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What's Love Got to Do with It: Relationship Functioning and Mental and Physical Quality of Life Among Pregnant Adolescent Couples

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Abstract

The study objective was to describe relationship adjustment and its association with mental and physical quality of life for young couples expecting a baby. 296 young pregnant couples recruited from urban obstetric clinics reported on relationship strengths (e.g., equity, romantic love, and attractiveness), relationship risks (e.g., attachment, intimate partner violence), external family support, relationship adjustment, and mental and physical quality of life. Using the Actor Partner Interdependence Model we assessed both actor and partner effects of relationship variables on relationship adjustment and quality of life. Sixty-one percent of couples had at least one member with moderate or severe relationship distress. Lower attachment avoidance, lower attachment anxiety, higher relationship equity, lack of intimate partner violence, feelings of love, perceived partner attractiveness, and family support of the relationship related to better relationship adjustment. Associations were fairly consistent across gender. Better relationship adjustment

related to more positive mental and physical quality of life for both young women and men. Our results highlight the potential importance of strong relationships on the well-being of expecting parents. Our results suggest that secure attachments, equitable relationships, feelings of love, and a lack of violence may be particularly important in having strong relationships and improved mental and physical health during pregnancy.

Keywords

Relationships; Adolescents; Pregnancy; Quality of Life

Pregnancy during adolescence and young adulthood has been linked to a variety of adverse consequences for both mother and child, including higher STD risk, and child behavioral problems, and less mental health stability (Akinbami et al. 2000; Ickovics et al. 2003; Kershaw et al. 2003; Niccolai et al. 2003). Strong relationships may be protective against some of these adverse consequences of being a young parent. For example, research suggests that strong relationships among young parents have positive effects on the well-being of the mother and child (Ackerman et al. 2002; Cutrona et al. 1998; Gavin et al. 2002; Gee and Rhodes 1999; Hetherington and Stanley-Hagan 1997; Milan et al. 2004a, b). In addition, a positive relationship between the father and mother has been demonstrated to have positive effects for the child, including better psychosocial adjustment and cognitive development, decreased aggression, school problems and lower likelihood of custody revocation and abuse investigations (Cutrona et al. 1998; Hetherington and Stanley-Hagan 1997). Satisfaction and stability with one's relationship may enhance the longevity and health of the relationship, thus increasing positive outcomes for all.

Relationships take on added significance during pregnancy. Pregnancy and parenting can be challenging for couples, especially young couples, whose pregnancy is often unplanned. While still developing their romantic relationship, childbirth and rearing can strain young individuals and relationships and contribute to distancing and relationship dissolution (Bost et al. 2002; Dulude et al. 2002). Perhaps due to this conflict and stress, nearly half of relationships of young parents end by time the child is 1 year old (Gee and Rhodes 1999; Kershaw et al. 2010). It is important to understand factors that contribute to strong relationships of young expectant couples in order to build programs to help them maintain positive relationships. The need for prevention is particularly important among low-income minority populations where the burden of unintended pregnancy contributes to disparities in reproductive and maternal child health outcomes. Adolescent pregnancy is 2.5–3 times more likely among Hispanic and African-Americans than Whites (Ventura et al. 2011). No studies that we are aware of have examined factors that may be related to relationship adjustment among young low-income minority parents.

Although an abundance of research with adults demonstrate that positive relationship adjustment relates to better mental and physical health (Coyne et al. 2001; Holt-Lunstad et al. 2008), few studies have looked at the impact of relationships on the health and well-being of adolescents and young adults, particularly among low-income and minority populations. Most studies of relationship adjustment and health have focused on married, middle class,

predominantly white, older adults (Coyne et al. 2001; Holt-Lunstad et al. 2008). Much of the burden of disease occurs in lower income minority populations. Therefore, it is important to understand how relationships influence health for higher risk populations.

Given that little research has looked at low-income parents, research among middle-class adults may help to shed some light on important factors in strong relationships among young parents. From this literature and the literature suggesting that relationship adjustment relates to mental and physical health among adults, we developed a conceptual model (see Fig. 1) that posits that relationship strengths (e.g., equity, love, perceived attractiveness, frequency of sex), relationship risks (e.g., attachment avoidance and anxiety, relationship power, and interpersonal violence), and external relationship support relate to relationship adjustment which subsequently relates to physical and mental health.

Relationship Strengths

Several characteristics have been identified as potential relationship strengths in literature with middle-class adults. Relationship equity is a factor that may impact a couple's satisfaction with their partner and their relationship. Relationship equity is based on social exchange theory and suggests that people are most content when there is balance between what they are getting out of and putting into a relationship (Lauresen and Jensen-Campbell 1999). It should be noted that equity is conceptually distinct from similarity of beliefs and values (which is often measured as part of relationship adjustment). For example, a couple may have similar beliefs about how to handle finances, but have one person make more money than the other causing inequity in their relationship. Equity in romantic relationships has been posited as central but distinct characteristic of optimal relationship adjustment (Bentley et al. 2007). Previous research in adult marital relationships suggests that both women and men report higher satisfaction in more equitable relationships (Bentley et al. 2007).

Another relationship strength is the presence of romantic love. Although some studies have shown that romantic love is different conceptually and empirically from relationship adjustment (Tucker and Aron 1993), other studies have found that relationships with romantic love are associated with better relationship adjustment (Ratelle et al. 2013; Graham 2011). Sex also has been shown to relate to relationship adjustment and longevity. Increased sex and sexual satisfaction has been associated with increases in relationship adjustment (Sprecher 2002). Another relationship strength that relates to relationship adjustment in adults is perceived physical attractiveness of your partner. Whether or not attractiveness is objectively true, perceiving your partner as attractive is associated with better relationship adjustment in both men and women (Swami et al. 2009).

Relationship Risks

In addition to relationship strengths, several relationship risks have been identified in the adult literature. Romantic attachment refers to mental representations of the self and others that mark our social interactions with romantic partners (Crowell et al. 2008). Insecure attachment consists of two dimensions, attachment anxiety and attachment avoidance. High attachment anxiety consists of feelings of fear of losing a partner and that one is undeserving

of love. High attachment avoidance refers to a lack of closeness and connection with others. Individuals with high levels of attachment anxiety and avoidance have more relationship problems, worse communication, and are more likely to experience relationship dissolution than individuals with low levels of attachment anxiety and avoidance (Mikulincer et al. 2002). During the transition to parenthood, attachment anxiety and avoidance has been shown to relate to reduced relationship satisfaction among expecting parents (Rholes et al. 2001).

Relationship power can be defined by the ability to influence a partner to achieve one's own goals (Bentley et al. 2007). Low perceived relationship power is related to poor relationship adjustment in adults (Frieze and McHugh 1992). Less is known about the role that relationship power may play in romantic relationships among adolescents and young adults. One study of mostly white rural young couples found that low relational power related to less relationship adjustment (Bentley et al. 2007). This study did not include expecting couples, who may have unique experiences of stress and conflict that may amplify the effect of low relationship power.

Conflict behaviors in young adults' romantic relationships may also indicate poor relationship adjustment (Marchand-Reilly 2009). Intimate partner violence is common among young couples, with rates ranging from 10 to 23 % (CDC 2010; Roberts et al. 2005). Intimate partner violence is also common during pregnancy, with rates ranging from 3 to 21 % (Campbell et al. 2004). Lack of proper conflict management and the experience of violence may cause added strain and stress on a young couple's relationship.

External Relationship Support

Finally, research shows that strong family support is associated with better romantic relationship adjustment (Dinero et al. 2011). External family support of relationships may be particularly relevant given the important role families play in financial support and child care for young parents (Arnold et al. 2011).

Current Study

Gaps in the Literature

This study fills a gap in the literature by: focusing on low-income population of young couples undergoing the stressful life transition of pregnancy, understanding factors that influence relationship adjustment, and assessing the associations of relationship adjustment with mental and physical well-being. Few studies that we are aware of have looked at the association of relationship adjustment with both mental and physical well-being, and no studies that we are aware of have looked at mental and physical well-being among low-income young pregnant couples. Another strength of this study is that it looks at both members of the couple. This allows us to both assess the mutual influence of members of a couple on each other, and explore for possible gender differences in our conceptual model. Few studies exploring the influence of relationship adjustment on health have included both members of a couple.

Study Aims

This study aims to (1) describe relationship adjustment among young, low-income, expecting couples, (2) assess how relationship factors of both the person and their partner (e.g., equity, attachment, relationship power) are associated with relationship adjustment among young pregnant couples, and (3) assess whether relationship adjustment of the person and their partner is associated with mental and physical quality of life.

Methods

Study Sample and Procedures

Data for this study come from a larger study of expecting couples. Between 2007 and 2011, 296 expectant couples (592 total participants) were recruited from obstetrics and gynecology clinics and from an ultrasound clinic in four university-affiliated hospitals in Connecticut. Potential participants were screened and, if eligible, research staff explained the study in detail and answered questions. If the baby's father was not present at the time of screening research staff asked for permission to contact the father to explain the study. Research staff provided informational materials for the absent partner and asked the present partner to discuss the study with them.

Inclusion criteria included: (a) the female partner is in the second or third trimester of pregnancy at time of baseline interview; (b) females: age 14–21 years; males: age at least 14 years at time of the interview; (c) both members of the couple report being in a romantic relationship with each other; (d) both report being the biological parents of the unborn baby; (e) both agree to participate in the study and (f) both are able to speak English or Spanish. We used an initial run-in period (a procedure where participants are not enrolled when initially contacted and instead given a period of two or more weeks to ensure they are reachable as part of a longitudinal study) as part of eligibility criteria where participants were deemed ineligible if they could not be re-contacted after screening and before their estimated due date.

Written informed consent was obtained by a research staff member at the time of the first interview. The couples separately completed structured interviews via audio computer-assisted self-interviews (ACASI) at the same time at our research offices or in clinic space provided by participating clinics. Participation was voluntary and confidential, and did not influence the provision of health care or social services. All procedures were approved by the Yale University Human Investigation Committee and by Institutional Review Boards at study clinics. Participants were reimbursed \$25 each for their effort.

Of 413 eligible couples, 296 (72.2 %) couples enrolled in the study. Couples who agreed to participate were of greater gestational age ($p = .03$). Participation did not vary by any other pre-screened demographic characteristic (all $p > .05$). Data reported are from the 3rd trimester of pregnancy ($M = 29$ weeks gestation).

The majority of participants were African-American (44 %) or Hispanic (38 %), with 14 % White and 4 % some other race/ethnicity. Average age was 18.7 ($SD = 1.7$) for women and 21.3 ($SD = 4.1$) for men. Partnership duration was just over 2 years, and 9 % of couples

were married. Sixty-two percent of couples were living together, 48 % were living with their parents, and 15 % were living alone. Differences between men and women on demographic characteristics are presented in Table 1. Female and male partners did not differ on relationship adjustment. However, females had significantly worse mental and physical quality of life than their male partners (see Table 1).

Measures

Quality of Life—*Quality of life* was assessed using the 8-item version of the Short Form Health Survey (SF-8). The SF-8 was chosen because it balances brevity with strong psychometric properties. The SF-8 was developed by relating individual items to corresponding scales of the SF-36, the most used and validated quality of life scale (Turner-Bowker et al. 2003). The SF-8 consists of the two subscales mental quality of life and physical quality of life, which are weighted linear composites based on population norms. Alternate forms reliability for the SF-8 components ranged from 0.70 to 0.99. Test–retest reliability ranged from 0.59 to 0.70 (Ware et al. 2001; Turner-Bowker et al. 2003). Numerous studies from a variety of populations have shown construct and criterion related validity of the SF-8 (Turner-Bowker et al. 2003) including individuals experiencing conflict (Roberts et al. 2008), low-income individuals (Lefante et al. 2005), pregnant women (Wan et al. 2007), and adolescents (Varni and Limbers 2009). Participants assess items related to their mental and physical health in past 4 weeks. Example items include “overall, how would you rate your health”, “how much energy did you have” “how much did your physical health or emotional problems limit your usual social activities with family or friends” and “how much have you been bothered by emotional problems (such as feeling, anxious, depressed, or irritable)?” Reliability was adequate for both mental quality of life ($\alpha = 0.74$) and physical quality of life ($\alpha = 0.66$).

Relationship adjustment was measured using the 32-item Dyadic Adjustment Scale (DAS) which assesses shared interests, conflict, communication, intimacy, and consensus. Sample items include, “How often do you or your partner leave the house after a fight,” and “Do you kiss your partner?” A total relationship adjustment score was computed by summing responses to all item (Spanier 1976). This scale has shown validity in samples of young pregnant couples (Kershaw et al. 2012). Reliability for this measure was very good ($\alpha = 0.92$).

Relationship Strengths—*Relationship equity* was assessed with a 21-item scale adapted from Traupmann’s Equity scale (Traupmann et al. 1981). Participants rated who contributes more to the relationship across a variety of dimensions (e.g., paying for things, intelligence, showing affection). Responses were: 1 = “My partner contributes much more than I do,” 2 = “My partner contributes somewhat more than I do,” 3 = “My partner and I contribute equally,” 4 = “I contribute somewhat more than my partner does,” and 5 = “I contribute much more than my partner does.” The equity score was a count of all items that were answered as “My partner and I contribute equally.” Previous research has not been conducted on this adapted scale for adolescents. However, reliability for this measure was very good ($\alpha = 0.87$).

Romantic love was assessed by a single item that asked how intense the participant's feelings of love were for their partner on a scale from 0 = *no feelings* to 10 = *very strong feelings*. *Perceived partner attractiveness* was assessed by a question that asked how physically attractive their partner was to them on a scale from 0 = *not at all attractive* to 10 = *very attractive*. *Sexual frequency* was assessed by asking participants how many times they had sexual intercourse with their primary partner in the past month. Since this was a couple-level variable (and responses were significantly related, $p < .001$), responses were averaged within couple.

Relationship Risks

Attachment was assessed using the 36-item Experiences in Close Relationships Inventory (ECRI) (Brennan et al. 1998). Participants responded to statements about their relationship on a 7-point Likert scale, ranging from 1 = "Disagree Strongly" to 7 = "Agree Strongly." Attachment avoidance and attachment anxiety each consisted of 18 items. This scale has shown strong reliability and validity in a sample of young pregnant couples (Desrosiers et al. 2013). Reliability was good for both the avoidance ($\alpha = 0.85$) and anxiety subscales ($\alpha = 0.89$).

Relationship power was assessed by the 8-item Decision Making Dominance Subscale of the Sexual Relationship Power Scale (SRPS) (Pulerwitz et al. 2000). Participants indicated who has more say in various decisions in the relationship (e.g., what you do together, how often you see one another), or whether they both had equal say. Higher scores indicate more perceived power. Previous studies have demonstrated validity of this scale in low-income minority adolescents (Bralock and Koniak-Griffin 2007). Reliability for this measure was somewhat low ($\alpha = 0.52$).

Intimate partner violence victimization was assessed by a modified version of the Conflict Tactics Scale (Straus 1990). Participants were asked if their current partner ever shoved, punched, hit, slapped, or physically hurt them to assess physical violence, and whether their partner ever forced them to have sex to assess sexual violence. This scale has been shown to be valid in samples of adolescent pregnant women (Milan et al. 2004a, b). If participants reported either type of violence, they were recorded as experiencing interpersonal violence victimization.

External Family Support

Family support of the relationship was measured by four items that assessed the degree to which the participant's family supported and approved of their romantic relationship (Knobloch and Donovan-Kicken 2006). No information on previous reliability and validity of this scale for adolescents was available. However, reliability for this measure was good ($\alpha = 0.80$).

Demographics included gender, age (years), race (African-American, Hispanic, White/Other), relationship duration (months), parity, and gestational age.

Data Analysis

To assess differences between male and female partners on demographic variables, relationship adjustment, and quality of life, we conducted a series of paired t-tests for continuous variables and McNemar tests for categorical variables. To further describe relationship adjustment among these couples, we classified their scores according to previously published a priori cutoffs for levels of relationship distress (Spanier and Thompson 1982). Individuals with scores of 116 or higher were labeled as having low levels of relationship distress; individuals with score from 72 to 115 were classified as having moderate distress; and individuals with scores of 71 or lower were classified as having high distress.

To assess the influence of demographic and relationship factors on relationship adjustment and quality of life, we used path analysis using structural equation modeling software (AMOS V16.0) to assess the Actor–Partner Interdependence Model. The Actor–Partner Interdependence Model incorporates responses from both members of a dyad into a single analysis (Kenny et al. 2006). To incorporate the interdependence of dyadic data, correlations of all pairs of variables (e.g., equity of the male partner is correlated with equity of the female partner) and error disturbances (e.g., error term for male partner relationship adjustment is correlated with the error term for the female partner relationship adjustment) were used in the model (Kenny et al. 2006). The central purpose of the Actor–Partner Interdependence model approach is to assess actor and partner effects. Actor effects refer to whether a person’s score on a predictor variable influences the person’s own outcome (e.g., female’s relationship adjustment relates to her own mental quality of life; male’s relationship adjustment relates to his own physical quality of life). Partner effects refer to whether a partner’s score on the predictor variable influences the person’s outcome (e.g., the male partner’s relationship adjustment is associated with his female partner’s physical quality of life; the female partner’s relationship adjustment is associated with her male partner’s mental quality of life). Goodness of fit of the model was assessed using multiple fit indices including the root mean square error of approximation (RMSEA), the incremental fit index (IFI), and the goodness of fit index (GFI). Adequate fit was determined by RMSEA values of .08 or less, and IFI and GFI values of .90 or above (Bollen and Long 1993).

To assess whether any of the actor and partner relationships differed between men and women, a set of interactions between gender and model paths were assessed one at a time in the model by comparing models where similar paths were constrained to be equal between men and women (i.e., the overall actor–partner model) to models where similar paths were free to vary (i.e., the gender moderated model). A significant Chi square difference test indicated moderation by gender (Kenny et al. 2006). Any significant interactions were added to the final model by allowing those paths to vary. The actor and partner effects presented in the model are unstandardized regression coefficients (and their standard errors) because the standardized coefficients are not accurate when using the actor–partner approach (Kenny et al. 2006).

We initially modeled a complete mediation model where relationship adjustment was a conceptual mediator of relationship variables. Modification indices were then inspected to assess if adding any direct paths from relationship factors to mental and physical quality of

life significantly improved model fit. Demographic variables were modeled as covariates (i.e., direct paths were modeled between age, race, relationship duration, parity, living with partner, and gestational age to mental quality of life, and physical quality of life). Significance of indirect effects were assessed using bias-corrected bootstrapping methods using 200 bootstrapped samples to obtain standard error estimates (Bollen and Long 1993).

Results

Figure 2 depicts classifications of males, females, and couples in terms of high distress, moderate distress, and no distress; 59 % of females and 53 % of males had no relationship distress (i.e., good relationship adjustment); 4 % of females and males had high relationship distress (i.e., poor relationship adjustment), and 37 % of females and 44 % of males had moderate relationship distress (i.e., moderate relationship adjustment). Sixty-one percent of couples had at least one member who was experiencing moderate to high relationship distress.

Next, we assessed factors related to relationship adjustment. Correlations are presented in Table 2 and results from the path analysis are presented in Table 3 and Fig. 3. Results showed individuals with less attachment avoidance and anxiety, more perceived relationship equity, no intimate partner violence victimization, more romantic love, higher perceived partner attractiveness, and high family support of their relationship had higher relationship adjustment. In addition, there were several significant partner effects. Individuals who had partners with less attachment anxiety, no intimate partner violence victimization, and low family support of their relationship had higher levels of relationship adjustment. Relationship power, sex frequency, and demographics were unrelated to relationship adjustment.

Increased relationship adjustment related to better mental and physical quality of life (see Fig. 3; Table 3). Inspection of the modification indices indicated that adding a direct effect from attachment anxiety to mental quality of life significantly improved the model. We added this path showing that increased attachment anxiety was related to worse mental quality of life. The gestational age of the pregnancy related to physical quality of life; the later the gestational age the worse the physical quality of life. None of the other demographic variables related to mental or physical quality of life. The modification indices did not indicate the need for any other direct paths. Overall, the model fit the data reasonably well (RMSEA = .062, 90 % CI = .055–.070; IFI = .90; GFI = .91) and accounted for 54 % of the variance of relationship adjustment, 17 % of the variance of mental quality of life, and 3 % of the variance of physical quality of life.

Inspection of indirect effects (see Table 4) showed that equity, romantic love, perceived partner attractiveness, avoidance attachment, and family support of the relationship had significant indirect effects on both mental and physical quality of life (all $p < .05$). Intimate partner violence of both the actor and the partner, *partner's* attachment anxiety, and *partner's* family support of the relationship had significant indirect effects on mental quality of life (all $p < .05$) but did not have significant indirect effects on physical quality of life (all

$p > .05$). Relationship power, and frequency of sex did not have indirect effects on mental or physical quality of life (all $p > .05$).

Next, we assessed whether these relationships differed by gender. Results showed two significant interactions for gender: gender by perceived partner attractiveness on relationship adjustment (Chi square difference = 5.65, $p < .05$), and a gender by *partner's* perceived attractiveness of them on relationship adjustment (Chi square difference = 5.31, $p < .05$). For the perceived partner attractiveness interaction, results showed that for both men ($B = 4.033$, $SE = .718$, $t = 5.62$, $p < .001$) and women ($B = 1.966$, $SE = .725$, $t = 2.71$, $p = .007$), those who perceived their partner was attractive had higher relationship adjustment. However, the relationship was significantly stronger for men than women. For the *partner's* perceived attractiveness of them interaction, results showed that for men ($B = 1.487$, $SE = .701$, $t = 2.12$, $p = .031$), those whose *partners* perceived them as attractive had higher relationship adjustment. Among women, there was no association between a partner's perceived attractiveness of them and relationship adjustment ($B = -0.215$, $SE = .745$, $t = -0.29$, $p = .77$).

Discussion

Our results support our conceptual model showing that relationship strengths, relationship risks, and external family support indirectly relate to mental and physical well-being through their associations with relationship adjustment for low-income young couples expecting a baby. Relationship strengths such as equity in relationships, romantic love, and perceived partner attractiveness related to better relationship adjustment, whereas relationship risks such as attachment insecurity, and presence of interpersonal violence related to worse relationship adjustment.

Our use of the Actor–Partner Interdependence model allowed us to examine whether an individual's own characteristic and characteristics of their partner influenced their own relationship adjustment. The majority of associations found were actor associations, indicating that although a partner's relationship strengths and risks did have some direct associations with a person's relationship adjustment, the majority of association was from an individual's own relationship strengths and risks. Relationship factors explained a large amount of variability of relationship adjustment. Demographic variables (e.g., age, race, length of relationship) did not relate to relationship adjustment. Furthermore, the mechanisms relating to good relationship adjustment were fairly consistent across females and males.

Our finding that better relationship adjustment is associated with better mental and physical well-being for low-income young couples expecting a baby supports research showing strong relationships are associated with better mental and physical health among older middle class married couples (Coyne et al. 2001; Holt-Lunstad et al. 2008). This is the first study that we are aware of that shows that relationship adjustment is associated with mental and physical functioning among low-income mostly minority adolescents and young adults. Braithwaite and colleagues found that being in a committed relationship was associated with fewer mental health problems but was not related to physical health problems among a

sample of mostly white college students (Braithwaite et al. 2010). Our results extend this finding in a sample of low-income minority adolescents and young adults expecting a baby.

In 2009, there were approximately 410,000 babies born to young mothers, representing a large and significant public health issue (Hamilton et al. 2010). Understanding factors that may cause additional stress and strain on young parents is critical. Our results suggest that a strong relationship may be an important factor related to health and well-being for young expecting families. Further, our results showed that female mental and physical health was significantly lower than male mental and physical health, which may partially stem due to the fact that the women were pregnant, which influences mental and physical functioning (Milan et al. 2004a, b). More research is needed to show how changes in relationships may lead to changes in mental and physical health across pregnancy and the postpartum period.

Our results also suggest that these relationships are complex. The majority of young men and women reported positive relationships (i.e., low levels of relationship distress). However, nearly 2 out of the 3 couples had at least one member of the couple who was experiencing moderate to severe relationship distress. Previous research suggests that relationship conflict and risk for relationship dissolution increase from pregnancy to 1 year after the birth of the baby (Gee and Rhodes 1999; Kershaw et al. 2010). Therefore, the fact that the majority of young couples already experience some levels of relationship distress during pregnancy is a potential indicator of the difficulties of managing a young relationship and raising a child.

Results from our model provide some additional insight into the factors related to relationship adjustment among young expecting couples. Equity in the relationship, feelings of love, perceived partner attractiveness, low levels of insecure attachment, low levels of intimate partner violence, and family support of the relationship were all associated with high relationship adjustment among young expecting parents. Notably, many of these predictors are consistent with predictors of relationship adjustment in adult relationships (Bentley et al. 2007; Marchand-Reilly 2009; Mikulincer et al. 2002; Rhoades et al. 2001) further demonstrating that relationships are meaningful for adolescents and young adults and that many of the factors important for adult relationships are applicable for young low-income pregnant couples.

Adolescents who were in equitable relationships had better relationship adjustment than adolescents in inequitable relationships, which is consistent with the literature on adult relationships. This result may in part be due the fact the better functioning couples are more similar to each other (e.g., similar levels of intelligence, attractiveness) (Gonzaga et al. 2007). However, it also may suggest that equal contributions in behavioral aspects of the relationship (e.g., showing affection, paying for things, chores) is likely to lead to less relationship conflict and better functioning (DeMaris 2007). In addition, relationship equity indirectly related to better mental and physical quality of life, suggesting that equitable relationships may influence health and well-being.

Stronger feelings of romantic love toward their partner related to better relationship adjustment. This finding may reflect the importance of emotion in evaluating interpersonal

relationships among adolescents and young adults. Strong feelings may color perceptions of the partner and the functioning of the relationship (Larson and Clore 1999; Mikulincer and Shaver 2005). Another relationship strength related to relationship adjustment was perceived partner attractiveness. The more one perceived their partner as attractive, the better the relationship adjustment. The importance of physical attractiveness on adolescent's relationships has been demonstrated (Furman and Winkles 2010). The influence of perceived attractiveness on relationship adjustment was the only way males and females differed in our model. Our results suggest that this association of perceived attractiveness of their partner and relationship adjustment is stronger for men than women. This finding is consistent with meta-analyses that have shown that physical attractiveness is more important in mate selection for men than women (Feingold 1990). Furthermore, men who had partners who perceived them as attractive had better relationship adjustment than men who had partners who did not perceive them as attractive. Physical attractiveness seems to play an important role in relationship adjustment for young men. It is also possible that the pregnancy influenced the magnitude of the differences between males and females. The nature of attractiveness may change for males and females during pregnancy. More research is needed to explore this.

In addition to relationship strengths, several relationship risks were associated with relationship adjustment. Insecure attachment was an important predictor of relationship adjustment for both young women and men. Both attachment avoidance and attachment anxiety significantly related to poor relationship adjustment. Individuals with high levels of attachment avoidance resist intimacy and commitment. These results are particularly important because research has shown that becoming pregnant may heighten avoidance tendencies and lead to increased distancing and conflict which can result in relationship strain (Simpson et al. 2003). Our model suggests that attachment avoidance had a direct association with relationship adjustment and indirect associations with mental and physical quality of life through relationship adjustment.

Individuals with high levels of attachment anxiety and individuals whose partners had high levels of attachment anxiety had poor relationship adjustment. These findings are consistent with the literature that shows that attachment anxiety relates to poor adjustment, more negative views toward partners, and more problem behaviors that may exacerbate relationship conflict (Cooper et al 1998; Simpson et al. 1996). Relationship dissatisfaction is particularly prevalent among individuals who have partners with attachment anxiety (Feeney et al. 1999). This dissatisfaction may stem from the partner feeling unappreciated, and lead them to distance themselves from the relationship, confirming the individual's feelings of attachment anxiety (Rholes et al. 2001). In addition, we found a direct path from attachment anxiety to lower mental health quality of life, which is consistent with the literature showing that attachment anxiety relates to increased mental distress (Cooper et al. 1998; Simpson et al. 1996). These results confirm the importance of romantic attachments among adolescents and during pregnancy (Kershaw et al. 2007).

Furthermore, our results suggest that being the victim or perpetrator of intimate partner violence was associated with poor relationship adjustment, which was consistent across females and males. It is important to reduce potential conflict and intimate partner violence

among young adolescent parents not only because it is associated with relationship adjustment and stability, but also because conflict resolution patterns learned early on are often carried over in adulthood. Children who witness violence of their parents develop poorer conflict resolution skills and are more likely to perpetrate violence when they become adults (Halford et al. 2000). It is also interesting that intimate partner violence did not have a direct association with mental and physical quality of life over and above its association with relationship adjustment, suggesting that the impact of intimate partner violence on mental well-being may be due to its association with relationship adjustment.

Another factor that influenced relationship adjustment was the amount of family support for the relationship. Although it is possible that families are more supportive of well functioning relationships and less supportive of poorly functioning relationships, this result also highlights the potential complex influence families have on adolescent relationships. A lack of support of the relationship by family members may cause additional strain and conflict in the relationship. This strain may be heightened in the context of pregnancy and adolescence where negotiation over prenatal care, child care, and costs associated with child rearing may be influenced by parental relationships with partners. Our research showed that after controlling for one's own family support of the relationship, *partner's* family support of the relationship was related to significantly worse adjustment. This effect was in the opposite direction of the correlations, suggesting that it manifests only after controlling for an individual's own family support. Support from a partner's family may be seen as helping but may also be seen as meddling and lead to conflicting opinions and agendas, and emotional and economic disequilibrium within a relationship. Involvement of a partner's family may cause tension and increase the likelihood of inter-familial conflict over issues of prenatal care, financial support, and child rearing. A strong and equal relationship may require some familial distancing and therefore signify a transition to adulthood and independence.

Our study is one of the first to focus on relationship adjustment and its associations with the mental and physical well-being of young low-income couples undergoing a stressful life transition. Despite our studies strengths, there are several limitations that we should note. First, is that despite our hypothesized model, the study is cross-sectional and causality cannot be determined. It is possible that several of the predictor variables could have been caused by relationship adjustment or that quality of life could have caused relationship adjustment. Future longitudinal studies are needed to confirm the nature of these relationships. Second, the sample may have limited generalizability given that it includes couples from a single geographical region and who presented from prenatal care at obstetrics clinics. Third, the measure of relationship power had low reliability, and therefore it is not clear if the lack of association with relationship satisfaction is partially influenced by the low reliability of the measure. Fourth, we may not have included all potential predictors and mediators in the model which may mask some of the posited relationships. Fifth, some of our predictors had some conceptual and measurement overlap with relationship adjustment resulting in possible inflated associations. Finally, we included self-report measures instead of biological measures of mental and physical health. A reliance on self-report versus other forms of measurement (e.g., biological, clinical assessment, observation) was a limitation of the study. Further, our quality of life measures had only four items each, limiting their

conceptual scope. However, we used one of the most validated and used measures of quality life, increasing the meaningfulness of our results.

Our study highlighted the association of relationship adjustment and mental and physical well-being during pregnancy for young low-income couples. Our results stress the need to further understand how relationship adjustment might influence mental and physical health, as well as the factors related to relationship adjustment during pregnancy. Clinicians rarely assess a young pregnant woman's relationship context during prenatal or pediatric visits (Rollans et al. 2013). Our results also highlight the potential impact partners have on our adjustment, health, and well-being. More research is needed that integrate partners in general in health research, and male partners specifically in research of health and well-being during pregnancy.

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References

- Ackerman B, Brown E, D'Eramo K, Izard C. Maternal relationship instability and the school behavior of children from disadvantaged families. *Developmental Psychology*. 2002; 38:694–704. [PubMed: 12220048]
- Akinbami LJ, Schoendorf KC, Kiely JL. Risk of preterm birth in multiparous teenagers. *Archives of Pediatric Adolescent Medicine*. 2000; 154:1101–1107.
- Arnold A, Lewis J, Maximovich A, Ickovics JR, Kershaw T. Antecedents and consequences of caregiving structure on young mothers and their infants. *Maternal and Child Health Journal*. 2011; 15:1037–1045. [PubMed: 20680671]
- Bentley C, Galliher R, Ferguson T. Associations among aspects of interpersonal power and relationship adjustment in adolescent romantic couples. *Sex Roles*. 2007; 57:483–495. [PubMed: 18776943]
- Bollen, KA.; Long, JS., editors. *Testing structural equation models*. Newbury Park, CA: Sage; 1993.
- Bost KK, Cox MJ, Burchinal MR, Payne C. Structural and supportive changes in couples' family and friendship networks across the transition to parenthood. *Journal of Marriage & the Family*. 2002; 64:517–531.
- Braithwaite S, Delevi R, Fincham F. Romantic relationships and the physical and mental health of college students. *Personal Relationships*. 2010; 17:1–12.
- Bralock AR, Koniak-Griffin D. Relationship, power, and other influences on self-protective sexual behaviors of African American female adolescents. *Health Care for Women International*. 2007; 28:247–267. [PubMed: 17364984]
- Brennan, KA.; Clark, CL.; Shaver, PR. Self-report measurement of adult romantic attachment: An integrative overview. In: Simpson, JA., editor. *Attachment theory and close relationships*. New York: Guilford Press; 1998. p. 46-76.
- Campbell J, Garcia-Moreno C, Sharps P. Abuse during pregnancy in industrialized and developing countries. *Violence Against Women*. 2004; 10:770.
- CDC. Atlanta, GA: Division of Adolescent and School Health, National Center for Chronic Disease Prevention and Health Promotion, CDC; 2010. *Youth risk behavioral surveillance-United States, 2009*.
- Cooper M, Shaver PR, Collins NL. Attachment styles, emotion regulation, and adjustment in adolescence. *Journal of Personality and Social Psychology*. 1998; 74:1380–1397. [PubMed: 9599450]

- Coyne JC, Rohrbaugh MJ, Shoham V, Sonnega JS, Nicklas JM, Cranford JA. Prognostic importance of marital quality for survival of congestive heart failure. *American Journal of Cardiology*. 2001; 88:526–529. [PubMed: 11524062]
- Crowell, J.; Fraley, RC.; Shaver, PR. Measures of individual differences in adolescent and adult attachment. In: Cassidy, J.; Shaver, PR., editors. *Handbook of attachment: Theory, research, and clinical applications*. 2nd ed.. New York: Guilford Press; 2008. p. 599-634.
- Cutrona CE, Hessling RM, Bacon PL, Russell DW. Predictors and correlates of continuing involvement with the baby's father among adolescent mothers. *Journal of Family Psychology*. 1998; 12:369–387.
- DeMaris A. The role of relationship inequity in marital disruption. *Journal of Social and Personal Relationships*. 2007; 24:177–195.
- Desrosiers A, Sipsma H, Callands T, Hansen N, Divney A, Magriples U, et al. "Love Hurts": Romantic attachment and depressive symptoms in pregnant adolescent and young adult couples. *Journal of Clinical Psychology*. 2013
- Dinero RE, Conger RD, Shaver PR, Widaman KF, Larsen-Rife D. Influence of family of origin and adult romantic partners on romantic attachment security. *Couple and Family Psychology: Research and Practice*. 2011; 1:16–30.
- Dulude D, Belanger C, Wright J, Sabourin S. High-risk pregnancies, psychological distress, and dyadic adjustment. *Journal of Reproductive & Infant Psychology*. 2002; 20:101–124.
- Feeney J, Kelly L, Gallois C, Peterson C, Terry DJ. Attachment style, assertive communication, and safer-sex behavior. *Journal of Applied Social Psychology*. 1999; 29:1964–1983.
- Feingold A. Gender differences in effects of physical attractiveness on romantic attraction: A comparison across five research paradigms. *Journal of Personality and Social Psychology*. 1990; 59:981–993.
- Frieze IH, McHugh MC. Power and influence strategies in violent and nonviolent marriages. *Psychology of Women Quarterly*. 1992; 16:449–465.
- Furman W, Winkles JK. Predicting romantic involvement, relationship cognitions, and relationship qualities from physical appearance, perceived norms, and relational styles regarding friends and parents. *Journal of Adolescence*. 2010; 33:827–836. [PubMed: 20800891]
- Gavin L, Black M, Minor S, Abel Y, Papas M, Bentley M. Young, disadvantaged fathers' involvement with their infants: An ecological perspective. *Journal of Adolescent Health*. 2002; 31:266–276. [PubMed: 12225739]
- Gee CB, Rhodes JE. Postpartum transitions in adolescent mothers' romantic and maternal relationships. *Merrill-Palmer Quarterly*. 1999; 45:512–532.
- Gonzaga G, Campos B, Bradbury T. Similarity, convergence, and relationship satisfaction in dating and married couples. *Journal of Personality and Social Psychology*. 2007; 93:34–48. [PubMed: 17605587]
- Graham JM. Measuring love in romantic relationships: A meta-analysis. *Journal of Social and Personal Relationships*. 2011; 28:748–771.
- Halford WK, Sanders MR, Behrens BC. Repeating the errors of our parents? Family-of-origin spouse violence and observed conflict management in engaged couples. *Family Process*. 2000; 39:219–235. [PubMed: 10907148]
- Hamilton, BE.; Martin, JA.; Ventura, SJ. *National Vital Statistics Reports*. Atlanta, GA: CDC; 2010. Births: Preliminary data for 2009.
- Hetherington, E.; Stanley-Hagan, MM. The effects of divorce on fathers and their children. In: Lamb, MEE., editor. *The role of the father in child development*. New York: Wiley; 1997. p. 191-211.
- Holt-Lunstad J, Birmingham WA, Light KC. Influence of a "warm touch" support enhancement intervention among married couples on ambulatory blood pressure, oxytocin, alpha amylase, and cortisol. *Psychosomatic Medicine*. 2008; 70:976–985. [PubMed: 18842740]
- Ickovics JR, Niccolai LM, Lewis JB, Kershaw TS, Ethier KA. High postpartum rates of sexually transmitted infections among teens: Pregnancy as a window of opportunity for prevention. *Sexually Transmitted Infections*. 2003; 79:469–473. [PubMed: 14663123]
- Kenny, DA.; Kashy, DA.; Cook, WL. *Dyadic data analysis*. New York, NY: The Guilford Press; 2006.

- Kershaw T, Arnold A, Gordon D, Magriples U, Niccolai L. In the heart or in the head: Relationship and cognitive influences on sexual risk among young couples. *AIDS and Behavior*. 2012; 16:1522–1531. [PubMed: 21983692]
- Kershaw TS, Ethier KA, Niccolai LM, Lewis JB, Milan S, Meade CS, et al. Let's stay together: Relationship dissolution and sexually transmitted diseases among parenting and non-parenting adolescents. *Journal of Behavioral Medicine*. 2010; 33:454–465. [PubMed: 20607596]
- Kershaw TS, Milan S, Westdahl C, Lewis J, Rising S, Fletcher R, et al. Avoidance, anxiety, and sex: The influence of romantic attachment on HIV-risk among pregnant women. *AIDS and Behavior*. 2007; 11:299–311. [PubMed: 16865541]
- Kershaw TS, Niccolai LM, Ickovics JR, Lewis JB, Meade CS, Ethier KA. Short and long-term impact of adolescent pregnancy on postpartum contraceptive use: Implications for prevention of repeat pregnancy. *Journal of Adolescent Health*. 2003; 33:359–368. [PubMed: 14596957]
- Knobloch LK, Donovan-Kicken E. Perceived involvement of network members in courtships: A test of the relational turbulence model. *Personal Relationships*. 2006; 13:281–302.
- Larson, RW.; Clore, GL. The emotions of romantic relationships: Do they wreak havoc on adolescents. In: Furman, W.; Brown, BB.; Feiring, C., editors. *The development of romantic relationships in adolescence*. New York, NY: Cambridge University Press; 1999.
- Lauresen, B.; Jensen-Campbell, LJ. The nature and functions of social exchange in adolescent romantic relationships. In: Furman, W.; Feiring, C.; Brown, BB., editors. *The development of romantic relationships in adolescence*. New York, NY: Cambridge University Press; 1999.
- Lefante JJ, Harmon GN, Ashby KM, Barnard D, Webber LS. Use of the SF-8 to assess health-related quality of life for a chronically ill, low-income population participating in the central Louisiana medication access program (CMAP). *Quality of Life Research*. 2005; 14:665–673. [PubMed: 16022060]
- Marchand-Reilly JF. Depressive symptoms in young adults: The role of attachment orientations and romantic relationship conflict. *Journal of Adult Development*. 2009; 16:31–38.
- Mikulincer M, Florian V, Cowan P, Cowan C. Attachment security in couple relationships: A systemic model and its implications for family dynamics. *Family Process*. 2002; 41:405–434. [PubMed: 12395567]
- Mikulincer M, Shaver PR. Attachment theory and emotions in close relationships: Exploring the attachment-related dynamics of emotional reactions to relational events. *Personal Relationships*. 2005; 12:149–168.
- Milan S, Ickovics J, Kershaw T, Lewis J, Meade C, Ethier K. Prevalence, course, and predictors of emotional distress in pregnant and parenting adolescents. *Journal of Consulting and Clinical Psychology*. 2004a; 72:328–340. [PubMed: 15065965]
- Milan S, Lewis J, Ethier K, Kershaw T, Ickovics J. The impact of physical maltreatment history on the adolescent mother-infant relationship: Mediating and moderating effects during the transition to parenthood. *Journal of Abnormal Child Psychology*. 2004b; 32:249–261. [PubMed: 15228174]
- Niccolai L, Ethier K, Kershaw T, Lewis J, Ickovics J. Pregnant adolescents at risk: Sexual behaviors and sexually transmitted disease prevalence. *American Journal of Obstetrics and Gynecology*. 2003; 188:63–70. [PubMed: 12548197]
- Pulerwitz J, Gortmaker SL, DeJong W. Measuring sexual relationship power in HIV/STD research. *Sex Roles*. 2000; 42:637–660.
- Ratelle CF, Carbonneau N, Vallerand RJ, Mageau G. Passion in the romantic sphere: A look at relational outcomes. *Motivation and Emotion*. 2013; 37:106–120.
- Rholes WS, Simpson JA, Campbell L, Grich J. Adult attachment and the transition to parenthood. *Journal of Personality and Social Psychology*. 2001; 81:421–435. [PubMed: 11554644]
- Roberts TA, Auinger P, Klein JD. Intimate partner abuse and the reproductive health of sexually active female adolescents. *Journal of Adolescent Health*. 2005; 36:380–385. [PubMed: 15837341]
- Roberts B, Browne J, Ocaña KF, Oyok T, Sondorp E. The reliability and validity of the SF-8 with a conflict-affected population in northern Uganda. *Health and Quality of Life Outcomes*. 2008; 6:108. [PubMed: 19055716]

- Rollans M, Schmied V, Kemp L, Meade T. Negotiating policy in practice: Child and family health nurses' approach to the process of postnatal psychosocial assessment. *BMC Health Services Research*. 2013; 13:133. [PubMed: 23565716]
- Simpson J, Rholes W, Campbell L, Tran S, Wilson C. Adult attachment, the transition to parenthood, and depressive symptoms. *Journal of Personality and Social Psychology*. 2003; 84:1172–1187. [PubMed: 12793583]
- Simpson J, Rholes W, Phillips D. Conflict in close relationships: An attachment perspective. *Journal of Personality and Social Psychology*. 1996; 71:899–914. [PubMed: 8939040]
- Spanier GB. Measuring dyadic adjustment: New scale for assessing the quality of marriage and similar dyads. *Journal of Marriage & the Family*. 1976; 38:15–28.
- Spanier GB, Thompson L. A confirmatory analysis of the dyadic adjustment scale. *Journal of Marriage & the Family*. 1982; 44:731–738.
- Sprecher S. Sexual satisfaction in premarital relationships: Associations with satisfaction, love, commitment, and stability. *Journal of Sex Research*. 2002; 39:190–196. [PubMed: 12476266]
- Straus, MA. Measuring intrafamily conflict and violence: The conflict tactics scale. In: Straus, MA.; Gelles, RJ., editors. *Physical violence in American families*. Piscataway, NJ: Transaction; 1990. p. 29-47.
- Swami V, Stieger S, Haubner T, Voracek M, Furnham A. Evaluating the physical attractiveness of oneself and one's romantic partner: Individual and relationship correlates of the love-is-blind bias. *Journal of Individual Differences*. 2009; 30:35.
- Traubmann J, Petersen R, Utne M, Hatfield E. Measuring equity in intimate relations. *Applied Psychological Measurement*. 1981; 5:467–480.
- Tucker P, Aron A. Passionate love and marital satisfaction at key transition points in the family life cycle. *Journal of Social and Clinical Psychology*. 1993; 12:135–147.
- Turner-Bowker D, Bayliss M, Ware JE, Kosinski M. Usefulness of the SF-8 Health Survey for comparing the impact of migraine and other conditions. *Quality of Life Research*. 2003; 12:1003–1012. [PubMed: 14651418]
- Varni JW, Limbers CA. The PedsQL™ 4.0 generic core scales young adult version feasibility, reliability and validity in a university student population. *Journal of Health Psychology*. 2009; 14:611–622. [PubMed: 19383661]
- Ventura, SJ.; Mathews, TJ.; Hamilton, BE.; Sutton, PD.; Abma, JC. *Morbidity and Mortality Weekly Report*. Atlanta, GA: CDC; 2011. Adolescent pregnancy and childbirth: United States, 1991–2008.
- Wan GJ, Barnowski CE, Ambegaonkar BM, Bolge SC, McDonnell DD. Treatment satisfaction with a transdermal contraceptive patch or oral contraceptives. *Contraception*. 2007; 75(4):281–284. [PubMed: 17362706]
- Ware, JE.; Kosinski, M.; Dewey, JE.; Gandek, B. *A manual for users of the SF-8 Health Survey*. Lincoln, RI: QualityMetric Incorporated; 2001.

Fig. 1.

Conceptual Model of the Influence of Relationship Factors on Relationship Functioning and Quality of Life

Fig. 2.
Relationship adjustment for females, males, and couples

Fig. 3.

Model of relationship factors influencing relationship adjustment and quality of life. All analyses controlled for length of relationship, age, parity, gestational age, and race; Coefficients are unstandardized; Only significant paths are shown

Table 1

Sample characteristics, relationship adjustment, and quality of life of young expecting couples

Demographics	Females	Males	<i>p</i> value
Age M(SD)	18.7 (1.7)	21.3 (4.1)	<.001 **
Household income (\$) M(SD)	13,399 (15,466)	17,271 (21,518)	0.013 *
Race N (%)			
Black	116 (39.5)	142 (48.3)	.054
Hispanic	117 (40.0)	108 (36.7)	
White/Other	50 (20.5)	31 (15.0)	
Relationship adjustment M(SD)	116.03 (20.28)	114.32 (21.19)	.180
Mental quality of life M(SD)	45.75 (10.65)	49.64 (10.27)	<.001 **
Physical quality of life M(SD)	48.98 (8.27)	51.87 (7.87)	<.001 **

**
 $p < .01$;

*
 $p < .05$

Correlations between actor and partner predictors and actor relationship satisfaction, mental quality of life and physical quality of life for males and females

Table 2

	Relationship satisfaction		Mental quality of life		Physical quality of life	
	Males	Females	Males	Females	Males	Females
Relationship strengths						
Relationship equity						
Actor	.539*	.579*	.311*	.392*	.048	.005
Partner	.345*	.250*	.039	.123*	.005	-.073
Romantic love						
Actor	.545*	.411*	.137*	.115*	-.014	.053
Partner	.286*	.317*	.123*	.086	.084	-.031
Partner attractiveness						
Actor	.571*	.406*	.121*	.114*	.018	.030
Partner	.332*	.254*	.144*	.021	-.017	-.092
Frequency of sex	.072	.097	-.114	.121	.082	.048
Relationship risks						
Attachment avoidance						
Actor	-.558*	-.459*	-.268*	-.194*	-.128*	-.024
Partner	-.257*	-.290*	-.155*	-.090	.033	.069
Attachment anxiety						
Actor	-.290*	-.446*	-.359*	-.380	-.160	-.009
Partner	-.244*	-.197*	-.152*	-.100	-.023	-.079
Relationship power						
Actor	.063	.044	.043	.082	.078	.033
Partner	-.017	-.003	.049	.089	.024	.113
IPV						
Actor	-.304*	-.390*	-.173*	-.214*	-.027	.009
Partner	-.163*	-.269*	-.089	-.142*	.035	.006

	Relationship satisfaction		Mental quality of life		Physical quality of life	
	Males	Females	Males	Females	Males	Females
External family support						
Family support						
Actor	.412 *	.397 *	.191 *	.245 *	.210 *	-.017
Partner	.124 *	.202 *	.203 *	.059	-.031	-.011

*
p < .05

Modeled associations between relationship factors and demographics on relationship adjustment and quality of life among young pregnant couples

Table 3

	Relationship adjustment		Mental quality of life		Physical quality of life	
	B (SE)	t-test	B (SE)	t-test	B (SE)	t-test
Mediator						
Relationship adjustment						
Actor	–	–	.124 (.022)	5.68**	.041 (.017)	2.35*
Partner			–.009 (.021)	–0.43	–.028 (.017)	–1.62
Relationship strengths						
Relationship equity						
Actor	.233 (.024)	9.65**	–	–	–	–
Partner	.037 (.024)	1.51				
Romantic love						
Actor	1.632 (.591)	2.76**	–	–	–	–
Partner	–.164 (.597)	–0.28				
Partner attractiveness						
Actor	2.943 (.590)	4.99**	–	–	–	–
Partner	.742 (.591)	1.23				
Frequency of sex	.085 (.057)	1.48	–	–	–	–
Relationship risks						
Attachment avoidance						
Actor	–.254 (.041)	–6.24**	–	–	–	–
Partner	–.035 (.041)	–0.39				
Attachment anxiety						
Actor	–.074 (.032)	–2.29*	–.146 (.021)	–7.05**	–	–
Partner	–.072 (.032)	–2.22*				
Relationship power						
Actor	2.984 (2.24)	1.33	–	–	–	–
Partner	2.984 (2.24)	–0.93				
Intimate partner violence						

	Relationship adjustment		Mental quality of life		Physical quality of life	
	B (SE)	t-test	B (SE)	t-test	B (SE)	t-test
Actor	-4.925 (1.44)	-3.37**	-	-	-	-
Partner	-3.401 (1.47)	-2.43*				
External family support						
Family support of relationship						
Actor	.634 (.137)	4.63**	-	-	-	-
Partner	-.318 (.137)	-2.33*				
Demographics						
Length of relationship	-.019 (.031)	-0.62	.004 (.021)	0.20	-.028 (.018)	-1.56
Age	.020 (.184)	0.11	.048 (.125)	0.38	-.048 (.106)	-0.46
Parity	.068 (.166)	0.44	.013 (.134)	0.10	-.058 (.112)	0.52
Gestational age	-.121 (.115)	-1.05	-.036 (.075)	-0.49	-.160 (.064)	-2.50*
Race						
White/Other	Referent		Referent		Referent	
African-American	-.696 (1.74)	-0.40	-.352 (1.05)	-0.33	1.035 (.895)	1.16
Hispanic	1.295 (1.70)	0.76	0.23 (1.06)	0.02	-.117 (.898)	-0.13

**
p < .01;

*
p < .05

Table 4

Indirect effects of relationship strengths, relationship risks, and external family support on mental and physical quality of life

	Mental quality of life		Physical quality of life	
	B (SE)	95 % CI	B (SE)	95 % CI
Relationship strengths				
Relationship equity				
Actor	.029 (.006)*	(.016 to .040)	.008 (.004)*	(.001 to .019)
Partner	.002 (.006)	(-.061 to .012)	-.005 (.004)	(-.014 to .002)
Romantic love				
Actor	.202 (.082)*	(.128 to .271)	.070 (.045)*	(.009 to .250)
Partner	-.033 (.079)	(-.419 to .252)	-.051 (.041)	(-.207 to .057)
Partner attractiveness				
Actor	.357 (.082)*	(.050 to .413)	.098 (.059)*	(.009 to .250)
Partner	.068 (.079)	(-.263 to .093)	-.051 (.063)	(-.207 to .057)
Frequency of sex	.01 (.007)	(-.003 to .026)	.001 (.002)	(-.002 to .008)
Relationship risks				
Attachment avoidance				
Actor	-.032 (.008)*	(-.049 to -.019)	-.010 (.005)*	(-.023 to -.001)
Partner	-.002 (.007)	(-.015 to .013)	-.006 (.005)	(-.002 to .015)
Attachment anxiety				
Actor	-.009 (.005)	(-.018 to .000)	-.001 (.002)	(-.006 to .003)
Partner	-.008 (.004)*	(-.019 to -.001)	-.001 (.002)	(-.004 to .005)
Relationship power				
Actor	.384 (.295)	(-.129 to 1.13)	.177 (.145)	(-.038 to .480)
Partner	-.280 (.312)	(-.938 to .302)	-.166 (.141)	(-.497 to .034)
Intimate partner violence				
Actor	-.579 (.233)*	(-1.09 to -.185)	-.103 (.114)	(-.351 to .118)
Partner	-.383 (.221)*	(-.915 to -.015)	-.002 (.119)	(-.238 to .251)
External family support				
Family support				

	Mental quality of life		Physical quality of life	
	B (SE)	95 % CI	B (SE)	95 % CI
Actor	.081 (.025) *	(.034 to .129)	.035 (.017) *	(.004 to .067)
Partner	.045 (.025) *	(-.115 to -.005)	-.031 (.017)	(-.063 to .003)

* $p < .05$;
All analyses controlled for length of relationship, age, parity, gestational age, and race; Coefficients are unstandardized