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Adolescents' relational schemas and their subjective understanding of romantic relationship interactions

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Abstract

This study examines the association between adolescents' relational schemas and their subjective understanding of interactions in the context of male–female romantic relationships. We employed an innovative multimodal methodology: the video-recall system [Welsh, D. P., & Dickson, J. W. (2005). Video-recall procedures for examining subjective understanding in observational data. *Journal of Family Psychology*, 19(1), 62–71], which includes both adolescent participants' perspectives, as well as those of trained coders. Dyadic structural equation modeling (SEM) with latent variables was used to examine two dependent variables: Discomfort and Power. Relational schemas were only associated with the participants' interpretation of Discomfort, and did not differ by gender. The association between relational schemas and Power were different by gender, suggesting males and females with more vulnerable relational schemas may employ different strategies to cope with their insecurity. Males' relational schemas were also associated with the observers' interpretations of Power for both couple members. Possible implications of this finding for attachment theory and adolescent romantic relationships are discussed.

Keywords

Relational schemas; Observational; Romantic relationships; Attachment; Subjective understanding; Video-recall procedure

Romantic relationships during adolescence are relatively common. Nearly 65% of adolescents experience a romantic relationship during their teenage years (Carver, Joyner, & Udry, 2003). The importance of these relationships spans a number of pivotal domains of adolescent functioning, including identity development (e.g., Connolly & Konarski, 1994; Harter, 1988), peer relationships (e.g., Connolly, Furman, & Konarski, 2000; Furman, 1999), sexual development (e.g., Abma & Sorenstein, 2001; Welsh, Rostosky, & Kawaguchi, 1999), and depression (e.g., Welsh, Grello, & Harper, 2003). Adolescent romantic relationships can be exciting or stressful due to the challenge of relating in romantic contexts, the expectation of mastering romantic relationships (Larson, Clore, & Wood, 1999), and the inherent need to make sense of them. Despite being a domain not yet encountered, previous experiences in intimate relationships provide a lens through which the current situation may be viewed and then interpreted (Bowlby, 1982). This lens has been previously termed a “relational view” (Furman & Wehner, 1994), which refers to the preconceptions, expectations, and perceptions held about certain relationships. Specific views are formed regarding different types of relationships, which are continuously

reworked with each new experience, and are thought to influence adolescents' behaviors and interpretations (Furman & Wehner, 1994).

In this article, we describe a latent construct we have termed a relational schema. We believe relational schemas share many of the functions of relational views, specifically, that they are associated with the way in which adolescents' interpret interactions with their romantic partner. The purpose of the current study is to examine the association between adolescents' relational schemas and how they interpret interactions with their opposite-sex romantic partner. The current study employs a multimodal measurement, allowing adolescent couple members' subjective understandings of an interaction to be examined alongside that of trained observer interpretations. We examine two outcome variables, one affective and one behavioral, which are each composed of two measures of related dimensions. Power, the behavioral outcome, is a composite of persuasion (an attempt to gain power from the partner) and conceding (relinquishing power to the partner). The two dimensions of the Discomfort outcome are frustration and uncomfortableness, which are different, yet highly related, experiences of negative affect.

Elements of the relational schema construct

We chose three interrelated elements that assess both the global and specific nature of the relational schema construct: perceived quality of peer attachment, rejection sensitivity, and self-silencing. The theoretical foundations of each of these elements are rooted in the basic tenets of attachment theory, and were combined into the relational schema construct to obtain a multi-measure variable. Despite their interrelatedness, each of the three aspects of a relational schema provides a unique contribution to the construct as a whole, and when combined, provides both global views of relationships, and views specific to romantic relationships. We believe this multimodal measurement more accurately represents the way in which relational schemas impact interpretation and understanding of interaction.

Armsden and Greenberg (1987) describe the Inventory of Parent and Peer Attachment (IPPA) as a measure that "assesses cognitive representations of attachment" (p. 68). Researchers currently understand the IPPA to measure perceptions of attachment quality to peers and parents (e.g., Allen et al., 2003). In previous research, attachment constructs were found to be associated with adolescent dating couples' interactions (Creasey & Hesson-McInnis, 2001; Furman & Simon, 2006) and those of young adult dating couples (Campbell, Simpson, Kashy, & Rholes, 2001; Furman & Simon, 2006; Treboux, Crowell, & Waters, 2004). A number of studies have also shown that attachment constructs affect how individuals interpret their interactions (e.g., Campbell, Simpson, Boldry, & Kashy, 2005; Creasey, Kershaw, & Boston, 1999; Roisman, Collins, Sroufe, & Egeland, 2005). In comparison, secure attachment has been associated with involvement in an exclusive romantic relationship (Furman & Wehner, 1994), higher relationship quality (Simpson, 1990) and greater levels of intimacy (Bartholomew & Horowitz, 1991). Additionally, adolescence marks a time of attachment transition: As parental relationships deteriorate in the eyes of adolescents, they move toward peers as the primary attachment source, particularly in proximity-seeking and safe haven aspects of attachment (Allen & Land, 1999; Nickerson & Nagle, 2005), suggesting that attachment to peers may be a more salient measure.

Rejection sensitivity theory posits that previous experiences of caregiver, peer, or romantic partner rejection lead to activation of a cognitive-affective processing system, sensitive to cues of possible further rejection (Downey & Feldman, 1996). Rejection sensitive individuals may behave in ways that confirm their rejection expectancy, or they may exhibit compliant behaviors aimed at thwarting rejection (e.g., Downey & Feldman, 1996; Downey,

Freitas, Michaelis, & Khouri, 1998). These highly anxious individuals may be more sensitive to negative cues that signify changes in the level of possible rejection because they place greater importance on the negative aspects of their interactions (Gaelik, Bodenhausen, & Wyer, 1985). Downey and Feldman's (1996) initial study with this construct indicated that young adults higher in rejection sensitivity were more likely to interpret their partner's ambiguous behaviors as being intentionally rejecting. Rejection sensitivity in the context of young adult dating couples has been linked to post-conflict anger and negativity (Downey et al., 1998) and greater hostility and conflict (Ayduk, Downey, Testa, Yen, & Shoda, 1999).

The third element of relational schemas, self-silencing, is the only one posited to be specific to romantic relationships. Jack and Dill (1992) explicitly identify self-silencing as a specific cognitive schema based primarily on phenomenological experience of reality in the context of romantic relationships. Silencing the self-theory posits that individuals tend to suppress the expression of thoughts and opinions to their partner due to the perception that this self-expression would lead to a dissolution of the relationship and a loss of the romantic partner (Jack, 1991). Research with romantic couples shows links between high self-silencers and poorer marital adjustment (Thompson, 1995), higher levels of spouse intolerance and increased spousal criticism following a conflict (Thompson, 1995; Thompson, Whiffen, & Aube, 2001), and higher levels of depression (Harper, Dickson, & Welsh, 2006; Thompson et al., 2001).

Relational schemas encompass more than just security or quality of attachment. Thus, we have chosen language that is less polarizing to describe relational schemas. For example, a person who scores high in rejection sensitivity (more sensitive to rejection) and self-silencing (more self-silencing behaviors) as well as having lower perceived attachment quality to peers is classified as possessing a more vulnerable relational schema. The opposing, healthier classification is a less vulnerable relational schema. We have chosen this language due to the overarching nature of relational schemas as lenses through which relationships are viewed.

Interaction and adolescent romantic relationships

Empirical research in this area has used videotaped interactions of couples involved in a conflictual conversation to activate the attachment system. Feeney (1999) theorized a strong connection between working models of attachment and their activation during times of conflict, especially when there is a perceived threat to the future of the relationship. Previous studies examining romantic couple interactions support the link between a general insecure attachment and negative behaviors during a laboratory-based conflictual interaction (e.g., Campbell et al., 2005; Creasey & Hesson-McInnis, 2001; Murray, Bellavia, Rose, & Griffin, 2003). These studies have relied on either the perspective of trained observers or the participants themselves, and have noted that the absence of independent observers, that could have confirmed how each partner was affected during the interaction, is a limitation.

The current study

The purpose of the current study is to examine the association between adolescents' relational schemas and their subjective understanding of interactions in the context of their romantic relationships. We hypothesize that adolescents who hold more vulnerable relational schemas will interpret their interactions more negatively. To examine this relationship, we are employing an innovative multimodal methodology: The video-recall system (Welsh & Dickson, 2005). This system assesses adolescent participants' subjective understanding of their feelings and behaviors during a videotaped interaction with their romantic partner as well as trained observers' interpretations of the interaction. This study is

unique in our inclusion of both adolescent participants' perspectives of their interactions with their romantic partner as well as the perspectives of trained coders.

Method

Participants

Data for the current study came from the Study of Tennessee Adolescent Romantic Relationships (STARR), an NICHD funded project (Grant No. RO1 HD39931). Couples for the STARR Project were recruited from a previous study of adolescent dating behaviors that consisted of 2201 students who attended seventeen East Tennessee High Schools. The selected schools represented rural, suburban, and urban demography as well as socioeconomic diversity. Adolescents who were in a romantic relationship and met the age and dating requirements were mailed consent forms and contacted one week later regarding their willingness to participate. Participants were 209 male–female dating couples (418 individuals) that had been dating for at least four weeks. Couples were paid \$60.00 for their participation in approximately 3 h of data collection. The University Institutional Review Board approved all procedures and informed consent was obtained from all participants and parents of participants under the age of 18.

The mean age of the participants at the time of data collection was 17 years of age, with a range from 14 to 21 years of age. The majority of the sample identified themselves as Caucasian (90.5%), with the remainder of the sample identifying themselves as African-American (6.2%), Asian (1.2%), Hispanic (0.7%), Native American (0.5%) and “Other” (0.7%). Approximately half of the sample identified their neighborhoods as suburban (46.7%), with the rest of the sample reporting rural (20.6%) and urban (31.8%). At the time of data collection, couples in the study had been dating for an average of 44.54 weeks (approximately 10 months) with a range of 4 weeks (the minimum criteria for participation in the study) to 260 weeks (exactly 5 years).

Procedure

Couples came to the laboratory for a total of 3 h of data collection. Initially, couples completed a number of questionnaires including a demographic questionnaire and the Adolescent Couple's Issues Checklist (Welsh, Grello, Dickson, & Harper, 2001) which includes 21 issues of disagreement common to adolescent dating couples. Adolescent couples then participated in an interaction session consisting of three recorded conversations (Capaldi & Crosby, 1997). First, couple members were asked to plan a party together for 5 min. This conversation topic was chosen as a warm-up to allow the couple to become more comfortable with the situation. In the second and third conversations (8 min 40 s for each conversation), couples discussed issues of disagreement previously selected independently by each partner from the Adolescent Couples' Issues Checklist (Welsh et al., 2001). The second and third conversations were counterbalanced for whether the couple discussed the male or female issue first. Videotaped instructions were given to the couples at the beginning of the interaction task, and at the beginning and end of each conversation topic. The instruction clips ensured standardization and the privacy of the participants while limiting disruption by the researchers. Immediately following the recorded conversations, one couple member viewed the interaction using the video-recall system (Welsh & Dickson, 2005) while their partner completed additional questionnaires. The couple members then switched tasks.

Measures

Demographic questionnaire—A demographic questionnaire was used to obtain background information on the couples for statistical control and to provide a description of

the sample. Questions relevant to the current study included sex, age and length of relationship.

Interaction task and video-recall procedure (Welsh & Dickson, 2005)—The video-recall procedure consists of each couple member separately viewing and rating the middle 6 min 40 s, of each conflictual issues conversation twice. In the first viewing, participants rated their own affect and behavior in 20-s segments. After each segment, the computer paused the video for the participants to rate themselves on seven different affective and behavioral dimensions selected to represent significant affective and cognitive constructs linked with developmental and marital literature. Each of the dimensions appeared on the computer monitor as a statement. For example, “I was feeling FRUSTRATED by my partner” and “I was trying to PERSUADE my partner,” etc. Using a 5-point rating scale, where 0 = Not At All and 4 = Very Much, this process was repeated for all seven codes every 20 s of the interaction. The seven dimensions addressed the degree to which the individual being rated was conceding, connected, conflictual, frustrated, persuasive, sarcastic, or uncomfortable. After the participant rated their own feelings and behaviors for the two conversations, they then watched the conversations again, rating their partner’s feelings and behaviors. For the current study, conflict, connection, and sarcasm were not included. Psychometrically, sarcasm was unable to be included due to low inter-rater reliability for observer’s ratings of girl’s sarcasm ($\alpha = 0.42$). Conflict and Connection were not included on conceptual grounds. We felt that they were too easily interpreted and would not be subject to the use of relational schemas in order to make sense of them.

In addition, three trained clinical psychology graduate student coders, two females (aged 22 and 25) and one male (age 27), rated the videotapes. The coders spent 12 months (at 3 h per week) learning the system. Meetings were held as coding began to discuss coding problems. Inter-rater reliability statistics were calculated at different points during the coding of the couples’ interactions to ensure coders maintained adequate agreement (these reliabilities are not reported separately since they are included within the overall alpha coefficients reported below). Coders rated the conversations in much the same way as the participants. Coders separately viewed the latter two conversations in 20-s segments and were automatically prompted by the computer to rate each of the seven dimensions following each segment. The dimensions rated appeared as statements on the computer screen similar to those statements given to couple members (e.g., “The male was being persuasive with his partner”). The same 0–4 scale was used for the observers as well. Like each couple member, coders also viewed and rated the interaction twice, focusing on the male partner or the female partner the first time, and the other during the second viewing. The order of which partner was rated first, male or female, was counterbalanced. To determine inter-rater reliability of the behavioral/affective dimensions, trained coders’ ratings were separately aggregated, and a mean score was calculated for each dimension. Intra-class correlation coefficients for the aggregated mean ratings were satisfactory: Power ($\alpha = 0.76$) and Discomfort ($\alpha = 0.80$).

Quality of peer attachment—Inventory of Parent and Peer Attachment (IPPA; Armsden & Greenberg, 1987) was used to assess perceptions of current friendships. The adolescents rated 25 5-point Likert-type scale items related to peer trust, peer communication, and peer alienation. Sample items included: “My friends respect my feelings” and “my friends understand me.” The 25 items were then summed, reversing the peer alienation items, to generate a composite score of peer attachment quality. This composite measure has shown satisfactory test–retest reliability and has been related to other measures of family environment and adolescent psychosocial functioning (Armsden & Greenberg, 1987). Scores showed satisfactory internal consistency in the current sample for males ($\alpha = 0.86$) and for females ($\alpha = 0.90$).

Rejection sensitivity—The Rejection Sensitivity Questionnaire (RSQ; Downey & Feldman, 1996) is comprised of 18 situations designed to assess rejection anxiety and expectation of rejection (e.g., “You ask your boyfriend/girlfriend to move in with you”). Each situation is rated by participants on a 6-point scale of their level of anxiety (1 = unconcerned, 6 = very concerned) and the likelihood that their partner would answer in a compliant manner (1 = very unlikely, 6 = very likely). Overall scores are calculated using the sum of the products of the level of anxiety and the rejection expectancy scores. Empirical evidence suggests both validity and reliability exist on the RSQ for both males and females (Downey & Feldman, 1996). In the present sample, scores were high in internal consistency for males ($\alpha = 0.86$) and for females ($\alpha = 0.90$).

Self-silencing—The Silencing the Self Subscale (STSS; Jack & Dill, 1992) includes 9 items, and measures the extent to which self-silencing occurs in order to prolong the relationship, or avoid conflict (e.g., “I try to bury my feelings when I think they will cause trouble in my close relationships”). Empirical evidence suggests acceptable reliability and validity exist in the STSS for both males and females (Remen, Chambless, & Rodebaugh, 2002). Respondents rate how strongly they agree with a statement on a 5-point scale regarding their current dating relationship (1 = Strongly Disagree, 5 = Strongly Agree). Scores on this subscale ranged from 0 to 45, with higher scores indicating stronger self-silencing beliefs and behaviors. The internal reliability was acceptable for this sample (males: $\alpha = 0.77$; females $\alpha = 0.77$).

Data analysis

Of the original 209, three couples were not able to complete the video-recall procedure due to issues with the technology and were removed from the dataset, leaving 206 qualified couples. Missing data (observational or a measure comprising the relational schema) occurred for either one or both of the couple members in 20 of the 206 couples. Thus, a full information maximum likelihood estimation procedure was used, which has been found to be less biased and more efficient than listwise or pairwise deletion in handling missing data (Arbuckle, 1996).

Preliminary analysis indicated high and significant correlations between couple members' ratings of their own feelings and behaviors and their ratings of their partners' feelings and behaviors: conceding $r = 0.74$, persuading $r = 0.85$, frustration $r = 0.84$, and discomfort $r = 0.76$. This finding indicates that our adolescent couple members viewed their partners similarly to the way they viewed themselves during the interaction (Welsh & Dickson, 2005). Because of this high correlation, a mean was taken between adolescents' interpretations of their own feelings and behaviors and the interpretations they made regarding their partner, which comprise the adolescents' interpretation outcome measure. Observers' ratings were also combined in this way for consistency (correlations of the observers' ratings of the each couple were significant: conceding $r = 0.12$, persuading $r = 0.72$, frustration $r = 0.66$, and discomfort to $r = 0.56$).

Data analysis was conducted using AMOS 7.0 (Arbuckle, 2006). Model fit was examined using the chi-square statistic, Comparative Fit Index (CFI; Bentler, 1990), and Root Mean Square Error of Approximation (RMSEA; Steiger, 1990). Chi-square statistics measure the amount of discrepancy between the unrestricted sample covariance matrix and the restricted covariance matrix. Small chi-squares correspond to better fit to the data. CFI provides a measure of complete covariation of a hypothesized model with the independence model. A value greater than 0.95 indicates a good fit to the data (Bentler, 1992). RMSEA values less than 0.05 indicate good model fit and values up to 0.08 represent reasonable errors of approximation (Browne & Cudeck, 1993).

We used the dyadic analytic strategies described by Kenny, Kashy, and Cook (2006) for all structural equation models (SEM) in this study. First, confirmatory factor analysis (CFA) was used to determine the measurement of the relational schema latent variable. Once the analysis of the measurement model was complete and acceptable fit was found, the model testing the association between adolescents' relational schema, and the interpretations made by each partner and the observers, was estimated using hybrid models in SEM. The hybrid SEM model technique was used for a number of reasons. First, SEM allows for the simultaneous estimation of all the paths in the model, providing estimates of each path that take into account all other variables in the model. Second, SEM can address latent variables so that the paths between elements in a model can be estimated without the biasing effects of measurement error associated with particular instruments (Hoyle, 1991). Third, hybrid models in SEM simultaneously perform confirmatory factor analysis on all latent variables in the model, as well as estimating the parameters of the path analysis. Moderation of two variables (mean couple age and length of relationship) was also explored using a step-wise multiple group approach in both the measurement and hybrid models.

Results

Preliminary analysis

Two outcomes were examined in this analysis, Power and Discomfort, which were derived from four coded affective/ behavioral dimensions. The Power outcome combines two of the dimensions: conceding and persuading behaviors, $r = 0.73$. The Discomfort outcome combines two other dimensions: feelings of uncomfortableness and frustration, $r = 0.75$. Ideally, latent variables would have been used to combine the two dimensions into a latent construct for each outcome. However, models with factors that only have two indicators are prone to estimation problems leading to under identification (Kline, 2005), which was the case in this analysis. Alternatively, z-scores were calculated for the four affective/behavioral dimensions. A mean was taken between conceding and persuading to form the Power outcome variable and a mean was taken between uncomfortableness and frustration to form the Discomfort outcome variable. The same process was applied to the observers' ratings and the adolescents' ratings.

The current study collected data from male–female dyads suggesting the potential for gender or partner effects. However, participants' ratings of their own and their partners' affect and behavior during the interaction were nearly identical with correlations ranging from 0.70 to 0.91 (mean correlation = 0.82). Welsh and Dickson (2005) report these findings and discuss potential explanations for such high correlations: Based on these findings, participants appear to perceive their partner experienced the interaction in nearly the same way as they had. Despite these high correlations that could result in multi-collinearity, we chose to examine the data using the dyadic analytic approach for structural equation modeling described by Kenny et al. (2006).

Intercorrelations were run between the variables of interest in this study. These included the three elements of the relational schema construct, the participants' interpretation of Power and Discomfort, and the observers' interpretation of Power and Discomfort. These intercorrelations are presented in Table 1. The three elements of relational schema are significantly correlated to the participant's interpretation of Power and Discomfort ($p < .01$). These correlations ranged from $r = 0.14$ to 0.26 . Quality of peer attachment was the only relational schema element correlated to the observers' interpretation, in this case Power. Gender (males = 1, females = 2) was also included, and was found to be significantly related to quality of peer attachment and self-silencing, but with only modest correlations of $r = -0.31$ and -0.29 , respectively. Participants' and observers' interpretations of Power and Discomfort are also significantly related with a range of $r = 0.26$ – 0.69 .

Preliminary analyses examined the potential role of gender in this sample. Table 2 reports the intercorrelations between males' and females' reports of the Power and Discomfort Outcomes and also the observers' ratings of these dimensions. Each correlation presented in the table is significant (p -value < .01) with a range of $r = 0.21$ – 0.99 . Observers' ratings of both the male and female on Power and Discomfort were highly correlated, indicating each gender was rated similarly on these variables. Dyadic data strategies include both partners' split by gender, so path analysis for each gender can be examined independently, yet within the same model, controlling for the nonindependence of observations (Kenny et al., 2006).

Confirmatory factor analysis of the relational schema construct

The relational schema construct was estimated as a latent variable with three indicators. The correlations between these three variables are presented in Table 2 along with the participants' and observers' ratings of the outcome variables. The three elements of the relational schema are significantly correlated with a range of $r = 0.26$ – 0.33 . Following the CFA procedure described by Kenny et al. (2006), the unconstrained model received the following constraints using a step-wise approach: a) We set the factor loadings of the relational schema construct to be equal for male and female couple members. b) Then we fixed the latent variable variances and the error variances of the observed variables to be equal across couple members. c) Finally, we set the intercepts of the corresponding observed variables to be equal. The constraints specified in a) and b) resulted in improved model fit and increased degrees of freedom. This result indicates that the latent construct has the same meaning for both members of the dyad and that males differ from each other to the same degree as females differ from each other. Setting the intercepts to be equal, however, resulted in a significant decrement to model fit and was not retained in the path analysis models tested. This result indicates that the average male score and the average female score are not the same. The CFA model with constraints a) and b) retained provided good fit to the data: $\chi^2(11) = 12.6$, CFI = 0.977 and RMSEA = 0.026. Standardized regression weights were statistically significant ($p < .05$) and ranged from 0.45 to 0.56, indicating that all factors contributed to the latent construct.

Hybrid models

Each hybrid model received three additional sets of constraints using a step-wise approach in order to determine the most parsimonious model (Kenny et al., 2006). The first constraint was to set the error variance of the male outcome variables to be equal to the corresponding female outcome variable. Second, we constrained the males' paths to be equal to the corresponding female paths. Lastly, we constrained the intercepts of the outcome variables to also be equal for both males and females. A chi-square difference test was used to determine if adding additional constraints had a significant effect on the overall fit of the model. For the Discomfort model, each of these additional constraints did not result in significant detriment to the model's fit, and were thus retained. These results indicate that the model is the same for both members of the couple, and distinction between the two is meaningless (Gonzalez & Griffin, 1999). For the Power model, constraining the paths to be equal for males and females resulted in a significant reduction in model fit and was not retained. Specifying equal intercepts, however, was retained since model fit did not decrease with this additional constraint after the path constraints were removed. This indicates that the associations between relational schema and the outcome measures are not the same for each couple member, necessitating dyadic interpretation of the results.

Discomfort model—The hybrid model for the Discomfort outcome is represented in Fig. 1. The model provided good fit to the data: $\chi^2(35) = 41.1$, CFI = 0.995 and RMSEA = 0.029. There was a significant direct effect between the each couple member's relational

schema and the interpretations they made about their perception of discomfort during the interaction. The remaining paths in the model were not significant.

Power model—The hybrid model for the Power outcome is represented in Fig. 2. The model provided a good fit to the data: $\chi^2(31) = 32.7$, CFI = 0.998 and RMSEA = 0.016. Unlike the Discomfort model, the association between males' and females' relational schemas, and the interpretations of power by themselves and the observers, was different for each couple member. The males' relational schema was significantly associated with their own interpretations of power, the interpretations reported by the observers of males' power behaviors, and the interpretations the observers reported for their female partners' power behaviors. Valences of these estimates were positive, suggesting that the higher the male partner scored on the relational schema (a more vulnerable relational schema), the higher the associated interpretations of power. For female couple members, the only significant association was between their relational schema and the interpretations their male partner made about power. This was a negative relationship suggesting the higher, and more vulnerable, the females' relational schema, the lower her partners' interpretation of power.

Moderation

Two potential moderating variables were tested in separate models using a step-wise, multiple group analysis approach. Both the measurement model and hybrid models were tested for configural invariance and metric invariance. In the measurement model, age was not found to be a moderating variable. However, the length of the relationship was found to moderate the measurement model. Specifically, the variances and covariances of residual (error) variables in the measurement part of the model, suggesting the measurement of the construct vary with the couples' length of relationship. The structural covariances of the model did not differ based on length of relationship indicating the structure of the construct is consistent. Length of the relationship and couples' mean age were assessed for moderation on the paths of the Discomfort and Power hybrid models to test whether associations between the independent variables and dependent variables depended on these moderators: No support was found.

Discussion

The aim of this study was to examine the association between adolescents' relational schemas and the interpretations they make regarding interactions with their romantic partners. We employed an innovative, multimodal methodology to examine both couple members' subjective understandings of their relationship as well as the perspective of trained coders. The inclusion of three separate perspectives on the same interaction is unique in this area of research and addresses limitations recognized by previous investigations. Our findings support the utility of a broad approach to the assessment of relational schemas (i.e., quality of attachment, rejection sensitivity, and self-silencing) as evidenced by the factor loadings and fit of the CFA model. Our hypothesis that possessing a more vulnerable relational schema would be associated with greater negativity in adolescents' interpretations was generally supported. Relational schemas were significantly correlated with the way in which adolescent romantic couple members make sense of their interactions. This result supports general tenets of attachment theory and confirms the importance of the role of relational schemas in understanding adolescent romantic relationships.

In the Discomfort model, we found that both couple members' relational schemas were associated with the interpretations they made about the level of their own and their partners' discomfort, such that the more vulnerable their relational schema, the more discomfort they reported experiencing. We also found that in this model, there was no difference between

each couple member and, therefore, no distinction between couple members is necessary. This is an important finding because it supports the assertion that relational schemas are associated with the way in which adolescents interpret their interactions, at least in affective domains. Even after accounting for the paths between the relational schema and the observers' rating of discomfort, each couple members' interpretation was associated with their relational schema. This finding supports the assertion that attachment related cognitive representations influence the interpretations adolescents make about their interactions with significant others.

In the Power model, we found some intriguing associations between relational schemas and the interpretations of the participants and the observers. Unlike the Discomfort model, the association between relational schemas and power differed for each member of the couple. For male couple members, possessing more vulnerable relational view was associated with interpreting a higher degree of power behaviors during the interaction, as well as a higher degree of power reported by the observers. Males' relational schema was also associated with the observers' reports of the female partners' power behaviors, such that the more vulnerable the males' relational schema, the more Power reported by the observer in regard to the female partner. Females' relational schemas were negatively associated with the males' power interpretations, meaning the more vulnerable the females' relational schema, the less the male partner interpreted powers. Conversely, this also means the more secure the females' relational schema, the higher the interpretation of power behaviors reported by the male partner.

The results of the Power model were somewhat surprising. Although our hypothesis that relational schemas would be associated with interpretations of their interactions was supported, we did not predict gender differences in the nature of this association. Our findings suggest that males and females with more vulnerable relational schemas may use different strategies to cope with their insecurity. Adolescent males with more vulnerable relational schemas may attempt to compensate for their vulnerable feelings in the relationship by behaving in more persuading and less conceding ways in their romantic interactions. Girlfriends of less secure adolescent males, either by selection and/or as a result of the male's assertion of power, are, expectedly, more likely to reciprocate the conflictual interaction, and a power struggle is likely to result. Less secure females, in contrast, do not cope with their insecurity by trying to use power strategies in their interactions and, in fact, are likely to have boyfriends who are less focused on controlling their interactions. Perhaps these less secure females select males who will not try to control them. Alternatively, supporting an ethological position, less secure females may have fewer options in their mate selection, and may end up with less dominant males due to their reduced options. Another possibility for these findings is that adolescent males may not feel as threatened by a female partner with a more vulnerable relational schema and, therefore, may not feel compelled to exert an attempt at more power as a way to assuage his own anxiety about the relationship. Clearly, future research needs to explore these explanations.

The findings of the Power model revealed that relational schemas are not only associated with the way adolescents interact with their partner, but also with how they *interpret* those interactions – a key component of attachment theory that has yet to be demonstrated in empirical research. In our analyses, male partners' relational schemas influenced both their own, their partners', and the observers' interpretations of the interaction.

The overall results of this study contribute to the literature on relational schemas and adolescent romantic relationships. Relational schemas are associated with how adolescents perceive Discomfort and Power differentials. Adolescents who hold more vulnerable relational schemas are more likely to perceive negative outcomes in their interactions, even

while accounting for the ratings of trained observers. This finding could inform clinical work with adolescents in romantic relationships in that both the behaviors and the interpretations need to be targeted for change. Relational schemas are somewhat linked to the behaviors exhibited, but the association goes above and beyond behavior alone and is also related to the interpretations adolescents make about the behavior.

We believe that relational schemas are activated during interactions between adolescent romantic partners for a number of reasons. First, adolescents enter into romantic relationships with preconceptions of how the relationship will be that are based on previous experiences in relationship. Second, adolescents have certain expectations regarding the relationship and their partner, which include explanations of their partner's feelings and behaviors. Third, the novelty of this domain provides little previous experience from which to draw conclusions about the current situation. Adolescents must instead rely on their previous experiences of similar relationships (adolescent–parent, adolescent–peer) to make sense of the current interaction. We believe that relational schemas provide the lens through which the relationship is viewed because the relational schema comes from previous experiences in similar close relationships. When confronted with a situation that the adolescent is not familiar with, relational schemas are activated, which provides a background from which to interpret their interaction. Fourth, we believe that the ambiguous nature of the dimensions examined in this study also play a role. Because the four dimensions used to form the Power and Discomfort outcome variables are not always clear-cut and straightforward, the adolescent is forced to make an interpretation that is based on his or her own subjective view, which we believe is directly related to adolescents' relational schemas.

The similarities and differences between the Power and Discomfort outcome variables might also illuminate relational schemas' role in understanding interactions. In both Power and Discomfort, adolescents with more vulnerable relational schemas interpreted their interactions more negatively, except for females' ratings of Power. This finding supports previous research that found that insecure attachment styles predicted greater perception of negativity by adolescents' during conflictual interactions (Creasey & Hesson-McInnis, 2001; Creasey et al., 1999). We believe this difference is due to the more behavioral nature of the Power variables, persuasion and conceding, compared to the affective dimensions of the Discomfort variable, and the potential societal and cultural influences on couple power dynamics. These results are not definitive from this study alone, but do suggest an important differentiation between affective and behavioral dimensions, Power in particular.

Limitations and future directions

Our study has a number of limitations that need to be addressed. Despite being an accurate representation of the region from which the data was collected, our sample lacks ethnic and racial diversity. Our sample is also only comprised of male–female dyads. Gender roles in regard to the perception and interpretation of Power may be especially sensitive to male–female couples (Welsh, Galliher, Kawaguchi, & Rostosky, 1999). Examination of same sex couples warrants further examination. On the other hand, our sample has good geographic diversity represented by a good distribution between rural, suburban, and urban locations. Socioeconomic status is widely represented as well.

The role played by relational schemas may be more pronounced in romantic relationships during the adolescent years when this domain is still relatively new. A longitudinal methodology examining changes through and after the adolescent years would address this concern and also shed light on the mechanisms driving the association between relational schemas and interpretations. The absence of age and length of relationship moderation in the path models may indicate that this is not a developmental issue, or it may simply mean that

the association is salient throughout the age range of this sample and length of relationship cannot compensate for lack of development.

This study's major strength is the richness of the data obtained from both couples and observers. This is the first study to include three perspectives of an interaction between couple members. However, due to the high intercorrelations between these variables, the potential contribution of this study might have been limited. The high correlations between ratings by both the adolescents and the observers made combining rated dimensions necessary to avoid issues of multicollinearity. Additionally, dyadic data has the potential to illuminate a number of other important issues such as partner effects. Again, the high intercorrelations between ratings made these analyses unfeasible. Further, the lack of differences between each couple member is itself an important finding that deserves further exploration across different developmental periods.

Future directions of this area of research include an examination of how the relational schema may predict other aspects of the relationship such as satisfaction, depression, or break-up. The gender effects found in this sample, at least for Power, provide an interesting issue to examine further in future research as well. It seems that the overall quality of attachment and the relational schema one brings into romantic relationships during adolescence is an important aspect and may be related to much more than just interpretations of the interaction itself.

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Fig. 1.

Note: SS = self-silencing, RS = rejection sensitivity, and QA = quality of attachment. Factor loading of quality of attachment (QA), the reference variable, was set to 1.00. Standardized weights are reported. Bold paths indicate $p < .05$.

Fig. 2.

Note: SS = self-silencing, RS = rejection sensitivity, and QA = quality of attachment. Factor loading of quality of attachment (QA), the reference variable, was set to 1.00. Standardized weights are reported. Bold paths indicate $p < .05$.

Table 1

Intercorrelations between relational schema components and interpretations of Power and Discomfort.

Variable	1	2	3	4	5	6	7	8
Participants (<i>n</i> = 390)								
1. Gender	–	–0.31*	–07	–0.29*	–0.08	–0.08	0.00	0.01
2. Quality of peer attachment		–	0.28*	0.33*	0.19*	0.26*	0.11*	0.09
3. Rejection sensitivity			–	0.26*	0.14*	0.16*	0.02	0.02
4. Self-silencing				–	0.14*	0.17*	0.05	0.08
5. Interpretation of Power					–	0.67*	0.34*	0.28*
6. Interpretation of Discomfort						–	0.26*	0.33*
7. Observer interpretation of Power							–	0.69*
8. Observer interpretation of Discomfort								–
Mean	1.50	–4.10	8.05	2.54	1.97	1.73	2.12	2.20
Standard deviation	0.50	0.55	3.03	0.75	1.52	1.69	0.76	1.10

Note: correlations were calculated using a Pearson's *r*. *p*-Values are based on a two-tailed test of significance.

* Indicates *p*-value < .01.

Table 2

Intercorrelations between males', females', and observers' interpretations of Power and Discomfort.

Variable	1	2	3	4	5	6	7	8
Participants (<i>n</i> = 390)								
1. Male interpretation: Power	–	0.68*	0.33*	0.21*	0.33*	0.27*	0.32*	0.20*
2. Male interpretation: Discomfort		–	0.27*	0.32*	0.30*	0.38*	0.27*	0.32*
3. Observer interpretation: male Power			–	0.69*	0.36*	0.26*	0.99*	0.68*
4. Observer interpretation: male Discomfort				–	0.36*	0.35*	0.68*	0.99*
5. Female interpretation: Power					–	0.66*	0.36*	0.36*
6. Female interpretation: Discomfort						–	0.26*	0.35*
7. Observer interpretation: female Power							–	0.69*
8. Observer Interpretation: female Discomfort								–
Mean	1.05	0.94	1.05	1.10	0.95	0.82	1.05	1.10
Standard deviation	0.79	0.09	0.38	0.55	0.73	0.79	0.38	0.55

Note: correlations were calculated using a Pearson's *r*. *p*-Values are based on a two-tailed test of significance.

* Indicates *p*-value < .01.