represent all colleges and majors on campus (Fincham, Cui, Braithwaite, & Pasley, 2008). Participants' mean age was

19.41 years ($SD = 2.04$). About 71% of students indicated their ethnicity as White, 12% as African American, 9% as Latino, and the remainder of participants indicated they were Asian, mixed race, or "other." Fifty-three percent of students indicated that they were currently in a romantic relationship, and these students were used as our final sample. Of those in a romantic relationship, 80% reported being in an exclusive relationship, and a smaller percentage reported being in a nonexclusive (12.3%), engaged (4.5%), or married (1.5%) relationship. About 10% of those in romantic relationships were cohabiting. About 46% had been in their relationship for less than 1 year, 23% 1–2 years, 14% 2–3 years, and 17% for more than 3 years. The majority reported being in a heterosexual relationship (98.7%).

A nonstudent sample was also recruited. We recruited this sample by advertising online for participants who were 18 through 33 years old and not in college, but who were involved in a romantic relationship. Interested persons were directed to a website that contained the RDS. A total of 160 persons (63 men, 97 women; 79.2% White, 6.9% African American, 4.4% Latino, 6.9% Asian, and 1.9% other) went to the website and completed the questionnaire. About 25% had been in their relationship for less than 1 year, 17% 1–2 years, 12.5% 2–3 years, and 46% for more than 3 years.

Procedure. Students were offered multiple options to earn class credit. One of the options was to complete the measures used in this study through an online survey. Approval from the institutional review board (IRB) was obtained prior to any data collection. Those students who chose to participate were sent an e-mail link to the online survey during the first week of the semester.

Relationship Deciding Scale (RDS). Items were generated to reflect the perspective of Stanley, Rhoades, and Markman (2006) on thoughtfulness regarding relationship decisions, awareness of and ability to deal with warning signs in a relationship, and confidence in being able to maintain a relationship. The 13 questions used were selected from a larger pool based on extensive pilot testing. Specifically, graduate students in clinical psychology and marriage and family therapy generated a pool of 30 items to reflect the ideas outlined in the Stanley et al.'s (2006) position paper. Through an iterative process involving three different samples, the items were reworded and winnowed down (e.g., questions that showed little variability in responses and questions that respondents identified as problematic were discarded) to the 13 items used in this study. Each item was answered on a 5-point scale, ranging from *strongly disagree* (1) to *strongly agree* (5). Three items were reverse coded so that higher scores indicated more awareness. Four of the items were written to reflect individuals' perceptions of their relationship skills and confidence in having a long-lasting relationship. Three of the items described individuals' awareness about and ability to deal with relationship risk factors, and the remaining six items assessed individuals' thoughtfulness about the development of a relationship.

Results

Prior to implementing data-reduction techniques, we examined the correlations between the items (Table 1). The majority of the items were positively and significantly correlated, except several of the correlations with the negatively worded items (especially

Table 1
Correlations Between Items on the Sliding Versus Deciding Scale

Variables	1	2	3	4	5	6	7	8	9	10	11	12	13
1. Item 1	—												
2. Item 2	.69**	—											
3. Item 3	.62**	.80**	—										
4. Item 4	.60**	.71**	.73**	—									
5. Item 5	.40**	.36**	.36**	.40**	—								
6. Item 6	.34**	.33**	.30**	.33**	.37**	—							
7. Item 7	.43**	.38**	.33**	.37**	.28**	.56**	—						
8. Item 8	−.13**	−.19**	−.17**	−.21**	−.11**	−.03**	−.09**	—					
9. Item 9	.19**	.10**	.12**	.11**	−.01	.21**	.31**	.17**	—				
10. Item 10	.33**	.32**	.30**	.28**	.51**	.29**	.23**	−.02**	.03	—			
11. Item 11	.32**	.32**	.31**	.32**	.61**	.33**	.26**	−.08**	−.01	.60**	—		
12. Item 12	.34**	.39**	.36**	.36**	.28**	.43**	.49**	−.08**	.19**	.26**	.32**	—	
13. Item 13	.06	.08*	.11**	.04	−.01	.21**	.25**	.16**	.33**	.03	.01	.32**	—
Mean	4.23	4.17	4.08	4.04	3.67	3.62	4.10	2.65	3.65	3.44	3.49	3.74	3.25
SD	0.84	0.94	1.01	0.97	1.03	1.11	0.90	1.01	0.94	1.02	1.00	1.00	1.08

$^* p < .05.$ $^{**} p < .01.$

with Item 8, indicating it may not be measuring the same construct).

An exploratory factor analysis with oblique rotation revealed three factors with eigenvalues greater than 1.0 that together accounted for 63% of the variance. No items had cross-loadings greater than .35 but one of the items (Item 8) did not load strongly on any of the factors (<.40) and was dropped, leaving a measure that comprised 12 items (see Figure 1). Four items loaded strongly (>.40) on Factor 1 (Relationship Confidence, α = .90), three items loaded on the Factor 2 (Knowledge of Warning Signs, α = .80), and five items loaded on Factor 3 (Deciding, α = .71). Table 2 shows the items for the three subscales and their factor-loading scores, and Table 3 shows correlations between the subscales and correlations corrected for attenuation. The factor structure did not vary by gender.

To cross-validate the factor structure, we conducted the same exploratory factor analysis using the nonstudent sample. However, to exert some control over the quality of the data, two "control" questions had been included in the online data collection. In both questions, respondents were instructed to choose a particular response option, and thereby we were able to evaluate whether

respondents were reading the questions. Only data from the 41 male and 72 female respondents who provided correct responses to both control questions were included in the analysis. The factor analysis again yielded three factors with eigenvalues greater than 1.0 that together accounted for 69% of the variance. The same four items loaded strongly (>.50) on Factor 1 (Relationship Confidence, α = .90), with the same three items loading (>.50) on the Factor 2 (Knowledge of Warning Signs, α = .91), and the remaining five items loading (>.40) on Factor 3 (Deciding, α = .73). No items had cross-loadings greater than .35. Relationship confidence correlated .49 ($p < .001$) with Warning Signs and .23 ($p < .05$) with Deciding. Warning Signs and Deciding were only marginally related (r = .17, p = .07).

Discussion

Three subscales emerged from the proposed 13 items generated to reflect the perspective of Stanley et al. (2006) regarding deciding in relationships. The subscales that emerged reflected confidence in being able to maintain a relationship (Relationship Confidence), awareness of and ability to deal with warning signs in a relationship (Knowledge of Warning Signs), and thoughtfulness regarding relationship decisions (Deciding). The existence of these separate subscales is consistent with the theoretical arguments made earlier that sliding through relationship transitions may reflect lack of knowledge of relationship warning signs, self efficacy, and confidence as well as a preference not to make explicit decisions about the relationship. One item was eliminated due to a low loading (<.40), resulting in a 12-item scale. These preliminary findings provided sufficient support for us to further explore the measure and to determine its validity. In particular, data collected at multiple time points would be helpful in validating the scale.

Study 2a

In this study, we sought to replicate the factor structure for the RDS using confirmatory factor analysis with a new sample and to provide initial validity data for the scale. We expected that the
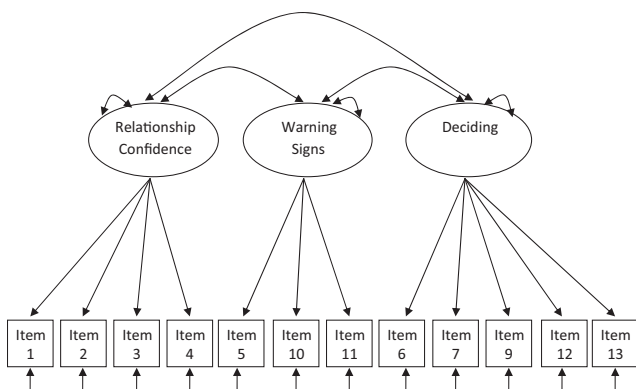

Figure 1. Three-factor model.

Table 2
Factor Loadings for the Relationship Deciding Scale

	Subscale factor loadings		
Subscales and items	1	2	3
Factor 1: Relationship Confidence			
1. I believe I will be able to effectively deal with conflicts that arise in my relationships.	.668	.057	.092
2. I feel good about the prospects of making a romantic relationship last.	.942	−.062	−.018
3. I am very confident when I think of having a stable, long term relationship.	.903	−.047	−.029
4. I have the skills needed for a lasting stable romantic relationship.	.813	.019	−.025
Factor 2: Warning Signs			
5. I am able to recognize early on the warning signs in a bad relationship.	.096	.728	−.087
10. I know what to do when I recognize the warning signs in a bad relationship.	−.031	.726	−.033
11. I am quickly able to see warning signals in a romantic relationship.	−.070	.902	−.081
Factor 3: Deciding			
6. With romantic partners, I weigh the pros and cons before allowing myself to take the next step in the relationship (e.g., be physically intimate).	−.004	.278	.492
7. It is important to make conscious decisions about whether to take each major step in romantic relationships.	.107	.088	.606
9. Considering the pros and cons of each major step in a romantic relationship destroys its chemistry. (reverse coded)	−.041	−.192	.593
12. It is important to me to discuss with my partner each major step we take in the relationship.	.106	.164	.494
13. It is better to "go with the flow" than think carefully about each major step in a romantic relationship. (reverse coded)	−.166	−.127	.639

Note. Study 1 factor loadings are from the pattern matrix of an exploratory factor analysis in which principal axis factoring with promax rotation was used. Item 8 did not load on any factor and was dropped.

RDS subscales would show greater correlations with other researchers' scales of similar intent and relatively lower correlations with scales of dissimilar intent. Specifically, the relationship confidence subscale would be more positively correlated with relationship efficacy than either of the other two RDS subscales, and the Deciding subscale would have a stronger positive relationship to self-control than the other two RDS subscales. In the absence of measures specifically designed to assess awareness of and ability to deal with warning signs in a relationship, we examined psychological aggression and negative interaction as variables that might be expected to be related to the Knowledge of Warning Signs subscale on the basis of theory. Specifically, we hypothesized that psychological aggression and negative interactions would have the strongest negative relationship with the Knowledge of Warning Signs subscale relative to the other two subscales.

A variety of factors may be related to deciding in young adults' romantic relationships. According to Stanley and Markman

Table 3
Observed Correlations, Alpha Coefficients, and Corrected Correlations Among Subscales of the Relationship Deciding Scale

Subscales	Relationship Confidence	Warning Signs	Deciding
Relationship Confidence	(.90)	.53	.52
Warning Signs	.45**	(.80)	.41
Deciding	.41**	.31**	(.71)

Note. Alpha coefficients are presented on the diagonal, observed correlations below the diagonal, and correlations corrected for attenuation above the diagonal.
** $p < .01$.

(1992), dedication is the desire of an individual to want to improve the quality of the relationship for the benefit of both participants. Sliding through relationship transitions creates risk in the relationship for future distress by increasing constraints in the relationship without necessarily increasing partners' dedication to one another (Stanley et al., 2006). We hypothesized that those who demonstrated a higher level of deciding in their relationships at the beginning of the semester would have higher dedication to those relationships and report higher levels of negotiation during conversations 14 weeks later. Recent research on *hooking-up behavior* (physically intimate behavior that occurs outside a committed relationship) among college students indicated that some students may be sliding into these situations, which may lead to them being at higher risk for an adverse reaction to the hookup (Owen, Rhoades, Stanley, & Fincham, 2010). In looking at the full sample of students rather than just those in romantic relationships, we hypothesized that after controlling for alcohol consumption (hookups are related to drinking), Deciding at the beginning of the semester would account for a significant amount of the variance in hooking-up behavior throughout the semester.

Markman et al. (1994) indicated that sliding past the presence of warning signs may lead to individuals being in relationships with higher levels of destructive communication and behaviors. For those in romantic relationships, we hypothesized that higher awareness of and ability to deal with warning signs in a relationship at the beginning of the semester would predict more positive interactions, conflict resolution, and conflict management and fewer negative interactions and psychological aggression by the end of the semester.

As noted earlier, and consistent with social cognitive theory (Bandura, 1986), those with more relationship confidence are more likely to use relationship skills to improve their relationships. We

therefore expected that higher relationship confidence at the beginning of the semester would predict more positive interactions and conflict resolution at the end of the semester. Relationship efficacy has been found to be related to commitment in relationships as well as relationship satisfaction (Lopez, Morúa, & Rice, 2007). We hypothesized that participants with higher levels of relationship confidence at the beginning of semester would report higher levels of dedication and satisfaction in their relationships 14 weeks later.

Method

Sample. Participants were 965 undergraduate students (730 women and 235 men) in an introductory family relations course. The mean age of participants was 19.66 years ($SD = 2.148$). The sample was mostly White (70%), with some African American (12%) and Latino (9.5%) participants. The remainder of participants indicated they were Asian, mixed race, or other race/ethnicity. Fifty-three percent of students answered yes to the question, "Are you currently in a romantic relationship?" at the beginning of the semester (413 women and 97 men). By the end of the semester, 301 students (250 women, 51 men) remained with the same partner.

Procedure and measures. Students in the class were offered multiple options to earn class credit, including this survey. IRB approval was obtained prior to any data collection. Students completed the survey including the following measures during the second week of the semester (Time 1) and again, 14 weeks later, during the last week of classes (Time 2).

Decision making in relationships. Participants completed the 12 RDS items described earlier on a 5-point scale, ranging from *strongly disagree* (1) to *strongly agree* (5). Items were coded so that higher scores indicated higher relationship confidence, awareness of and ability to deal with warning signs, and thoughtfulness regarding relationship decisions. Coefficient alphas were .91 for Relationship Confidence, .83 for Knowledge of Warning Signs, and .74 for Deciding.

Self-control. Participants indicated the degree to which 13 statements from the Self-Control Scale (Tangney, Baumeister, & Boone, 2004) reflected how they typically behaved on a scale that ranged from *not at all like me* (1) to *very much like me* (5). Example items included: "I am good at resisting temptation" and "I often act without thinking through all the alternatives." Higher scores indicated higher self-control. Cronbach's alpha was .85 in our sample.

Dedication. Four items from the Commitment Inventory (Stanley & Markman, 1992) measured dedication to the relationship. Participants indicated their level of agreement regarding statements reflecting their dedication to their relationship with their romantic partner on a 5-point scale ranging from *strongly disagree* (1) to *strongly agree* (5). Higher scores reflected greater dedication ($\alpha = .80$).

Positive interaction. Positive interaction was measured by three positive items from the Communication Danger Signs Scale (Stanley & Markman, 1997): "Have a lot of fun together," regularly "Have great conversations where we just talk as good friends," and "Have a satisfying sensual or sexual relationship." Participants answered on a scale ranging from *strongly disagree*

(1) to *strongly agree* (5). Higher scores reflected more positive interactions ($\alpha = .78$).

Negotiation. The 12-item modified version of the Negotiation subscale from the Revised Conflict Tactics Scale (Straus, Hamby, Boney-McCoy, & Sugarman, 1996) was used to assess actions taken to settle conflict through discussion. Participants reported the frequency with which they and their partner had demonstrated the behaviors during the previous week. Participants could choose responses that ranged from *once in the past week* (1) to *more than 20 times in the past week* (6) or could indicate that *it has not happened in the past week.* Items were coded so higher scores reflected more negotiation ($\alpha = .91$).

Conflict management. The Conflict Management subscale of the Interpersonal Competence Questionnaire (Buhrmester, Furman, Wittenberg, & Reis, 1988) was used to assess how comfortable participants felt exhibiting certain conflict management skills such as "being able to work through a specific problem with a companion without resorting to global accusations" or "not exploding at a close companion (even when it is justified)" in order to avoid a damaging conflict" during conflict with their close companion. Responses on the eight items ranged from *I'm poor at this; I'd feel so uncomfortable and unable to handle this situation, I'd avoid it if possible* (1) to *I'm extremely good at this; I'd feel very comfortable and could handle this situation very well* (5). Items were coded so higher scores reflected more skillful conflict management. Coefficient alpha was .86 in our sample.

Conflict resolution. The Resolution subscale of the Children's Perception of Interparental Conflict Scale (Grych, Seid, & Fincham, 1992) was adapted so that it applied to how well partners resolved their conflicts. Participants indicated the extent to which the statements exemplified what typically occurred in their relationship by indicating *true* (1), *sort of true* (2), or *false* (3). Items included: "When we argue, we usually work things out," "Even after we stop arguing we stay angry at each other," "When we disagree about something, we usually come up with a solution," and "When we argue, we usually make up right away." Items were coded such that higher scores indicated more resolution. Coefficient alpha was .70 in our sample.

Relationship efficacy. Relationship efficacy was measured by seven items (Fincham, Harold, & Gano-Phillips, 2000) in which participants were to indicate their perceived level of ability in resolving conflict with their partner. Respondents rated their level of agreement with each statement; responses ranged from *strongly disagree* (1) to *strongly agree* (7), and items were coded so higher scores reflected greater relationship efficacy. Coefficient alpha was .88 in our sample.

Relationship satisfaction. We measured relationship satisfaction with seven items created for this study to assess participants' satisfaction with their partner during the previous week on a scale ranging from *not at all* (1) to *very* (7). Exploratory factor analysis revealed one factor that accounted for about 68% of the variance in the items (eigenvalue = 4.76). Items measured how well their partner met their needs and expectations, how good their present relationship was compared with previous relationships, and how much they loved their partner. Higher scores indicated greater relationship satisfaction ($\alpha = .92$).

Negative interaction. Negative interaction was measured by four items from the Communication Danger Signs Scale (Stanley & Markman, 1997). In reference to their romantic partner, partic-

ipants indicated how frequently "little arguments escalate into ugly fights with accusations, criticisms, name calling, or bringing up past hurts," their partner "criticizes or belittles [their] opinion, feelings, or desires," views their "words or actions more negatively than [they] meant them to be," and "one [partner] withdraws; . . . that is, does not want to talk about it anymore or leaves the scene." Responses ranged from *never or almost never* (1) to *frequently* (3), so higher scores reflected more frequent use of negative communication. Cronbach's alpha was .77 in our sample.

Psychological aggression. The Psychological Aggression subscale of the Revised Conflict Tactics Scale (Straus et al., 1996) has 16 items depicting the use of verbal and nonverbal acts that reflect being critical of or controlling the partner (Newton, Connelly, & Landsverk, 2001). Participants rated both the frequency of their own and their partner's use of each behavior "in the past 8 weeks;" responses ranged from *once* (1) to *more than 20 times* (6), *not in the past 8 weeks, but it did happen* (7), or *it never happened* (8). Items were coded so higher scores reflected more frequent use of psychological aggression ($\alpha = .82$).

Hook ups. In order to assess hooking-up behavior, we provided participants with a definition of *hooking up* ("When two people get together for a physical encounter and don't necessarily expect anything further") and asked them to indicate the number of different people they had hooked up with over the last 4 months on a scale ranging from *0* (1) to *6 or more* (7).

Alcohol consumption. Alcohol consumption was assessed with an index in which participants are asked, "Within the last 30 days, on how many days did you have a drink containing alcohol?" and then asked, "How many drinks containing alcohol did you have on a typical day when you were drinking?" Multiplying the two responses yielded the quantity–frequency index used in research on substance use (see Dawson & Room, 2000).

Results

Confirmatory factor analysis. We conducted a confirmatory factor analysis using Mplus 5.0 (Muthén & Muthén, 1998–2007) in which each item was allowed to load only on its primary factor. Since responses to the items were approximately normally distributed, maximum likelihood estimation was applied (Finney & DiStefano, 2006). Because chi-square is influenced by sample size and may result in significance even when the model is minimally misspecified (Marsh, Hau, & Wen, 2004), additional fit indices such as the comparative fit index (CFI), the root-mean-square error of approximation (RMSEA), and the standardized root-mean-square residual (SRMR) were also examined. It has been suggested that good model fit is indicated by CFI values above .95, RMSEA values smaller than .06, and SRMR values smaller than .08 (Hu & Bentler, 1999). These are rules of thumb rather than definite cutoffs for fit (e.g. Marsh et al., 2004).

We handled missing values using full information maximum likelihood estimation. The hypothesized three-factor model provided a reasonable model–data fit, $\chi^2(51) = 354.493$, $p < .001$, CFI = .95, RMSEA = .08, and SRMR = .05. Although RMSEA exceeded the value recommended for a good fit, it was consistent with what Browne and Cudeck (1993) described as a reasonable fit. The values of the fit indexes indicated the three-factor model provided an acceptable fit to the data that supports our earlier findings of three factors underlying the RDS.[1]

Coefficient α for the Relationship Confidence (T1 = .91, T2 = .92), Knowledge of Warning Signs (T1 = .83, T2 = .87), and Deciding (T1 = .74, T2 = .69) subscales showed adequate internal consistency. Test–retest correlations were computed for those who remained in relationships over the 14-week interval (Relationship Confidence = .40, $p < .001$; Warning Signs = .45, $p < .001$; Deciding = .51, $p < .001$). It is anticipated that even higher levels of test–retest reliability would emerge over a shorter period, since real change may have occurred over the 14-week interval.

Concurrent validity. To examine convergent validity, we computed the correlation of the RDS with scales of similar intent using the subsample of those in romantic relationships at T1. As predicted, self-control was positively related to all the subscales with the highest correlation being with the Deciding subscale (Relationship confidence, $r = .20$, $p < .001$; Knowledge of Warning Signs, $r = .23$, $p < .001$; Deciding, $r = .25$, $p < .001$). Also as expected, self-efficacy in relationships was positively correlated with all three subscales and most highly correlated with Relationship Confidence (Relationship Confidence, $r = .42$, $p < .001$; Warning Signs, $r = .36$, $p < .001$; Deciding, $r = .24$, $p < .001$). In the absence of measures specifically designed to assess awareness of and ability to deal with warning signs in a relationship, we examined psychological aggression and negative interaction as variables that might be expected to be related on theoretical grounds. Although we expected psychological aggression to be the most strongly negatively related to the Knowledge of Warning Signs subscale, the strength of the correlation was the same for the Knowledge of Warning Signs subscale and the Relationship Confidence subscale (Relationship Confidence, $r = -.27$, $p < .001$; Knowledge of Warning Signs, $r = -.27$, $p < .001$; Deciding, $r = -.11$, $p = .015$). The relationship of the three subscales with negative interactions was as expected (Relationship Confidence, $r = -.27$, $p < .001$; Knowledge of Warning Signs, $r = -.29$, $p < .001$; Deciding, $r = -.12$, $p = .005$). As evidence of discriminant validity, the Relationship Confidence and Deciding subscales were not related to social desirability, and the Knowledge of Warning Signs subscale was weakly related (Relationship Confidence, $r = .03$, $p = .513$; Knowledge of Warning Signs, $r = .11$, $p = .013$; Deciding, $r = .05$, $p = .243$).

We next examined correlations between the RDS subscales and all the other variables assessed. Using the subsample of participants in romantic relationships at T1, we computed the correlations for the sample as a whole and then separately for men and women in order to examine possible gender differences. The correlations between Relationship Confidence and psychological aggression (men, $r = -.48$; women, $r = -.20$, $z = 2.77$, $p < .01$), Knowledge of Warning Signs and positive interactions (men, $r = .50$; women, $r = .21$, $z = 2.79$, $p < .01$), Knowledge of Warning Signs

---

[1] Further examination of the model suggested that allowing the errors between Item 9 and Item 13 (negatively worded items) to correlate would provide an improved fit. This is consistent with the presence of method effects for negatively worded items in adult populations (e.g. DiStefano & Motl, 2006). Adding this parameter created the modified three-factor model, which yielded the fit indices, $\chi^2(50) = 290.90$, $p < .001$, CFI = .96, RMSEA = .07, and SRMR =.05. Again, all parameter estimates were significant at $p < .001$. A chi-square difference test with $\chi^2(1) = 63.593$, $p < .001$, indicated that the modified three-factor model fit the data better than the hypothesized three-factor model.

and negative interactions (men, $r = -.49$; women, $r = -.25$, $z = 2.45$, $p < .05$), Knowledge of Warning Signs and conflict management (men, $r = .51$; women, $r = .30$, $z = 2.16$, $p < .05$), and Deciding and positive interactions (men, $r = .30$; women, $r = .07$, $z = 2.05$, $p < .05$) all displayed significantly different strengths by gender. For ease of presentation, Table 4 shows the associations for the sample as a whole.

Predictive validity. To examine predictive validity, we examined whether the RDS subscales predicted later relationship characteristics, controlling for those characteristics at T1 as well as relationship satisfaction at T1 using the subsample of participants who remained in the same relationships over the course of the semester (Table 5). None of the three subscales predicted relationship satisfaction or dedication at T2. As predicted, however, those with higher levels of relationship confidence at the beginning of the semester reported more positive interactions in their relationships at the end of the semester than those who scored lower on relationship confidence at the beginning of the semester ($\beta = .15$, $p = .002$). Contrary to expectations, initial levels of relationship confidence did not predict later conflict resolution after initial levels of the variable and relationship satisfaction were controlled. Additionally, the predictive relationships between relationship confidence and negative interaction ($\beta = -.11$, $p = .059$) and hookup behavior ($\beta = -.09$, $p = .081$) approached significance.

Contrary to expectations, scores on the Knowledge of Warning Signs subscale at the beginning of the semester did not predict levels of psychological aggression 14 weeks later. Initial scores on the Knowledge of Warning Signs subscale did predict, however, later levels of positive interaction ($\beta = .12$, $p = .027$), conflict management ($\beta = .15$, $p = .004$), conflict resolution ($\beta = .15$, $p = .009$), and negative interaction ($\beta = -.12$, $p = .038$), such that a higher score on the Knowledge of Warning Signs subscale at T1 predicted reports of more positive interaction, conflict management, and conflict resolution and less negative interaction at T2.

Although we predicted that higher scores on the Deciding subscale at the beginning of the semester would predict higher levels of dedication at the end of the semester, after relationship confi-

dence and dedication at T1 were controlled, the regression coefficient for deciding was not significant. However, higher levels of deciding at the beginning of the semester did predict higher levels of negotiation at the end of the semester ($\beta = .13$, $p = .010$). Using the full sample, we then examined whether deciding was related to later hookup behavior. As expected, we found that after controlling for alcohol consumption, higher deciding scores at the beginning of the semester predicted fewer hookups throughout the semester ($\beta = -.22$, $p < .001$).

Discussion

The present study provides further evidence that three factors underlie the RDS scale. A confirmatory factor analysis with the three subscales that emerged in Study 1 provided an adequate fit to the data. More important, this study provides data on the convergent, discriminant, and predictive validity of the RDS. As expected, the Relationship Confidence subscale was the subscale most highly correlated with relationship efficacy, and the Deciding subscale had the strongest association with self-control. In the absence of measures specifically designed to assess awareness of and ability to deal with warning signs in a relationship, our attempts to assess convergent validity were restricted to examining variables that might be expected to be related on theoretical grounds. As predicted, negative interaction was strongly correlated with the Knowledge of Warning Signs subscale; both the Relationship Confidence and Knowledge of Warning Signs subscales yielded the strongest relationship with psychological aggression. Again, the expected pattern of associations was found.

All remaining constructs, except negotiation, provided good evidence of concurrent validity. The three subscales were negatively related to hookup behavior and alcohol consumption, with the Deciding subscale having the strongest relationship. All three subscales were also inversely related to negative interactions and psychological aggression. Positive relationships were obtained between the subscales and conflict resolution behaviors, conflict management, relationship efficacy, relationship satisfaction, dedication, and self-control. In many instances, the Relationship Confidence subscale yielded the strongest relationship with the other relationship constructs. This lends support to our hypothesis that the strength of young adults' confidence in their ability to maintain relationships is important to consider when one is measuring the impact of relationship skills. As further evidence of discriminant validity, the Relationship Confidence and Deciding subscales were not related to social desirability, and the Knowledge of Warning Signs subscale was only very weakly related.

Gender differences also emerged in the relationship of the three RDS subscales with the other relationship constructs. The correlation between relationship confidence and psychological aggression, knowledge of warning signs and positive interactions, knowledge of warning signs and negative interactions, knowledge of warning signs and conflict management, and deciding and positive interactions were all stronger for men than women. This could reflect the fact that men who enroll for a course on families are particularly attuned to relationship issues or that the power to influence the relationship may vary by gender.

The findings of this study also speak to the predictive validity of the RDS. When examining relationship characteristics of those participants who maintained their relationships throughout the

Table 4
Concurrent Correlations for the Subscales of
Relationship Deciding Scale

Variable	Relationship Confidence	Warning Signs	Deciding
Self-control	.200**	.227**	.251**
Dedication	.351**	.156**	.217**
Positive interaction	.421**	.257**	.118**
Negotiation	−.091*	−.042	.037
Conflict management	.346**	.334**	.256**
Conflict resolution	.344**	.258**	.135**
Relationship efficacy	.416**	.359**	.239**
Recent relationship satisfaction	.438**	.324**	.202**
Negative interactions	−.269**	−.288**	−.124**
Psychological aggression	−.266**	−.265**	−.109*
Hooking up	−.145**	−.104*	−.287**
Binging	−.132**	−.139**	−.281**
Social desirability	.029	.111*	.053

$^* p < .05.$ $^{**} p < .01.$

Table 5
Standardized Beta Coefficients in Predictions of Later Relationship Characteristic

Variables/subscales	Relationship satisfaction	Positive interaction	Dedication	Negotiation	Conflict management	Conflict resolution	Negative interaction	Psychological aggression	Hook ups
Initial dependent variable score	.373***	.246***	.493***	.442***	.512***	.258***	.359***	.391***	—
Relationship Satisfaction	—	.131**	.028	.083	−.031	.024	.098	.033	—
Relationship Confidence	−.009	.111*	.076	−.009	.063	.154	−.112*	.001	−.094*
Warning Signs	.248	.120**	−.035	−.002	.147***	.149**	−.118**	−.058	.090
Deciding	.123	−.057	.053	.131***	−.062	.010	.040	−.004	−.220***
Alcohol consumption	—	—	—	—	—	—	—	—	.145***

* $p \leq .10.$ ** $p \leq .05.$ *** $p \leq .01.$

semester (14 weeks after the initial assessment), we found that the RDS subscales accounted for variance in later measures over and beyond that attributable to initial levels of the variable and relationship satisfaction. It is worth noting that controlling for relationship satisfaction in this way sets a high standard for demonstrating predictive validity and provides a very conservative test, making any findings particularly noteworthy. However, this is necessary because research on close relationships, especially marriage, is littered with conceptually overlapping constructs (Bradbury, Fincham, & Beach, 2000). Most notably, it is often useful to require that new constructs do more than capture variance in commonly used measures of relationship quality. Absent such a requirement, the new construct may simply function as a proxy index of relationship satisfaction.

On the basis of the ideas put forth by Stanley et al. (2006), we expected that greater deciding in relationships would be predictive of greater relationship satisfaction 14 weeks later. Contrary to our expectations, none of the RDS subscales predicted later levels of relationship satisfaction after initial satisfaction was controlled. This likely reflects ceiling effects, as there are often fewer constraints on romantic relationships in emerging adulthood, resulting in high levels of satisfaction. We hypothesized that higher scores on the Deciding subscale would predict higher levels of dedication 14 weeks later, but we found that this relationship was also not significant after controlling for initial level of dedication and relationship satisfaction. This may be partially due to the stability of dedication scores ($r = .63$) over the semester. Also, it may be that specific deciding around major transitions in the relationship, such as deciding to have sex or to live together, increases dedication and satisfaction in romantic relationships, rather than thoughtfulness in decision making in relationships in general. Unfortunately, we did not have the data to test this hypothesis. As expected, higher levels of relationship confidence at the beginning of the semester predicted higher levels of positive interaction at the end of the semester.

We also anticipated that higher reports of awareness of and ability to deal with warning signs in a relationship at the beginning of the semester would predict higher levels of positive interaction, conflict management, and conflict resolution, and lower levels of psychological aggression and negative interaction 14 weeks later. As expected, higher scores on the Knowledge of Warning Signs subscale at the beginning of the semester predicted positive interactions, conflict management, conflict resolution, and negative interactions in participants' romantic relationships 14 weeks later, but contrary to expectations, scores on the Knowledge of Warning

Signs subscale at the beginning of the semester did not predict later reports of psychological aggression after initial scores on these scales and relationship satisfaction were controlled. These findings suggest that those partners who are more attentive to the potential signs of danger in their relationships may take action to head off conflict and negative outcomes.

Finally, scores on the Deciding subscale predicted negotiation at the end of the semester, such that higher deciding at the beginning of the semester led to more negotiation during conflict in romantic relationships at the end of the semester. We also predicted that those who placed less emphasis on decision making in their relationships would be more likely to engage in hooking up over the course of the semester. Using the full participant sample (to include those not in romantic relationships at the beginning of the semester), we found that higher initial Deciding scores predicted lower levels of hookup behavior throughout the semester after we accounted for alcohol consumption. This suggests that deciding may reduce impulsive relationship behavior even when alcohol is involved. Further research is needed to determine whether deciding behavior moderates the relationship between hooking up and psychological outcomes.

Study 2b

Our goal in this study was to provide further validity data for the RDS subscales by examining the association between the RDS subscales and three individual difference variables, namely, sociosexual orientation (Simpson & Gangestad, 1991), desire for ambiguity in relationships, and attachment security. We expected that deciding in relationships would be negatively related to sociosexuality and desire for ambiguity in relationships. Further, we expected that attachment would not be strongly correlated with deciding in romantic relationships.

Method

Sample. Participants were 1,005 undergraduate students (706 women and 299 men) in an introductory family relations course. The mean age of participants was 19.46 years ($SD = 1.50$). They were mostly White (68%), with some African American (12%) and Latino (12%) participants. The remainder of participants indicated they were Asian, mixed race, or "other." Forty-eight percent of students (231 women and 66 men) answered yes to the question "Are you currently in a romantic relationship?" The majority described their relationship as dating exclusively (87%), with the

rest describing their relationship as dating (7%), engaged (2%) or married (3%).

Procedure and measures. Students in the class were offered multiple options to earn class credit, including this survey. IRB approval was obtained prior to any data collection. Students completed the survey including the following measures during the second week of the semester (Time 1) and again, 14 weeks later, during the last week of classes (Time 2).

Decision making in relationships. Participants completed the 12 RDS items described earlier on a 5-point scale, ranging from *strongly disagree* (1) to *strongly agree* (5). Items were coded so that higher scores indicated higher relationship confidence, awareness of and ability to deal with warning signs, and thoughtfulness regarding relationship decisions. Coefficient alphas for those in romantic relationships were .87 for Relationship Confidence, .85 for Knowledge of Warning Signs, and .72 for Deciding.

Sociosexuality. Participants answered six questions from the Sociosexual Orientation Inventory (Simpson & Gangestad, 1991) regarding their willingness to engage in uncommitted sexual relations. Three of the questions were fill-in-the-blank regarding the number of sexual partners the participants had had in the past and expected in the future, and the focus of the remaining questions was participants' attitudes toward uncommitted sexual relations on a scale from *strongly disagree* (1) to *strongly agree* (9). Coefficient alpha was .83 in our sample.

Relational ambiguity. Desire to keep relationship status unclear was measured by four items: "I don't really want to clarify where this relationship is headed," "I would rather things be kind of vague about what our relationship is," "I try to avoid having the talk (DTR, "defining the relationship) with my partner," and "It is important to me to know what this relationship means to us so we have a good future." Participants respond to each item on a scale ranging from *strongly disagree* (1) to *strongly agree* (7). The fourth item was recoded, and item scores were summed such that a higher score indicates greater desire for relational ambiguity. Coefficient alpha was .83 in our sample.

Attachment. The short form of the Experiences in Close Relationship Scale (Wei, Russell, Mallinckrodt, & Vogel, 2007) was used to assess attachment in relationships. Six items represented attachment avoidance ($\alpha = .86$), and six items represented attachment anxiety ($\alpha = .74$). Participants responded to items on a 7-point Likert scale ranging from *strongly disagree* (1) to *strongly agree* (7). Items were scored such that higher scores indicated more attachment avoidance and anxiety.

Results

We began by examining the correlations between the RDS subscales and our variables of interest. The RDS subscales all correlated negatively with sociosexuality, the strongest relationship being with Deciding (Relationship Confidence, $r = -.29$, $p < .001$; Knowledge of Warning Signs, $r = -.14$, $p = .015$; Deciding, $r = -.33$, $p = .005$). Desire for ambiguity in relationships was negatively related to all three of the RDS subscales: Relationship Confidence ($r = -.29$, $p < .001$), Knowledge of Warning Signs ($r = -.15$, $p = .012$), and Deciding ($r = -.20$, $p = .001$). Correlations between the RDS subscales and attachment indicated that attachment avoidance was inversely related to Relationship Confidence ($r = -.33$, $p < .001$) and Knowledge of Warning

Signs ($r = -.28$, $p < .001$) and only weakly related to Deciding ($r = -.12$, $p = .04$). Attachment anxiety was also negatively related to Relationship Confidence ($r = -.16$, $p < .01$) and Knowledge of Warning Signs ($r = -.32$, $p < .001$) but not related to Deciding ($r = -.04$, $p > .05$).

In order to further examine predictive validity, we conducted a regression analysis predicting sociosexuality at T2 from the RDS scales, controlling for initial level of sociosexuality. Deciding ($\beta = -.10$, $p = .038$) at T1 and initial sociosexuality ($\beta = .72$, $p < .001$), predicted sociosexuality at T2. Regression coefficients for Relationship Confidence and Knowledge of Warning Signs at T1 were not significant. Our data set did not include attachment or desire for ambiguity in relationships at T2.

Discussion

In this study, we sought to provide further validity data for the RDS subscales by examining the association between the RDS subscales and the individual difference variables of sociosexual orientation, desire for ambiguity in relationships, and attachment. In further support of discriminant validity, we found that conscious decision making in relationships was negatively related to willingness to engage in uncommitted sexual relations and that Deciding at T1 predicted sociosexual orientation at T2 when T1 sociosexual orientation, Knowledge of Warning Signs, and Relationship Confidence were controlled. This suggests that promoting conscious decision making with young adult populations may reduce future casual sexual behavior. Also as expected, desire for ambiguity in relationships was negatively related to all three RDS subscales. In regards to attachment, we found that attachment avoidance and anxiety were negatively related to Knowledge of Warning Signs and Relationship Confidence, which suggests that those who are more avoidant and anxiously attached may pay less attention to warning signs in their relationships and have lower relationship confidence. However, in line with our expectations, attachment avoidance was weakly related and attachment anxiety was not related to decision making in relationships. Further research is needed on the impact of interventions aimed at increasing conscious decision making by young adults in relationships.

Study 3

Study 3 included data for three time points, which allowed us to explore change in the scale due to an intervention specifically designed to increase undergraduates' ability to decide in romantic relationships. We hypothesized that (a) the three subscales would display sensitivity to change over time (specifically between the beginning and the end of the semester) and (b) participants who received an intervention targeted at increasing active decision making in relationships would demonstrate larger increase in Knowledge of Warning Signs and Deciding subscale scores over the course of the semester than the comparison group. We expected that relationship confidence would be more firmly grounded in past experience and thus would not be as sensitive to change over the course of a semester as the other two subscales (Cui, Fincham, & Pasley, 2008).

Method

Sample. Participants were 936 undergraduate students in an introductory family relations course at the same large southern

U.S. university as in the previous two studies. Although students were free to register for any available course section, they were blind to condition when doing so. Course sections were designated as treatment or control before the semester began. One hundred and thirty-one students did not participate in the full study and were dropped from the sample. Attrition analysis revealed that 38 of these students were from the comparison group (21% of the comparison group) and 93 of these students were from the intervention group (12% of the intervention group), possibly reflecting the early time of the day at which the control condition was offered. Compared with those who completed the scale at all three time points, those who dropped out were more likely to be African American and male. Potential reasons for students not participating in the survey at all three time points include dropping the class, not completing one of the surveys by the due date, or missing too many control questions, all of which resulted in a participant being dropped from the study.

Our final sample consisted of 805 students (139 from the comparison group and 666 from the intervention group). The mean age of students in the comparison group (114 women and 25 men) was 19.82 years (SD = 1.71). In the comparison group, 76% of participants indicated their ethnicity as White, 7% African American, 12% Latino, and the remainder of participants indicated they were Asian, mixed race, or "other." Of the 56% of the comparison group participants indicating they were in a relationship at T1, 98% indicated that they were in heterosexual relationships. The mean age of students in the intervention group (492 women and 172 men) was 19.60 years (SD = 2.40). Of these participants, 70% indicated their ethnicity as White, 11% as African American, and 9% as Latino; the remainder of participants indicated they were Asian, mixed race, or "other." Of the 47% of the students in the intervention group in relationships at T1, 99% indicated they were in heterosexual relationships.

Procedure and measures. The intervention was delivered in the context of a 3-credit university-wide course that met liberal studies requirements in social sciences; thus students could potentially represent all programs of study available at the university. At the beginning of the semester and twice more at 7-week intervals, students completed a battery of questionnaires through an online survey. Participants received course credit for their participation, and IRB approval was obtained prior to any data collection. Assignment to condition was not random as students were free to sign up for any available course section. However, students were blind to condition when they signed up.

Relationship U. Based on the Within My Reach curriculum (Pearson, Stanley & Kline, 2005), Relationship U (RU) was developed to educate students about risk and protective factors for relationship dysfunction and provide tools to diminish the influence of risk factors and enhance protective factors; it was designed to be applicable to students regardless of their current romantic relationship status. The curriculum covers topics such as mate selection, family background influences on relationships, relationship expectations, gender roles, communication skills, and conflict management with the themes of making explicit decisions and safety in relationships running throughout. Students (N = 666) in this condition attended two large lectures each week (50 min per class for 13 weeks), along with one smaller breakout session of only 20–30 students on Fridays in which they received the intervention. Breakout sessions included interactive exercises and homework assignments where students applied the concepts and skills learned in the intervention. These breakout sessions (but not the lecture sessions) were led by graduate student and postdoctoral instructors (naïve to study hypotheses) who had received 24 hr of training in curriculum delivery. These breakout sessions were not extra classes; rather, they took the place of one of the existing lecture class sessions each week.

Control condition. Owing to pressure from our funding agency to offer the intervention as widely as possible, the ratio of participants in the intervention condition to participants in the control condition was approximately 5:1. Students (N = 139) in this condition received instruction that was identical to the treatment condition except for the fact that they did not receive Relationship U content in one of their weekly classes. The content of class was based on a widely used introductory text (Lamanna & Riedmann, 2009) that provides an overview of theory and research on marriage and families. Learning this kind of information (e.g., information about mate selection, communication in close relationships, hooking up, and "friends with benefits") may serve to promote healthier relationship choices, but the class did not have an applied, skill-based focus as the RU breakout sessions did. All classes followed a lecture format.

Students in all sections of the class were offered multiple options to earn extra credit. One of the options, approved by the IRB, was to complete an online survey that included the RDS. Students completed the online survey during the second week of the semester (T1), 7 weeks into the semester (T2), and again, 7 weeks later (T3).

Relationship Deciding Scale (RDS). The RDS consisted of 12 questions each answered on a 5-point scale, ranging from *strongly disagree* to *strongly agree*. Alphas in the current sample were Relationship Confidence (αs = .90 for the intervention group and .91 for the comparison group); Knowledge of Warning Signs (αs = .82 and .81 for intervention and comparison groups, respectively), and Deciding (αs = .68 for the intervention group and .78 for the comparison group).

Results

Latent growth curve (LGC) analysis was used to examine the data. LGC represents repeated measures of a given concept as a function of time (Willet & Sayer, 1994). Each time point measurement is an indicator of two latent growth factors, initial status and linear change or slope, on which individuals may vary (Hancock & Lawrence, 2006; Kline, 2005). Because initial status is similar to the intercept in a regression equation (Kline, 2005), the unstandardized loadings of all indicators (the three time points for each subscale) on initial status were fixed to 1. To specify a linear trend, we fixed the loading of T1 on slope to 0, T2 at 1, and T3 at 2. We constructed three separate LGC models, one for each of our three subscales.

We analyzed change in each subscale using a two-step procedure (Kline, 2005). We first analyzed the change model (the model with just the repeated measures and two latent factors) for each of the subscales in order to evaluate the covariance, variances, and means of the two factors. We then included participants' group membership as a covariate to determine if group membership predicted initial status and slope for each of the subscales (see Figure 2). Group membership was coded 0 (comparison group)
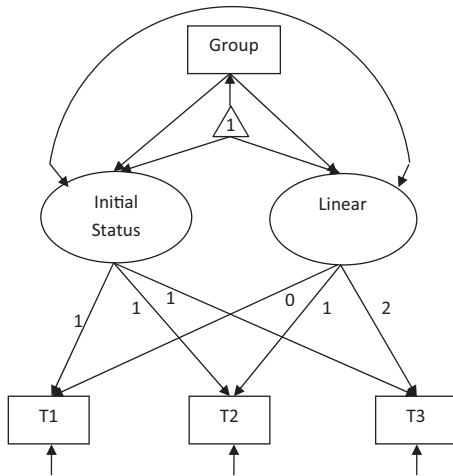
Figure 2. Growth curve model with group as a covariate. T1, T2, and T3 = Time 1, Time 2, and Time 3, respectively.

and 1 (intervention group). Missing data was handled using full information maximum likelihood. Model chi-square test, CFI, RMSEA, and SRMR were used to evaluate overall model–data fit.

Relationship Confidence. The change model for the Relationship Confidence subscale yielded $\chi^2(1) = 2.22$, $p = .36$. Other fit indices also indicated that the model was a good fit to the data, CFI = 1.0, RMSEA = .039, SRMR = .011. The estimated mean of the initial status factor was 16.42, and the estimated mean of the slope factor was 0.14. The estimated variances for initial status and slope were 6.50 and 1.25, respectively, and each was statistically significant at the .001 level. These values indicate that students were not homogeneous either on their initial level or in the slopes of subsequent linear changes in relationship confidence. The covariance between the two latent factors is −1.019 and is significant at the .05 level, indicating that higher initial scores on the Relationship Confidence subscale predict lower rates of linear increase in the scale, likely due to ceiling effects.

With an adequate model of change, we then analyzed whether group membership predicted change in relationship confidence over the semester. As in the change model, the fit indices indicated the model was a good fit, $\chi^2(2) = 2.232$, $p = .328$, CFI = 1.0, RMSEA = .012, SRMR = .009. As expected, the unstandardized direct effect of group on initial status and on slope was not significant. This indicates that students who received relationship education did not differ on initial status or in change from those in the comparison group.

Knowledge of Warning Signs. The same two-step procedure was conducted for the Knowledge of Warning Signs subscale. The change model yielded $\chi^2(1) = 2.027$, $p = .155$. Other fit indices also indicated the model fit the data well, CFI = 1.0, RMSEA = .036, SRMR = .011. The estimated mean of the initial status factor was 10.60, and the estimated mean of the slope factor was 0.44. The estimated variances for initial status and slope were 4.74 and 0.88, respectively, and each was statistically significant at the .001 level. These values indicated that students were not homogeneous on either their scores on the Knowledge of Warning Signs subscale at the beginning of the semester or in their rate of change. The covariance between the two latent factors was −.884, $p < .001$,

indicating that higher initial scores on the Knowledge of Warning Signs subscale predict lower rates of linear increase in scores over the semester.

With group added as a covariate, the fit indices indicated the model was a good fit to the data with $\chi^2(2) = 2.316$, $p = .316$, CFI = 1.0, RMSEA = .014, SRMR =.009. The unstandardized direct effect of group on initial status was −0.38, $p = .121$, indicating that the two groups did not significantly differ on initial status. The unstandardized direct effect of group on slope was 0.514, $p < .001$ level, indicating the students who received relationship education, on average, showed greater increase in knowledge and ability to act on warning signs over the semester.

Deciding. The change model for the Deciding subscale yielded $\chi^2(1) = 0.007$, $p = .932$, CFI = 1.0, RMSEA = .000, SRMR = .001, indicating that the change model is a good fit to the data. The estimated mean of the initial status factor was 18.58, and the estimated mean of the slope factor was 0.22. The estimated variances for initial status and slope were 6.26 and 0.65, respectively. The variance for initial status was significant at the .001 level, and the variance of the slope ($p = .06$) was marginally significant. These values indicate that students were not homogeneous on their scores on the Deciding subscale at the beginning of the semester but were more similar in their growth rates on the scale over the semester. The covariance between the two latent factors was −.208, $p < .001$, indicating that higher initial scores on the Deciding subscale predicted lower rates of linear increase in the scale.

Adding group as a predictor of initial status and slope yielded a good fit to the data, $\chi^2(2) = 4.034$, $p = .133$, CFI = 1.0, RMSEA = .036, SRMR = .013. The unstandardized direct effect of group on initial status was −0.145, $p = .645$, indicating that the two groups did not significantly differ on their initial status. The unstandardized direct effect of group on slope was 0.642 and was significant at the .001 level, indicating the students who received relationship education showed a larger increase in their score on the Deciding subscale over the semester.

Discussion

In Study 3, we collected data at three time points, which allowed us to explore linear change in the scale due to an intervention specifically designed to increase undergraduates' ability to decide in romantic relationships. As anticipated, relationship education did influence scores on the Knowledge of Warning Signs and Deciding subscales but did not influence scores on the Relationship Confidence subscale over the course of the semester. The results of the current study provide evidence that the RDS is sensitive to change over time and that young adults' thoughtfulness regarding relationship decisions and their awareness of and ability to deal with warning signs in a relationship can be increased with relationship education.

General Discussion

The ideas put forth by Stanley et al. (2006) regarding the increased risks that accrue when partners slide through relationship transitions due to increases in constraints without the accompanying increase in dedication are becoming potentially more and more pertinent to current romantic relationships. For example, data from

a qualitative study showed that 53% of people who cohabit reported no deliberate decision making about moving in together (Manning & Smock, 2005). Similarly, in a national study of young adults "two thirds reported they did not make a clear decision to live together and instead they 'slid into it' or it 'just sort of happened'" (Stanley et al., 2011, p. 236). This is noteworthy for two reasons. First, premarital cohabitation is pervasive in the United States, with a majority of young adults now cohabiting before marriage (Bumpass & Lu, 2000; Rhoades, Stanley, & Markman, 2009). Second, cohabitation is, in particular, an ambiguous form of union (Lindsay, 2000). Unlike marriage or engagement, cohabiting as a status conveys little information beyond the status of seriously dating, and some scholars have argued that there is a growing preference for relationship ambiguity among young adults (Stanley et al., 2011). As the definitions and transitions of romantic relationships become more ambiguous, the need for clarification and active decision making in relationships becomes more necessary. Lack of decision making in relationships around sex and birth control also represent slides that could increase constraints for this population through pregnancy or sexually transmitted diseases. Constraints can serve to prolong relationships that otherwise would have ended, leading to lower relationship quality and possibly future divorce (Stanley et al., 2006). Surra, Chandler, Asmussen, and Wareham (1987) found that couples who marry for event-driven reasons, such as pregnancy, finances, and so on, experience more conflict and ambivalence than those who marry due to positive characteristics in the relationship.

No scale to date has been created to assess thoughtfulness regarding relationship decisions. In the present studies, therefore, we reported on the development of one such scale, the Relationship Deciding Scale.

The results indicate that thoughtfulness regarding relationship decisions, awareness of and ability to deal with warning signs in a relationship, and confidence in being able to maintain a relationship are related to relationship outcomes concurrently and 14 weeks later. Moreover, it is clear that thoughtfulness regarding relationship decisions and awareness of warning signs are sensitive to change through an intervention designed to teach young adults about healthy relationships. However, owing to the correlational nature of the data, we could not determine whether the level of relationship confidence, knowledge of warning signs, or deciding causes the level of relationship behaviors and characteristics investigated. It may also be that bidirectional influences exist between these variables. Research has yet to be conducted on how changes in thoughtfulness regarding relationship decisions impact relationship characteristics and behaviors. Additionally, thoughtfulness about relationship decisions may impact relationships differently at different points in the relationship or for people with different amounts of relationship experience. For example, in Study 2a, those not in romantic relationships demonstrated significantly less relationship confidence, $t(957) = 7.93$, $p < .001$, and knowledge of warning signs, $t(953) = 2.06$, $p = .04$, than those currently in romantic relationships.

A scale assessing decision making in relationships makes it possible to screen and intervene with couples or individuals at risk for future relationship distress due to lack of clearly formed commitment. This may be particularly salient for couples or individuals who are likely to experience relationship transitions (e.g. cohabitation, sex, engagement, marriage, childbearing, and so

forth) in the near future such as young adults or as newly single older adults. Interventions to promote active decision making can then be implemented. In a clinical setting, assessing for sliding behavior with couples reporting low commitment may help inform the course of therapy. Additionally, it would be important to include an assessment of sliding behavior in research on cohabiting relationships or relationships in which constraints may lead to the continuance of relationships that would otherwise end.

Although the results of this study are encouraging for the development of the RDS as a self-report assessment of thoughtfulness in romantic relationships, it is important to remember that our samples consisted of college students, with an overrepresentation of women in heterosexual relationships, which limits generalizability of the findings. The utility of the RDS with older adults has yet to be examined. Additionally, it would be ideal to include observationally coded behavioral measures in the place of self-report data for variables such as negotiation or psychological aggression. These limitations are tempered by the fact that our sample was large and ethnically diverse, that college students are a population facing many relationship transitions, and that intervention with this group could prevent young adults from later entering into relationships, or marriages, held together by constraints rather than dedication.

Future research is needed to cross validate the associations and factor structure of the RDS in different populations. In addition, studies with observationally coded behavioral measures are needed, particularly studies that could reveal whether interventions aimed at increasing thoughtfulness in relational decision making improve observed relationship processes over time.

Notwithstanding these limitations, the development of the RDS represents an important step in that it provides a tool for assessment of deciding in romantic relationships. At a theoretical level, its importance is emphasized by the need to evaluate the phenomenon of inertia in relationships. It is also important at a practical level. With the advent of preventive interventions aimed at improving relationships on college campuses (see Fincham, Stanley, & Rhoades, in press), the practical need for a psychometrically sound assessment of deciding in romantic relationships is becoming evident.

References

Bandura, A. (1986). *Social foundations of thought and action: A social cognitive theory.* Englewood Cliffs, NJ: Prentice–Hall.

Bradbury, T. N., Fincham, F. D., & Beach, S. R. H. (2000). Research on the nature and determinants of marital satisfaction: A decade in review. *Journal of Marriage and the Family, 62,* 964–980. doi:10.1111/j.1741-3737.2000.00964.x

Browne, M. W., & Cudeck, R. (1993). Alternative ways of assessing model fit. In K. A. Bollen & J. S. Long (Eds.), *Testing structural equation models* (pp. 445–455). Newbury Park, CA: Sage.

Buhrmester, D., Furman, W., Wittenberg, M. T., & Reis, H. T. (1988). Five domains of interpersonal competence in peer relationships. *Journal of Personality and Social Psychology, 55,* 991–1008. doi:10.1037/0022-3514.55.6.991

Bumpass, L., & Lu, H. (2001). Trends in cohabitation and implications for children's family contexts in the United States. *Population Studies, 54,* 29–41. doi:10.1080/713779060

Cui, M., Fincham, F. D., & Pasley, K. (2008). Young adult romantic relationship: The role of parents' marital problems and relationship

efficacy. *Personality and Social Psychology Bulletin, 34,* 1226–1235. doi:10.1177/0146167208319693

Dawson, D. A., & Room, R. (2000). Towards agreement on ways to measure and report drinking patterns and alcohol-related problems in adult general population surveys: The Skarpö conference overview. *Journal of Substance Abuse, 12,* 1–21. doi:10.1016/S0899-3289(00)00037-7

DiStefano, C., & Motl, R. W. (2006). Further investigating method effects associated with negatively worded items on self-report surveys. *Structural Equation Modeling, 13,* 440–464. doi:10.1207/s15328007sem1303_6

Fincham, F. D., Cui, M., Braithwaite, S., & Pasley, K. (2008). Attitudes toward intimate partner violence in dating relationships. *Psychological Assessment, 20,* 260–269. doi:10.1037/1040-3590.20.3.260

Fincham, F. D., Harold, G., & Gano-Phillips, S. (2000). The longitudinal relation between attributions and marital satisfaction: Direction of effects and role of efficacy expectations. *Journal of Family Psychology, 14,* 267–285. doi:10.1037/0893-3200.14.2.267

Fincham, F. D., Stanley, S. M., & Rhoades, G. (in press). Relationship education in emerging adulthood: Problems and prospects. In F. D. Fincham & M. Cui (Eds.), *Romantic relationships in emerging adulthood.* New York, NY: Cambridge University Press.

Finney, S. J., & DiStefano, C. (2006). Non-normal and categorical data in structural equation models. In G. R. Hancock & R. O. Mueller (Eds.), *Structural equation modeling: A second course.* (pp. 269–314). Greenwich, CT: Information Age.

Grych, J. H., Seid, M., & Fincham, F. D. (1992). Assessing marital conflict form the child's perspective: The Children's Perception of Interparental Conflict Scale. *Child Development, 63,* 558–572. doi:10.2307/1131346

Hancock, G. R., & Lawrence, F. R. (2006). Using latent growth models to evaluate longitudinal change. In G. R. Hancock & R. O. Mueller (Eds.), *Structural equation modeling: A second course* (pp. 171–197). Greenwich, CT: Information Age Publishing.

Hu, L., & Bentler, P. M. (1999). Cutoff criteria for fit indexes in covariance structure analysis: Conventional criteria versus new alternatives. *Structural Equation Modeling, 6,* 1–55. doi:10.1080/10705519909540118

Kline, R. B. (2005). *Principles and practices of structural equation modeling* (2nd ed.). New York, NY: Guilford Press.

Lamanna, M. A., & Riedmann, A. (2009). *Marriages and families: Making choices in a diverse society* (9th ed.). Belmont, CA: Thomson.

Lindsay, J. M. (2000). An ambiguous commitment: Moving into a cohabiting relationship. *Journal of Family Studies, 6,* 120–134. doi:10.5172/jfs.6.1.120

Lopez, F. G., Morúa, W., & Rice, K. G. (2007). Factor structure, stability, and predictive validity of college students' relationship self-efficacy beliefs. *Measurement and Evaluation in Counseling and Development, 40,* 80–96.

Manning, W. D., & Smock, P. (2005). Measuring and modeling cohabitation: New perspectives from qualitative data. *Journal of Marriage and Family, 67,* 989–1002. doi:10.1111/j.1741-3737.2005.00189.x

Markman, H. J., Stanley, S. M., & Blumberg, S. L. (1994). *Fighting for your marriage: Positive steps for a loving and lasting relationship.* San Francisco: Jossey–Bass, Inc.

Marsh, H. W., Hau, K.-T., & Wen, Z. (2004). In search of golden rules: Comment on hypothesis-testing approaches to setting cutoff values for fit indexes and Warnings in overgeneralizing Hu and Bentler's (1999). findings. *Structural Equation Modeling, 11,* 320–341. doi:10.1207/s15328007sem1103_2

Muthén, L. K., & Muthén, B. O. (1998–2007). *Mplus user's guide* (5th ed.). Los Angeles, CA: Authors.

Newton, R. R., Connelly, C. D., & Landsverk, J. A. (2001). An examination of measurement characteristics and factorial validity of the Revised Conflict Tactics Scale. *Educational and Psychological Measurement, 61,* 317–335.

Owen, J., Rhoades, G., Stanley, S., & Fincham, F. D. (2010). Hooking up: Relationship differences and psychological correlates. *Archives of Sexual Behavior, 39,* 553–563.

Pearson, M., Stanley, S., & Kline, G. (2005). *Within My Reach: Instructor manual.* Greenwood Village, CO: PREP for Individuals.

Rhoades, G. K., Stanley, S. M., & Markman, H. J. (2009). Couples' reasons for cohabitation. *Journal of Family Issues, 30,* 233–258. doi:10.1177/0192513X08324388

Sassler, S. (2010). Partnering across the life course: Sex, relationships, and mate selection. *Journal of Marriage and Family, 72,* 557–575. doi:10.1111/j.1741-3737.2010.00718.x

Simpson, J. A., & Gangestad, S. W. (1991). Individual differences in sociosexuality: Evidence for convergent and discriminant validity. *Journal of Personality and Social Psychology, 60,* 870–883. doi:10.1037/0022-3514.60.6.870

Stanley, S. M., & Markman, H. J. (1992). Assessing commitment in personal relationships. *Journal of Marriage and the Family, 54,* 595–608. doi:10.2307/353245

Stanley, S. M., & Markman, H. J. (1997). *The Communication Danger Signs Scale.* Unpublished manuscript, University of Denver, Colorado.

Stanley, S. M., Rhoades, G. K., & Fincham, F. D. (2011). Understanding romantic relationships among emerging adults: The significant roles of cohabitation and ambiguity. In F. D. Fincham & M. Cui (Eds.), *Romantic relationships in emerging adulthood* (pp. 234–251). New York, NY: Cambridge University Press.

Stanley, S. M., Rhoades, G. K., & Markman, H. J. (2006). Sliding versus deciding: Inertia and the premarital cohabitation effect. *Family Relations, 55,* 499–509. doi:10.1111/j.1741-3729.2006.00418.x

Straus, M. A., Hamby, S. L., Boney-McCoy, S., & Sugarman, D. B. (1996). The Revised Conflict Tactics Scales (CTS2): Development and preliminary psychometric data. *Journal of Family Issues, 17,* 283–316. doi:10.1177/019251396017003001

Surra, C. A., Chandler, M., Asmussen, L., & Wareham, J. (1987). Effects of premarital pregnancy on the development of interdependence in relationships. *Journal of Social & Clinical Psychology, 5,* 123–139. doi:10.1521/jscp.1987.5.1.123

Tangney, J. P., Baumeister, R. F., & Boone, G. M. (2004). High self-control predicts good adjustment, less pathology, better grades, and interpersonal success. *Journal of Personality, 72,* 271–324. doi:10.1111/j.0022-3506.2004.00263.x

Wei, M., Russell, D. W., Mallinckrodt, B., & Vogel, D. L. (2007). The Experiences in Close Relationship Scale (ECR)–Short Form: Reliability, validity, and factor structure. *Journal of Personality Assessment, 88,* 187–204. doi:10.1080/00223890701268041

Willett, J. B., & Sayer, A. G. (1994). Using covariance structure analysis to detect correlates and predictors of individual change over time. *Psychological Bulletin, 116,* 363–381.