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Spread of Health Behaviors in Young Couples: How Relationship Power Shapes Relational Influence

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Abstract

Introduction—Romantic relationships provide a context in which partners can influence each other's health behaviors (e.g., weight-related behaviors, substance use). Partner influence may be especially pronounced among newly parenting adolescent and young adult couples because of the desire to maintain relationships (and therefore openness to influence), and because parenting-related challenges can pose risk for uptake of unhealthy behaviors. Two understudied factors that might affect partner influence on health behaviors include relative power within the relationship and prior levels of engagement in health behaviors.

Methods—The current study explored longitudinal partner influence effects in a sample of newly parenting adolescent and young adult females and their male partners ($N_{couples} = 157$) recruited from four obstetrics/gynecology clinics in Connecticut between July 2007 and February 2011. Five health behaviors in two domains were explored: weight-related behaviors (unhealthy eating, exercise) and substance use (cigarette, alcohol, and marijuana use). Relationship power and previous levels of health behaviors were examined as moderators. Variations across gender were also examined.

Results—Results of dyadic analysis showed partner influences for alcohol use. Partner influence depended on relationship power for eating, alcohol, and marijuana use, and on previous behavior for cigarette use. Results also varied by gender – only female-to-male influence was found for unhealthy eating and cigarette use. Higher relationship power was protective against smoking escalation for females.

Discussion—These results differ from previous research findings mainly on male-to-female influences. Such asymmetries may reflect traditional female dominance in food preparation, as well as shifts in power balances postpartum. Targeting relational power dynamics may buffer the spread and escalation of unhealthy behaviors in young parents, with implications for the health of both members of a couple as well as their children.

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Keywords

health behaviors; relationship power; partner influence; adolescents; couples

Health behaviors tend to cluster within social groups and to spread through social contacts. Social clustering and influence around health behaviors such as weight-related behaviors (e.g., exercise, eating; de la Haye, Robins, Mohr, & Wilson, 2010; Fletcher, Bonell, & Sorhaingo, 2011; Jackson, Steptoe, & Wardle, 2015) and substance use (Desrosiers, Thompson, Divney, Magriples, & Kershaw, 2015; Fleming, White, & Catalano, 2010) are consistently found in populations of all ages (see also Meyler, Stimpson, & Peek, 2007). In particular, the influence of the social environment, including romantic relationship partners, on individual health behaviors is strong during adolescence and young adulthood (Fleming et al., 2010; Furman & Simon, 2006). Understanding how romantic partners influence each other's health behaviors may offer novel targets for interventions and long-term behavioral change. Two factors that may impact such influence effects include *romantic relationship characteristics* and *prior levels of engagement in health behaviors*.

Although many studies have shown that romantic partners influence each other's health behaviors, little is known about "for whom" or "under what conditions" these influences occur. For example, several studies found that influence effects are asymmetric – one partner may be influenced by but not influence the other. This suggests that a nuanced view of partner influence on health behavior is needed. Examples of asymmetries in the substance use domain include moderation by gender in couples (e.g., males influenced female substance use but females did not influence male substance use, Desrosiers et al., 2015; Leonard & Mudar, 2003), or moderation by relationship characteristics (e.g., relationship satisfaction, Fleming et al., 2010). Relational asymmetries may be particularly pronounced during adolescence because relationships tend to be fragile and vulnerable to break-ups (Furman, 2002; Youniss & Smollar, 1985), and adolescents may be more receptive to romantic partner influences in an attempt to preserve relationships (Giordano, Manning & Longmore, 2002; Haynie, Giordano, Manning, & Longmore, 2005).

Relationship Power and Partner Influences

Relationship power, here defined as *power over others' outcomes* (e.g., Fiske & Berdahl, 2007; Keltner, Gruenfeld, & Anderson, 2003; see also Galliher, Rostosky, Welsh, & Kawaguchi, 1999), is one factor that might affect how romantic partners influence each other's health behavior. Ostensibly, a more powerful partner has greater ability to influence the other member of a couple. One approach to investigating power within romantic relationships is through assessing decision-making dominance (Pulerwitz, Gortmake, & DeJong, 2000). This broad measure of relationship power may affect romantic partner influence processes across numerous health behaviors. Research specifically examining this possibility, however, is lacking.

When considering health behaviors and relationship power of both members of a couple, many possibilities for influence arise. It is therefore important to assess the perceptions and behaviors of both members of a couple rather than focusing solely on one individual. Using

a dyadic lens in a comprehensive review of theoretical approaches to power, Simpson, Farrell, Oriña, and Rothman (2015) discuss a common theme suggesting that an individual with lower relative power in a relationship is more likely to act in accordance with the behaviors and wishes of a higher-powered partner. Simpson et al. (2015) also suggest that someone with lower power may be less likely to act in accordance with their own intentions and/or past behavior. This pattern has been demonstrated in condom use within couples: individuals reporting lower relative power show greater influence of partner condom use intentions on their own condom use intentions (VanderDrift, Agnew, Harvey, & Warren, 2013). The effect of power on the spread of health behaviors has not been tested explicitly within the context of romantic relationships.

Prior Level of Engagement in Health Behaviors and Partner Influences

It is unlikely that partner influences will occur across all levels of a given health behavior. For example, studies have shown that partners influenced a person who engaged in low levels of drinking, but not someone who already engaged in higher levels of drinking (Gudonis-Miller et al., 2012). This suggests partner influence may be limited when there are upper limits on behaviors. If a person uses alcohol daily, a drinking partner may not further increase individual alcohol use. Similarly, in the domain of weight-related behaviors, upper limits on exercise may create a ceiling for partner influence effects.

Partner Influences in Young Couples Transitioning to Parenthood

The influence of romantic partners on individual behavior is particularly strong during adolescence and young adulthood (Fleming et al., 2010; Furman & Simon, 2006), and adolescents may be more susceptible to the impact of relationship power differentials with respect to decision-making around health behaviors. Major life transitions, such as the transition to parenthood, may also upset relationship power balances, leading to a renegotiation of established relationship patterns (Simpson et al., 2015), and creating avenues for partner influence. Because the transition to parenthood among adolescents and young adults is typically a stressful period associated with increases in relationship difficulties and greater parenting-related stressors than among older parents (Doss, Rhoades, Stanley, & Markman, 2009; Manzi, Vignoles, & Regalia, 2010; Quinlivan, Tan, Steele, & Black, 2004), young parents are at greater risk for engaging in health-harming behaviors (Hodgkinson, Beers, Southammakosane, & Lewin, 2014) and may also be more susceptible to partner transmission of these behaviors. In light of the increased strains and role adjustments accompanying parenthood, as well as findings documenting an increase in substance use during the first year postpartum in both males and females (Spears, Stein, & Koniak-Griffin, 2010), understanding how partners influence health behaviors, and how relationship power and behavioral patterns impact these influences have important implications for promoting healthy behaviors among young families.

To date, most studies of partner influence dynamics have focused exclusively on isolated domains of health behaviors (e.g., examining only weight-related behaviors or only substance use; for an exception see Aalsma, Carpentier, Azzouz, & Fortenberry, 2012), and many use cross-sectional samples. The current study expands upon earlier work by

investigating multiple domains of health behaviors and investigating more precisely *how* romantic partners influence each other's health behaviors over time. Specifically, we examined *reports of relationship power* and *existing levels of a health behavior* as moderators of partner influence on five health behaviors across two domains: weight-related behaviors (unhealthy eating, exercise) and substance use (cigarette use, alcohol use, marijuana use). We hypothesized that, a) as relative partner relationship power increased, partner influences on health behaviors would increase, b) as relative partner power increased, the relationship between actor health behaviors over time might be attenuated, and c) higher existing levels of a health behavior may be less susceptible to partner influence over time. We also explored whether these effects varied across gender, although we had no specific directional hypotheses given conflicting results in previous research (see Rhule-Louie & McMahon, 2007). Understanding such relationship dynamics may offer insights for new points of intervention. Programs to assist young parents may, for example, be designed to alter relationship dynamics and provide a buffer against the spread of negative health behaviors, or to promote the spread of positive behaviors between partners.

Methods

Participants

The current study utilizes data obtained at six- and 12-months postpartum from a longitudinal study of adolescent and young adult females and their male partners recruited from obstetrics and gynecology clinics and an ultrasound clinic in four university-affiliated hospitals in Connecticut between July 2007 and February 2011 (see Kershaw et al., 2013 for further details). Of 944 couples screened for participation, 413 were eligible, and 296 enrolled in the study (72.2%). Data from 157 unique couples ($N_{\text{Male}} = 149$, $N_{\text{Female}} = 154$) with full actor and partner data at six months and who responded at 12 months were used in the current analyses.

Inclusion criteria were a) pregnant partner in the second or third trimester of pregnancy at baseline, b) women age 14–21 years, men age 14 and up, c) both couple members 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 speak either English or Spanish.

Procedure

Informed consent was obtained directly from participants by a research staff member at the baseline appointment. Parental consent was waived because participants were parents and legally able to consent for care for themselves and their child. The couples separately completed structured interviews via audio computer-assisted self-interviews (ACASI). 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 at each assessment.

Measures

Means and standard deviations appear in Table 1.

Unhealthy eating—Unhealthy eating behaviors were measured using an 11-item index adapted from the Rapid Eating Assessment for Patients (REAP; Gans et al., 2003). Sample items include “In an average week, how often do you eat fried foods?” and “... drink 1 or more bottles/cans of REGULAR soda?” Response choices ranged from 0, *never*, to 4, *every day*. Due to low inter-item correlations, one item (eating butter) was dropped from the final scale score. Responses were averaged, with higher numbers indicating more unhealthy eating behaviors.

Exercise—Exercise behaviors were measured using three items adapted from the WAVE Assessment on Activity (Gans et al., 2003). Items asked about engagement in moderate, lifestyle, and sedentary (reverse-scored) activities in the average week. Response choices ranged from 0, *never*, to 4, *every day*. The question about sedentary activity did not correlate with the other items, and was dropped from the final scale score. Responses were averaged, with higher numbers indicating more exercise. Items correlated at six-months postpartum, $r = .40$, $p < .001$, and 12-months postpartum, $r = .53$, $p < .001$.

Cigarette, alcohol, and marijuana use—Substance use was measured with the questions “In the past 3 months, how often did you smoke [cigarettes/alcohol/marijuana]?” Response choices ranged from 0, *never*, to 4, *every day*.

Relationship power—Relationship power was measured using an 8-item scale adapted from the decision-making dominance subscale of the Sexual Relationship Power Scale (SRPS; Pulerwitz et al., 2000). Sample items include “Who usually has more say about what you do together?” and “In general, who do you think has more power in your relationship?” Response choices were 1, *your partner*, 2, *both of you equally*, or 3, *you*. Responses were averaged, with higher numbers indicating more personal power in a relationship. Reliability was low, $\alpha = .44$.

Data Analysis Strategy

Couples data are inherently interdependent – participants are nested within dyads. The Actor-Partner Interdependence Model (APIM) accounts for this interdependence, and estimates both *actor effects* (own – or actor variables predicting actor outcomes) and *partner effects* (partner variables predicting actor outcomes; Kenny, Kashy, & Cook, 2006).

Using the APIM, we examined the prospective influence of health behaviors, relationship power, and their interactions at six-months postpartum on health behaviors at 12-months postpartum. These behaviors were unhealthy eating, exercise, cigarette use, alcohol use, and marijuana use. We examined direct actor and partner effects, moderation by prior levels of actor behavior and by actor and partner reports of relative relationship power, and differences across gender.

Linear models were estimated using the mixed linear function in SPSS version 22.0 for multilevel modeling. Due to skew, substance use outcomes (cigarette, alcohol, and marijuana

use) were modeled using GEE estimation with a negative binomial distribution. Empirical distinguishability (Kenny et al., 2006; determining if control variables or variances differed by gender) was tested as applicable. Differences in fixed and random effects were tested using chi-square difference tests under maximum likelihood (ML) and restricted maximum likelihood (REML) respectively. For hypothesis testing, a series of three models were compared. In the first model, control variables and main effects (actor and partner power, actor and partner behavior at six-months postpartum) were entered. In the second model, all two-way interactions between actor and partner behavior at six-months postpartum, actor and power, and gender were added. In the third model, three-way interactions with gender were added. Final linear model results were obtained using REML. For GEE models, robust standard errors were requested, and Wald χ^2 tests were used to determine significance (Loeys, Cook, De Smet, Wietzker, & Buysse, 2014). Control variables included gender, ethnicity, relationship length, age, and whether or not the couple was living together at six-months postpartum. Continuous variables were mean centered prior to analysis; gender was contrast coded to facilitate interpretation of main effects when interactions were included.

Results

Those included in the analysis were more likely to be Latino, $OR = 1.64$, $p < .01$. Age, gender, relationship length, and living together during pregnancy were not related to the likelihood of inclusion. Of the 157 couples, 66% were living together at 6-months postpartum. Male participants were older than female participants, $t(301) = 7.85$, $p < .001$ ($M_{Male} = 21.37$, $SD_{Male} = 3.85$; $M_{Female} = 18.73$, $SD_{Female} = 1.56$). Male participants were 44.3% Black, 43.0% Latino, 19.1% White, and 2.7% other. Females were 35.7% Black, 44.2% Latino, 16.2% White, and 3.9% other. Males completed 11.83 years of school on average ($SD = 1.95$), and females completed 11.84 years on average ($SD = 1.83$). At six-months postpartum, males and females both reported a median income of \$2,500.00. For 71.1% of males and 79.1% of females, it was a first birth.

Reported relationship power did not differ between males and females, $t(301) = 1.68$, $p = .09$ ($M_{Male} = 1.97$, $SD_{Male} = .23$; $M_{Female} = 2.02$, $SD_{Female} = .21$). Power reports by actor and partner negatively correlated, $r = -.13$, $p = .02$.

Unhealthy Eating

Control variables and variances were not distinguishable across gender. A model with main effects for controls, the interaction between age and gender, and homogenous variance was retained. The first model showed only a positive main effect of actor eating at six-months postpartum on actor eating at 12-months postpartum, $B = .63$, $t(285.62) = 13.69$, $p < .001$. Partner eating was not significant, $B = .04$, $t(284.70) = .84$, $p = .40$.

Two-way interactions did not improve model fit, however, including three-way interactions with gender improved fit over the second model, and marginally improved fit over the first model, $p = .08$. Inspection revealed two significant three-way interactions, thus the model was retained and interpreted. In this model, a significant amount of variance remained in unhealthy eating behavior at 12-months postpartum, $Var = .14$, $p < .001$. Variance between partners was not significantly related, $r = .04$, $p = .68$, indicating that, taking into account the

variables in the model, there was no significant interdependence in eating behaviors at 12-months postpartum.

There were significant three-way interactions between partner eating at six-months postpartum, partner power, and gender, $B = -.61$, $t(274.00) = 2.57$, $p = .01$, and between actor unhealthy eating, partner unhealthy eating, and gender, $B = .20$, $t(147.50) = 2.03$, $p = .04$. For males, the interaction between partner eating and partner power was significant, $B = .86$, $t(273.15) = 2.52$, $p = .01$ (see Figure 1). At low partner power (-1 SD), partner unhealthy eating did not have an effect on male unhealthy eating at 12-months postpartum, $B = -.15$, $t(272.88) = 1.49$, $p = .14$. At high partner power ($+1$ SD), the effect of partner unhealthy eating at six-months postpartum on male eating at 12-months postpartum was positive and significant, $B = .23$, $t(273.47) = 2.38$, $p = .02$. Stated otherwise, if a high-power partner reported more unhealthy eating, male actors also reported more unhealthy eating. For males, the interaction between actor and partner unhealthy eating was not significant, $B = -.16$, $t(273.51) = 1.13$, $p = .26$.

For females, neither the interaction between partner eating and partner power, $B = -.36$, $t(273.70) = 1.10$, $p = .28$, nor the interaction between actor and partner unhealthy eating were significant, $B = .23$, $t(273.22) = 1.71$, $p = .09$.

Exercise

Control variables and variances were not distinguishable across gender. A model with only main effects for controls and homogenous variance was retained. In the first model with only main effects, there was a significant positive effect of actor exercise at six-months postpartum on exercise at 12-months postpartum, $B = .40$, $t(290.75) = 7.29$, $p < .001$. Partner exercise at six-months postpartum was not a significant predictor of actor exercise at 12-months postpartum, $B = .04$, $t(290.86) = .78$, $p = .43$. A significant amount of variance remained in exercise behavior at 12-months postpartum, $Var = 1.13$, $p < .001$. There was significant covariance between partners, $r = .27$, $p = .001$, indicating that, taking into account the variables in the model, interdependence in exercise at 12-months postpartum between partners remained. Neither the model with two-way or three-way interactions improved model fit.

Cigarette Use

Control variables were not distinguishable across gender. In the first model, there was a significant positive effect of actor cigarette use at six-months postpartum on cigarette use at 12-months postpartum, $B = .50$, $exp(B) = 1.65$, $p < .001$. Partner cigarette use at six-months postpartum was not a significant predictor of actor cigarette use at 12-months postpartum, $B = .04$, $exp(B) = 1.04$, $p = .31$.

There were significant two-way interactions between actor cigarette use and gender, $B = .10$, $exp(B) = 1.10$, $p = .02$, and actor cigarette use and partner cigarette use, $B = -.09$, $exp(B) = .92$, $p = .001$. At no actor cigarette use, partner use at six-months postpartum significantly positively predicted actor use at 12-months postpartum, $B = .28$, $exp(B) = 1.32$, $p = .001$. At high actor cigarette use ($+1$ SD), the relationship between partner use at six-months postpartum and actor use at 12-months postpartum was not significant, $B = .04$, $exp(B) =$

1.04, $p = .27$. For males, actor cigarette use at six-months postpartum significantly positively predicted actor use at 12-months postpartum, $B = .45$, $\exp(B) = 1.56$, $p < .001$. For females, the positive relationship between actor use at six-months postpartum and actor use at 12-months postpartum was steeper, $B = .65$, $\exp(B) = 1.91$, $p < .001$.

There were significant three-way interactions with gender qualifying the interaction between actor cigarette use and partner cigarette use, $B = .04$, $\exp(B) = 1.04$, $p = .03$, and between partner cigarette use, actor power, and gender, $B = .32$, $\exp(B) = 1.38$, $p = .04$. The interaction between actor cigarette use, actor power, and gender just failed to reach conventional levels of significance, $B = -.38$, $\exp(B) = .69$, $p = .051$. For males, only the interaction between actor cigarette use and partner cigarette use was significant, $B = -.12$, $\exp(B) = .89$, $p < .001$ (see Figure 2). When an actor did not use cigarettes at six-months postpartum, partner cigarette use at six-months postpartum positively related to actor cigarette use at 12-months postpartum, $B = .18$, $\exp(B) = 1.20$, $p = .03$. When actor cigarette use at six-months postpartum was high (+1 *SD*), partner cigarette use was not related to cigarette use at 12-months postpartum, $B = .04$, $\exp(B) = 1.04$, $p = .34$.

For females, only the interaction between actor power and actor cigarette use was significant, $B = -.82$, $\exp(B) = .44$, $p = .01$ (see Figure 3). At low actor power, actor cigarette use at six-months postpartum positively related to use at 12-months postpartum, $B = .82$, $\exp(B) = 2.27$, $p < .001$; at high actor power, this relationship was attenuated, $B = .46$, $\exp(B) = 1.58$, $p < .001$.

Alcohol Use

Control variables were not distinguishable across gender. In the first model, there was a significant positive effect of actor alcohol use at six-months postpartum on alcohol use at 12-months postpartum, $B = .39$, $\exp(B) = 1.48$, $p < .001$. The effect of partner alcohol use six-months postpartum was not significant, $B = .10$, $\exp(B) = 1.10$, $p = .08$.

There were significant two-way interactions between actor alcohol use and gender, $B = .25$, $\exp(B) = 1.29$, $p = .04$, and partner alcohol use and partner power, $B = .42$, $\exp(B) = 1.52$, $p = .04$ (see Figure 4). At low partner power (-1 *SD*), partner use was not significantly related to actor alcohol use 12-months postpartum, $B = .05$, $\exp(B) = 1.05$, $p = .53$. At high partner power (+1 *SD*), partner use significantly positively related to actor alcohol use 12-months postpartum, $B = .23$, $\exp(B) = 1.26$, $p < .01$. The relationship between actor alcohol use at six- and 12-months postpartum was stronger for females, $B = .58$, $\exp(B) = 1.78$, $p < .001$, than males, $B = .32$, $\exp(B) = 1.38$, $p < .001$. There were no significant three-way interactions.

Marijuana Use

Control variables were not distinguishable across gender. In the first model, actor marijuana use at six-months postpartum, $B = .63$, $\exp(B) = 1.88$, $p < .001$, and partner marijuana use at six-months postpartum, $B = .35$, $\exp(B) = 1.41$, $p < .01$, positively related to use at 12-months postpartum.

There were significant two-way interactions between actor marijuana use at six-months postpartum and gender, $B = .36$, $\exp(B) = 1.44$, $p < .05$, and partner marijuana use at six-months postpartum and partner power, $B = .98$, $\exp(B) = 2.66$, $p = .02$ (see Figure 5). At low partner power (-1 SD), partner use was not significantly related to actor marijuana use 12-months postpartum, $B = .12$, $\exp(B) = 1.13$, $p = .39$. At high partner power ($+1$ SD), partner use related to actor marijuana use 12-months postpartum, $B = .55$, $\exp(B) = 1.73$, $p < .001$. The relationship between actor marijuana use at six- and 12-months postpartum was steeper for females, $B = .86$, $\exp(B) = 2.37$, $p < .001$, than males, $B = .50$, $\exp(B) = 1.65$, $p < .001$. There was a significant three-way interaction between gender, partner marijuana use, and actor power, $B = .89$, $\exp(B) = 2.43$, $p < .01$ (see Figure 6). The interaction between partner marijuana use and actor power was significant for males only, $B = -1.02$, $\exp(B) = .36$, $p = .02$. At low actor power (-1 SD), female partner marijuana use at six-months postpartum had a significant positive relationship with actor marijuana use at 12-months postpartum, $B = .30$, $\exp(B) = 1.34$, $p = .04$. At high actor power ($+1$ SD), the relationship between female partner substance use at six- and 12-months postpartum was not significant, $B = -.15$, $\exp(B) = .86$, $p = .52$.

Discussion

The current study found significant partner influences on changes in health behaviors across time. These findings align with previous work documenting associations between health behaviors within romantic relationships (Desrosiers et al., 2015; Jackson et al., 2015; Leonard & Mudar, 2015). Partner influence was not consistent across domains (e.g., no influence effects were found for exercise), and varied by relationship power and prior levels of health behaviors. Partner power affected partner influence for eating, alcohol use, and marijuana use. Prior levels of health behaviors affected partner influence for cigarette use. Gender asymmetry in partner influence existed for eating and for cigarette use (female influence only). Finally, actor power affected actor behavior over time for female cigarette use and female partner influence on marijuana use. Interestingly, partner ability to influence was dependent on partner perception of how powerful they were in the relationship. Actor reports of power within the relationship were less influential.

For unhealthy eating behaviors, partner influence occurred when the partner reported more relative power in the relationship. As expected, if a partner reported higher power, more unhealthy eating was associated with unhealthy eating by the actor over time. At lower power, more partner unhealthy eating tended to decrease actor unhealthy eating over time. These effects were isolated to male participants – only female partner influence was found. It is possible that, given that females are generally tasked with food shopping and food preparation (Flagg, Sen, Kilgore, & Locher, 2014; Lake et al., 2006), females reporting more power in their relationship have more control over this domain. Even if females had less power, they may still take charge of food purchasing and preparation, buffering against partner influence. Alternatively, males may be more susceptible to influence in this domain. In adolescent social networks, clusters of male friends exhibited similar consumption of unhealthy foods – female friends did not (de la Haye, 2010). However, previous research has found partner effects for both male and female couple members (Homish & Leonard, 2008), indicating that asymmetry in influence on eating behavior may be specific to newly

parenting couples. This may relate to time spent at home taking care of the baby, or to time spent out of the home working, and therefore to more stark divisions of labor. It is also important to note that some of the participants may still have lived at home with parents, and some did not live together (34%). Thus, actual control over food availability may have been limited, even if some control over preparation and/or consumption existed. These possibilities should be explored further in future studies. Either way, asymmetric influence in this domain indicates that interventions to promote healthy eating or to increase access to nutritious foods could have a greater impact when females are targeted and empowered, with implications for obesity interventions in parents and in their children (Anzman, Rollins, & Birch, 2010).

For cigarette use, partner influence effects were nuanced and varied across gender. For males, when levels of cigarette use were high, no partner influence effects were found. If a male did not smoke, however, partner smoking significantly increased actor smoking over time. Although it was anticipated that established behaviors may be less malleable, the reason for gender asymmetry is less clear, and previous studies have found equal influence on partner cigarette use (e.g., a partner who smokes reduces the likelihood of quitting cigarettes; Dollar, Homish, Kozlowski, & Leonard, 2009) and opposite asymmetries in substance use more broadly (i.e., male-to-female but not female-to-male influence; Homish & Leonard, 2005). It may be that female-to-male influence is specific to newly parenting couples. Some have posited that women tend to lead non-smoking efforts during pregnancy and postpartum (Bottorff et al., 2010). If women continue to smoke, it could remove incentives for male partners – as new parents – to reduce cigarette use. Also of note, when females reported higher relative relationship power, smoking escalation from six- to 12-months postpartum was attenuated. Qualitative research has suggested that more equal, or shared, parenting styles may be protective against relapse to cigarette use (Bottorff et al., 2010). Additionally, females who have higher power in a relationship may feel they are able to take charge of health decisions for the family. For example, empowered women may decrease or quit smoking, thereby reducing the likelihood that their partners will resume or increase smoking over time.

For alcohol use, partner influence effects were found when a partner reported higher relative relationship power. The same was true for marijuana use – although there was evidence for direct influence, influence tended to occur only when the partner reported more relative power in the relationship. Although this pattern differs from some studies finding only male-to-female influence for alcohol use (e.g., Leonard & Mudar, 2003), others examining influence on alcohol use in young couples have found partner effects for both men and women (Mushquash et al., 2013). Within newly parenting couples, desire to maintain a relationship may contribute to mutual influence (Homish & Leonard, 2007). Another possibility is that mutual influence may be due to mutual coping with stressful life changes through alcohol and marijuana use. Importantly, relationship power may protect against potentially harmful influences. When males reported higher relative relationship power, they were less likely to be influenced by female partners' marijuana use. These findings have important implications for parenting interventions among adolescent and young adult couples; focusing on enhancing a sense of relative power within a relationship where one member of a couple uses substances may help attenuate use in both members over time.

Additionally, harnessing dyadic processes may boost overall intervention effectiveness. Given that parental substance use has been linked with deficits in parenting skills, negative child development outcomes, and intergenerational transmission of substance use (Barnard & McKeganey, 2004; Mayes & Truman, 2002; Pears, Capaldi, & Owen, 2007), couples-based parenting interventions that address relationship power balance may have benefits for young children as well as their parents.

In contrast to previous research demonstrating partner influence on exercise (Homish & Leonard, 2008), no partner influence effects were found. Parenting is one possible explanation for the lack of partner effects. Parents can drink alcohol and eat together, etc., with their baby present, but both parents are not likely to exercise together and leave the baby unattended. It may also be that practical constraints (e.g., less free time due to parenting) inhibited potential uptake of exercise behaviors. Alternatively, the items assessing exercise may not have captured intentional exercise, instead focusing on moderate, lifestyle activity. Other research using similar assessments of physical activity have also failed to find partner influence effects (Aalsma et al., 2012). These types of cues could be less salient than others, such as going to the gym, which may be more likely to produce influence effects within couples. Importantly, even though partner influence effects were not found, couple members' exercise behaviors were significantly correlated at 12-months postpartum. This indicates that there may be other variables not captured in these analyses leading to similarities in partner behaviors across time.

It is also important to note the consistent interactions between gender and actor substance use (cigarettes, marijuana, and alcohol) on escalation over time. In all instances, the relationship between substance use at six months and 12 months was stronger for females, which may reflect greater escalation/resumption of substance use previously found in new mothers (Bailey, Hill, Hawkins, Catalano, & Abbott, 2008).

Regarding gender differences, it may be that female-to-male influence was found only for behaviors where female partners are traditionally dominant (i.e. smoking postpartum, eating behaviors), whereas other behaviors were not necessarily gender-specific (e.g., alcohol use). In contrast, a number of studies have found only male-to-female influence for behaviors such as alcohol use (e.g., Leonard & Mudar, 2003). It is possible that new parents share substance use decision-making more than other couples. Regarding the finding that prior levels of a behavior limited influence only for cigarette use, addiction may have played a role in restricting the malleability of smoking. Indeed, in interpreting their findings of social influence for alcohol but not cigarettes, Kiuru et al. (2010) posited that addiction-driven behaviors (cigarette use) might not be influenced by peers in the same way socially-driven behaviors (alcohol use) are. These are all, however, post-hoc explanations, and merit further research designed to disentangle behavior-specific components that influence male or female dominance in a given domain.

Finally, it should be noted that the assessment of relative relationship power that seemed to drive asymmetric partner influence effects was primarily the partner's report. This pattern indicates that something within the partner drives the spread of health behaviors, rather than

an actor's perception of themselves as having low power and intentionally adjusting behavior to be in line with partner behaviors.

These findings have a number of implications for health interventions among newly parenting adolescent and young adult couples. Foremost, given the significant dependence within dyads (i.e. shared similarity within couples for health behavior), interventions may be most successful when targeting pairs rather than individuals. Empowering female members of a couple may be especially important, since females reporting higher relative power exhibited less smoking escalation over time (which could in turn reduce partner smoking) and influenced partner patterns of unhealthy eating. Regarding substance use (i.e., alcohol and marijuana), given findings of mutual influence, interventions addressing negotiation of family health behaviors and triggering healthful influence processes may be beneficial. Additionally, assessing relationship characteristics and dynamics among young parents (such as relative relationship power) may be important for screening and identifying at-risk couples that would benefit from an intervention. For these young parents, couples-based interventions focused on adjusting power differentials within the relationship through developing assertiveness skills, communication skills, and decision-making skills may alter partner influences on health behaviors, particularly substance use, over time.

Limitations

The current study has several limitations. First, our sample was highly specific, and findings may not generalize to populations of non-parenting adolescent and young adult couples. Findings of mutual influence might be specific to new parents as they work together to establish family patterns of behavior. Generalizability is also limited by loss of participants at six- and 12-months postpartum. Although inclusion in these analyses was unrelated to most demographics and to select relationship variables (length, living together), these participants may differ in important ways from those who did not complete study measures. It may be that those who dropped out had more severe power imbalances, higher levels of risky health behaviors, or dissolved their relationships. Findings should be interpreted with this qualification in mind.

The low reliability of the power measure may indicate that decision-making power is multidimensional, which could apply to all couples (when constructed, this scale had a reliability of only .62; Pulerwitz et al., 2000), or may be specific to couples negotiating new power roles after the birth of a child. Future research should explore how power is compartmentalized and negotiated within newly parenting couples. This low reliability may have masked significant relationships. Given that moderation was found, however, this could speak to the strength of these relationships – even with reduced ability to detect such interactions, these interactions were significant. Finally, critics have long noted the shortcomings of alpha as a measure of internal consistency (e.g., Cortina, 1993; Sijsma, 2009). As such, although consideration of the meaning and dimensionality of the scale is warranted when interpreting study conclusions, we believe our use of this scale is not problematic.

Another limitation is the conceptualization of relative power. Although we examined domain-specific outcomes, the measure of relationship power assessed general outcome

control over romantic and social relationship aspects. Domain-specific measures of power might have shown greater consistency across outcomes. Future studies might seek to assess relationship power through more domain-specific measures as well as using multiple methods of assessment (e.g., observational), or might include other proxies for power (e.g., social class, age). Cultural variations in power dynamics, including those related to social class and income, should also be explored, as low income may impact relationship dynamics (Conger, Conger, & Margin, 2010). A more in-depth assessment of relationship context, especially household task assignment, could also benefit future research.

In addition, common environmental exposure – such as exposure to shared stressors – might lead to similarities in couples and similarities in behavior change over time. Given that partner influence effects and moderation of these effects were found longitudinally, however, one can conclude with more confidence that partner behaviors drive changes in actor behavior over time. Living with a partner might also affect partner influence. Ostensibly, if living with a partner, there is more opportunity for influence to occur. There is reason to suspect, however, that newly parenting couples in a romantic relationship with each other still spend significant time together, and, as such, influence should still occur. Additionally, if partners not living together have less influence over each other's health behaviors, it would represent a conservative estimate of influence effects.

Conclusion

Findings of this study underscore the importance of adopting a more nuanced approach to investigating the spread of health behaviors within romantic relationships. Important dyadic dynamics involving relationship power and gender would have been overlooked if only direct effects were examined. Additionally, patterns of influence varied across different behavioral domains, suggesting that the impact of relationship power and partner influences may be more salient for certain health behaviors among adolescent and young adult couples. Future research exploring why some health behaviors are more susceptible to the influence of partner relationship dynamics is indicated. Interventions targeting promotion of health-protective behaviors and reduction of health-harming behaviors among young parents might incorporate dyadic approaches that address relationship power and balances of power within couples.

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- Romantic partners influence each other's unhealthy eating and substance use.
- When a partner has power in a relationship, influence tends to be stronger.
- In newly parenting young couples, female influence may be more pronounced.
- Relationship power protects against spread and escalation of unhealthy behaviors.
- Relationship power impacts health in young, low-income minority parents.

Figure 1.

Female partner influence on male unhealthy eating at 12-months postpartum at high (+1 *SD*) and low (−1 *SD*) female report of relationship power and female partner unhealthy eating at six-months postpartum.

Figure 2.

Male cigarette use at 12-months postpartum as a function of female partner influence at high (+1 *SD*) and no (0) female partner and male actor cigarette use at six-months postpartum.

Figure 3. Female cigarette use at 12-months postpartum at high (+1 *SD*) and no (0) female actor smoking at six-months postpartum, and high (+1 *SD*) and low (−1 *SD*) female report of relationship power.

Figure 4. Partner influence on alcohol use at 12-months postpartum at high (+1 *SD*) and low (−1 *SD*) partner report of relationship power and high (+1 *SD*) and no (0) partner alcohol use at six-months postpartum.

Figure 5.

Partner influence on marijuana use at 12-months postpartum at high (+1 *SD*) and low (−1 *SD*) partner report of relationship power and high (+1 *SD*) and no (0) partner marijuana use at six-months postpartum.

Figure 6.

Male actor marijuana use at 12-months postpartum at high (+1 *SD*) and low (−1 *SD*) male actor report of relationship power and high (+1 *SD*) and no (0) female partner marijuana use at six-months postpartum.

Table 1

Means and standard deviations for males and females at six- and 12-months postpartum.

Gender	Behavior											
	Unhealthy Eating		Exercise		Cigarette Use		Alcohol Use		Marijuana Use			
Months:	6	12	6	12	6	12	6	12	6	12	6	12
	<i>M</i> (<i>SD</i>)	<i>M</i> (<i>SD</i>)	<i>M</i> (<i>SD</i>)	<i>M</i> (<i>SD</i>)	<i>M</i> (<i>SD</i>)	<i>M</i> (<i>SD</i>)	<i>M</i> (<i>SD</i>)	<i>M</i> (<i>SD</i>)	<i>M</i> (<i>SD</i>)	<i>M</i> (<i>SD</i>)	<i>M</i> (<i>SD</i>)	<i>M</i> (<i>SD</i>)
Male	2.20 (0.48)	2.22 (0.50)	2.33 (1.12)	2.33 (1.18)	1.37 (1.67)	1.22 (1.47)	0.87 (0.89)	1.01 (0.96)	0.67 (1.18)	0.64 (1.07)		
Female	2.26 (0.52)	2.25 (0.53)	2.20 (1.14)	2.28 (1.14)	0.96 (1.53)	0.88 (1.41)	0.64 (0.83)	0.62 (0.76)	0.23 (0.68)	0.24 (0.67)		