

Behavioral and emotional responses to diet-related support and control among same-sex couples

KRISTIN J. AUGUST,^a JOHN M. ABBAMONTE,^b CHARLOTTE N. MARKEY,^a
CHRISTOPHER S. NAVE,^a AND PATRICK M. MARKEY^c

^aRutgers University; ^bUniversity of Miami; and ^cVillanova University

Abstract

Members of 63 lesbian and 72 gay couples reported how frequently their partners engaged in diet-related social support and control (persuasion and pressure) and how they responded behaviorally and emotionally to such attempts. Although lesbian women received more frequent diet-related social support than gay men, there were no gender differences in the receipt of diet-related social control. Results of multilevel models that controlled for body mass index revealed that all participants responded to all types of involvement with guilt and to support and persuasion with appreciation. Responses to pressure differed for lesbian women and gay men and acted as a function of relationship quality. Findings from this study may increase awareness of the importance of same-sex partners' involvement in eating behaviors.

Healthy eating behaviors are essential in the prevention of a number of serious chronic health conditions, including obesity, diabetes, heart disease, and some forms of cancer (Amine et al., 2002). As individuals are not always able to successfully self-regulate their own eating behaviors, social network members often have a large impact—both positive and negative—on these behaviors (Herman & Polivy, 2004; Markey, Gomel, & Markey, 2008; Markey, Markey, & Gray, 2007). Two specific mechanisms by which social network members may have a positive impact on eating behaviors is by engaging in health-related

social support and health-related social control attempts (Cohen, 2004).

A domain-specific form of health-related social support (Franks, Wendorf, Gonzalez, & Ketterer, 2004; Franks et al., 2006), *diet-related social support*, refers to attempts by network members to provide positive feedback and encouragement to individuals who are engaging in healthy eating behaviors (Burke & Segrin, 2014; Stephens et al., 2013). A domain-specific form of health-related social control (Hughes & Gove, 1981; Lewis & Rook, 1999), *diet-related social control*, refers to attempts by network members to monitor and influence individuals who are engaging in unhealthy eating behaviors (Burke & Segrin, 2014; Stephens et al., 2013). The majority of the research on diet-related social support and control has been conducted on heterosexual individuals (and couples); little is known about how members of lesbian and gay couples support and control each other's eating behaviors. Eating behaviors play an important role in lesbian women's heightened prevalence of being overweight or obese and gay men's increased risk of disordered eating and body image concerns (Bilyk, Wellington, & Kapica,

Kristin J. August, Department of Psychology, Rutgers University; John M. Abbamonte, Department of Educational, Psychological Studies, University of Miami; Charlotte N. Markey, Department of Psychology, Rutgers University; Christopher S. Nave, Department of Psychology, Rutgers University; Patrick M. Markey, Department of Psychology, Villanova University.

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Correspondence should be addressed to Kristin J. August, Rutgers University, Department of Psychology, 311 North 5th Street, Camden, NJ 08057, e-mail: kristin.august@rutgers.edu.

2013). In addition, given that gay men and heterosexual women place a greater emphasis on weight status and appearance than lesbian women and heterosexual men (Morrison, Morrison, & Sager, 2004), individuals in same-sex relationships may differentially support and regulate their partners' eating behaviors compared to heterosexual couples. Lesbian and gay individuals therefore are an important population to study in this regard. Moreover, romantic partners are often the most involved and most influential network members in promoting healthy behaviors (August, Kelly, & Markey, 2016; Cohen, Gottlieb, & Underwood, 2000); thus, it is important to understand how often and how well received diet-related support and control attempts are among individuals in same-sex romantic relationships.

Overall, health-related social support and control have been shown to be conceptually and empirically distinct social network functions aimed at promoting healthy behaviors, yet they often co-occur in close relationships (August & Sorkin, 2011; Franks et al., 2004, 2006; Helgeson, Novak, Lepore, & Eton, 2004). Recent studies therefore have focused on the competing, or complementary, effects of support and control on health behaviors. In addition, research has begun to focus on a more complete picture of the correlates of support and control that are most consequential for health, including behavioral (e.g., resistance) and emotional (e.g., appreciation, hostility, and guilt) responses (Rook, August, Stephens, & Franks, 2011; Tucker & Anders, 2001).

Although evidence suggests that health-related social support, particularly diet-related social support, may be associated with better health behaviors and positive emotional responses such as appreciation (Burke & Segrin, 2014; Stephens et al., 2013), the correlates of health-related social control are much less clear. For example, dual effects of social control have been proposed such that control attempts may prompt individuals to change their health behavior (e.g., diet), but this behavior change could come at the cost of their psychological well-being. The psychological distress (e.g., hostility and guilt) experienced by individuals in response to social control may be due to the explicit or

implicit disapproval of their behavior or the perceived restriction on their autonomy to self-regulate their own behaviors (Hughes & Gove, 1981; Lewis & Rook, 1999). Whether social control has its intended effects has been found to depend on the specific type of control strategy used. Two main types of strategies that have been distinguished in the literature are positive health-related social control, or persuasion (e.g., gentle reminders, expressions of worry), and negative health-related social control, or pressure (e.g., criticisms, restrictions of behavior; Lewis & Rook, 1999; Stephens et al., 2009). Evidence suggests that persuasion is related to positive health behaviors and positive emotions; pressure, on the other hand, is either unrelated to positive health behaviors or related to engagement in negative health behaviors and emotions (Lewis & Butterfield, 2005; Okun, Huff, August, & Rook, 2007; Tucker & Anders, 2001). Thus, whether social control has its intended effects and what emotions are elicited in response to social control attempts are highly dependent on the specific strategies network members use.

Due to limited research on social support and control in same-sex couples, outcomes examined in this study were chosen for a number of reasons. First, these outcomes have been studied before in heterosexual relationships, and their inclusion in this study would be beneficial in comparing and contrasting same-sex and heterosexual couples (i.e., inferring differences by sexuality). Second, we chose to examine both behavioral and emotional responses to social support and control to more completely understand the correlates of these social network functions and to focus on responses that are most consequential for health. Examination of both behavioral and emotional outcomes is consistent with the literature on social control in which "dual effects" on behaviors and emotions have been hypothesized; because social support may be differentially related to these responses, we chose to examine whether these dual effects also extend to supportive behaviors. Rarely, however, have these two relationship dynamics (support and control) been studied together. This study therefore allows for a more complete picture of how individuals respond to their romantic partners' attempts to

be involved in their health by supporting and regulating their eating behaviors.

Specifically, behavioral resistance was examined to understand individuals' failure to engage in positive dietary behaviors urged by their partners' support and control attempts. Given that the goal of diet-related support and control attempts is to foster better dietary behaviors, efforts to resist such attempts, or refusal to change the targeted health behavior, are important to consider in this regard (e.g., August, Rook, Stephens, & Franks, 2011; Rook et al., 2011). We also chose to examine a broad range of emotional outcomes that have been both studied in heterosexual relationships and can provide a greater understanding of the positive and negative emotions that are important in the context of relationship functioning. The dual effects hypothesis was specifically tested by examining psychological distress in the form of hostile responses (Lewis & Rook, 1999). Guilt was another negative emotion that was assessed due to the possibility that feelings of guilt may occur as a result of the implicit message conveyed by a partner's involvement that the recipient needs assistance in managing his or her own dietary behaviors (Rook et al., 2011). Finally, appreciation was assessed as a potential positive emotional response to support and control in light of evidence that some individuals appreciate their network members' efforts to be involved in their health (e.g., August & Sorkin, 2010; Rook, Thuras, & Lewis, 1990).

Much of the research on support and control has focused on heterosexual individuals (or couples), so it is not clear how same-sex individuals perceive and respond to their partners' diet-related support and control attempts. Variability in the frequency and effectiveness of such attempts among individuals in same-sex relationships may partially be explained by the gender of their partners.

The role of gender

In studies of heterosexual individuals, men report that they receive more frequent health-related support and control from their romantic partners than women report receiving from their partners (August & Sorkin, 2010;

Burke & Segrin, 2014; Markey et al., 2008; Umberson, 1992). Little is known, however, about how frequently these attempts occur in the context of same-sex relationships. As individuals of same-sex couples often do not adopt traditional gender roles (Peplau & Fingerhut, 2007), and their relationships are more egalitarian than those of heterosexual couples (Kurdek, 2001), there are unlikely to be differences in the frequency of such attempts as a function of gender (when comparing lesbian women to gay men). This idea is further supported by the idea that health behavior influence (health behavior work) is more co-operative among same-sex couples (Reczek & Umberson, 2012).

Research on heterosexual individuals suggests that the more frequent diet-related social support and control attempts directed toward men are more effective than those directed toward women (August & Sorkin, 2010; Burke & Segrin, 2014; Markey et al., 2008). It is unknown whether gender differences in the effectiveness of support and control attempts apparent in the literature on heterosexual individuals generalizes to couples in which both members are of the same gender. In other words, is support or control more effective for men because their female partners are more commonly engaging in these attempts and perhaps more skilled at such efforts, given the literature on women being more health oriented than men (Connell & Janevic, 2003) or because men are more unhealthy (Courtenay, 2000) and thus are more familiar with (and more responsive to) being the target of such attempts? Alternatively, there could be gender differences in the effectiveness of support and control seen in lesbian versus gay couples that are unique to same-sex couples and may not extend to heterosexual relationships.

In terms of how individuals respond emotionally to support and control attempts, some research on heterosexual individuals suggests that women are more appreciative of their partners' involvement in their diet than men (Rook et al., 2011); it is unclear, however, whether this appreciation from a male partner's more infrequent involvement would extend to more frequent involvement from a female partner among same-sex couples. Likewise, it is

unclear whether gender differences exist for negative emotional responses to support or control in same-sex couples given the lack of gender differences in these responses found in previous studies of heterosexual individuals (e.g., August & Sorkin, 2010; Rook et al., 2011).

The current study

Given how little is known about *how* romantic partners in same-sex relationships are involved in fostering healthy eating behaviors in their partners by providing support or seeking to exert control, this study sought to examine three key aims. The hypotheses corresponding to each aim are derived by extrapolating from the literature on health-related social support and control among heterosexual couples as well as from research on relationship dynamics among same-sex couples.

The first aim of this study was to examine gender differences in the frequency of diet-related social support and control among lesbian and gay couples. Because individuals in same-sex relationships do not adopt traditional gender roles, and same-sex couples are generally egalitarian, we hypothesized that lesbian women would receive diet-related support and control from their partners as frequently as gay men (H1). The second aim was to investigate associations between same-sex partners' social support/control attempts with behavioral (resistance) and emotional (appreciation, hostility, guilt) responses. Given the evidence that diet-related social support is associated with better health behaviors and positive emotional responses among heterosexual couples, whereas responses to diet-related social control have been found to be more negative, we hypothesized that both lesbian women and gay men would report responding more favorably to support than control (i.e., less behavioral resistance, more appreciation, and less hostility and guilt). Because findings for diet-related social control may depend on the type of strategy used, we further hypothesized that both lesbian women and gay men would report responding more favorably to persuasion than pressure (H2). The third study aim was to understand how associations between support

and control with behavioral and emotional responses differed by gender. Given uncertainties about whether gender differences found in the heterosexual literature can be attributed to the target versus agent of support and control, we did not posit any specific hypotheses about gender differences in the behavioral and emotional correlates of such attempts among couples where both partners are of the same gender. Finally, relationship quality is another factor that has been found to modify the impact of support and control attempts on behavioral and emotional outcomes in studies of heterosexual couples (e.g., Okun et al., 2007; Tucker, 2002). Given the importance of understanding the relationship context in which gay and lesbian individuals are most likely to experience such effects, we conducted exploratory analyses in order to examine whether relationship quality moderated associations between support/control and outcomes.

Method

Participants

The sample for this study was derived from a larger data set that focused on examining associations between romantic relationships and health among same-sex couples. Specifically, 270 individuals who were members of same-sex couples (72 gay couples and 63 lesbian couples) participated in this study, with a mean age of 34.56 years ($SD = 11.79$). Individuals reported being in their relationship for an average of 5.72 years ($SD = 6.37$ years, range = 0–34 years), and 84% of couples were cohabitating. Of the sample, 71.2% were non-Hispanic White, 14.2% were Black, 8.6% were Hispanic, and 6% were of other races/ethnicities. The sample was primarily composed of individuals with a college degree (68%). In examining gender differences in participant characteristics, only one significant difference emerged: Women had a significantly higher body mass index (BMI; $M = 28.22$) than men ($M = 26.28$), $t(133) = 2.29$, $p = .02$.

Procedure

To participate in this study, individuals had to be at least 18 years of age and in a monogamous

same-sex relationship for a minimum of 6 months. Exclusion criteria included being diagnosed with a chronic or dietary-related health condition. Participants were recruited from the greater Philadelphia, Pennsylvania area through local health and LGBT (lesbian, gay, bisexual, transgender) advocacy groups and events as well as through advertisements in diverse print and online periodicals. Interested participants were screened by research assistants to ensure that they met the eligibility criteria, and if so, they were scheduled for an appointment that both members of the couple could attend together. Participants were compensated \$100 per couple (\$50 per participant) for their time. This study was approved by the appropriate university Institutional Review Board, and all individuals provided their informed consent before participating in this study.

Measures

All measures for this study were derived from self-report questionnaires. Each member of the couples completed questionnaires in separate rooms of the researchers' laboratory.

Diet-related support and control

To assess the receipt of social support and control from a partner directed toward eating behaviors, scales were adapted from Lewis and Rook (1999) and Stephens et al. (2009). All items were scored on a 5-point Likert-type scale (1 = *not at all*, 5 = *everyday*), and the frequency of each type of involvement was assessed. Three subscales were examined, consistent with other assessments of diet-related social support and control (e.g., Stephens et al., 2013): diet-related social support, positive diet-related social control (persuasion), and negative diet-related social control (pressure). Diet-related social support was measured by three items, and a sample question was, [Your partner] "Showed that he/she understood the importance of your eating healthy" ($\alpha = .83$). Persuasion was measured using three items, and a sample question was, [Your partner] "Tried to persuade you to do more to eat healthy foods" ($\alpha = .86$). Finally, pressure

was measured using four items, and a sample question was, [Your partner] "Criticized your poor food choices" ($\alpha = .91$).

Relationship quality

Relationship quality was assessed using 15 items from the Marital Interaction Scale (Braiker & Kelley, 1979). Only two of the four subscales were used in this study, which measured love (10 items) and conflict (5 items; reverse coded). Because this measure was not designed specifically for gay couples, any gender-specific terms were changed to "partner" or "significant other." Items were scored on a 9-point Likert-type scale (1 = *not at all*, 9 = *very much*), and participants were asked about the extent to which they viewed their partner and relationship pertaining to love (e.g., "How close do you feel toward your partner?") and conflict (e.g., "How often do you and your partner argue with one another?"). Similar to use in other studies (Markey, Markey, Nave, & August, 2014), one factor was used by reverse coding conflict items and computing the average of the two subscales, with higher scores indicating higher levels of relationship quality. The overall scale exhibited good reliability ($\alpha = .85$).

Gender

Gender was coded as -0.5 for males or 0.5 for females based on participants' self-reports. We chose this coding scheme so that interpretations of the main effects do not require a reference group.

Behavioral resistance to support and control

Behavioral resistance to support and control was assessed using a three-item measure from Tucker and Anders (2001) that is commonly used in the literature on correlates of support and control (e.g., Rook et al., 2011). Items were scored on a 5-point Likert-type scale (1 = *not at all*, 5 = *everyday*), and participants were asked about the degree to which they engaged in behaviors in response to their partners' diet-related support and control. The three items included, [You] "Ignored what your

partner wanted you to do about food choices,” [You] “Did the opposite of what your partner wanted you to do about your food choices,” and [You] “Disguised or hid your poor food choices from your partner.” This scale was found to have acceptable internal consistency ($\alpha = .67$).

Emotional responses to support and control

Participants’ emotions in response to their partners’ diet-related support and control attempts were assessed using a five-item measure derived from Lewis and Rook (1999) that has been used in recent studies on support and control (e.g., August & Sorkin, 2011). These five items were measured on a 5-point Likert-type scale (1 = *not at all*, 5 = *extremely*) and were designed to assess the degree to which participants felt three categories of emotions in response to their partners’ involvement “[How much did your partner’s involvement in your diet make you feel]”: (a) appreciation (two items: “loved or cared for” and “appreciative or pleased”), (b) hostility (two items: “irritated or angry” and “resentful or bitter”), and (c) guilt (one item: “guilty or ashamed”). Items in the appreciation scale ($r = .81, p < .001$) and the hostility scale ($r = .60, p < .001$) were strongly correlated.

Covariates

Additional variables were considered as covariates if they had previously been included in studies on social relationships and psychological outcomes and if they exhibited a marginally significant relationship with outcomes in final analyses (at $p < .10$). Initial variables that were identified a priori for inclusion as covariates were age, relationship length, and BMI. Only BMI, however, met the empirical criteria for inclusion in final analyses. Research assistants assessed participants’ weight using a standard medical scale and height using a stadiometer. The formula mass (kg)/height (m²) was used to compute BMI.

Analytical plan

To account for the nonindependence of data from individuals in a relationship, multilevel

models were used, with gender as the only Level 2 variable (Kenny, Kashy, & Cook, 2006). Because individuals in a relationship were of the same gender, dyads were treated as indistinguishable. All analyses were performed in HLM version 6.0. To avoid issues related to multicollinearity and overfitting the data, separate models were estimated for each independent variable (support, persuasion, and pressure) and each dependent variable (behavioral resistance, appreciation, hostility, and guilt). BMI was included as a Level 1 covariate in final analyses.

Models were tested for each combination of independent and dependent variables in a nested fashion. In Step 1, the covariate BMI was entered into the model. In Step 2, the main effect of the independent variable (support or control) was entered into the model. In Step 3, gender was examined as a moderator at Level 2; thus, cross-level interactions were examined between the independent variable and gender. If any significant interactions were found, simple slopes analyses were performed for each gender. To further probe the nature of these relationships, significant interactions were graphed at $\pm 1 SD$ of the mean of support/control and by gender. For the sake of brevity, only the most parsimonious models were presented in the tables (i.e., nonsignificant interaction effects were trimmed from tables, and only results for main effects and the significant interaction models are presented).

Finally, the t statistics from the multilevel models were transformed into partial correlations using the following formula: $p_r = \sqrt{t^2 / (t^2 + df)}$. The partial correlation was used to provide an intuitive measure of effect size (Rosnow & Rosenthal, 2003).

Results

Descriptive analyses

Table 1 presents the means, standard deviations, and correlations among the key study variables by gender. To determine gender differences in these variables (H1), multilevel models included only gender as a Level 2 predictor, and each key variable as the outcome. Analyses revealed that men and women

Table 1. Descriptive statistics and intercorrelations for key study variables by gender (N = 270)

| | Men (n = 144) M (SD) | Women (n = 126) M (SD) | t(133) | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
|-----------------|----------------------------|------------------------------|--------|-------|-------|-------|--------|-------|--------|-------|
| 1. DRSS | 2.82 (1.04) | 3.12 (1.13) | 2.11* | | | | | | | |
| 2. Persuasion | 2.16 (1.13) | 2.08 (1.04) | -0.57 | .60** | | | | | | |
| 3. Pressure | 1.61 (0.89) | 1.48 (0.75) | -1.23 | .31** | .71** | | | | | |
| 4. RQ | 108.06 (10.77) | 109.29 (15.43) | 0.56 | .16* | .10 | -.04 | | | | |
| 5. BR | 1.60 (0.73) | 1.51 (0.56) | -1.15 | .06 | .27** | .34** | -.11 | | | |
| 6. Appreciation | 3.47 (1.19) | 3.69 (1.18) | 1.46 | .59** | .38** | .14* | .26** | -.12* | | |
| 7. Hostility | 1.33 (0.62) | 1.30 (0.52) | -0.33 | -.10 | .04 | .18** | -.22** | .29** | -.23** | |
| 8. Guilt | 1.41 (0.70) | 1.49 (0.77) | 0.88 | .17** | .43** | .50** | -.04 | .38** | .11 | .38** |

Note. DRSS = diet-related social support; RQ = relationship quality; BR = behavioral resistance.
*p < .05. **p < .01.

Table 2. Multilevel models predicting behavioral resistance

| | Estimate | SE | t | Effect size (pr) |
|--------------------------|----------|------|---------|------------------|
| IV: DRSS | | | | |
| DRSS | .04 | .04 | 1.05 | .07 |
| IV: Persuasion | | | | |
| Persuasion | .15 | .04 | 3.78*** | .25 |
| RQ | <-.01 | <.01 | -1.90 | .13 |
| Gender (main effect) | -.16 | .09 | -1.83 | .17 |
| Persuasion × RQ | <-.01 | <.01 | -1.96 | .13 |
| Persuasion × Gender | -.21 | .08 | -2.69** | .18 |
| RQ × Gender | .02 | <.01 | 3.05** | .20 |
| Persuasion × RQ × Gender | .01 | <.01 | 2.25* | .15 |
| IV: Pressure | | | | |
| Pressure | .24 | .05 | 4.55*** | .29 |
| RQ | <-.01 | <.01 | -.88 | .06 |
| Gender (main effect) | -.11 | .09 | -1.29 | .12 |
| Pressure × RQ | <-.01 | <.01 | -1.14 | .08 |
| Pressure × Gender | -.15 | .10 | -1.48 | .10 |
| RQ × Gender | .01 | <.01 | 2.20* | .15 |
| Pressure × RQ × Gender | .02 | <.01 | 2.60* | .17 |

Note. IV = independent variable; DRSS = diet-related social support; RQ = relationship quality; BR = behavioral resistance. All analyses controlled for body mass index. Multilevel models were run separately for each combination of independent and dependent variables. Nonsignificant interaction models (both at Levels 1 and 2) were trimmed from tables; only results from the most parsimonious model for the main effects and significant interactions are presented.
*p < .05. **p < .01. ***p < .001.

differed significantly only with regard to their receipt of diet-related social support. Specifically, women received more frequent diet-related social support from their partners (M = 3.12) than men received from their partners (M = 2.82), t(133) = 2.11, p = .04.

Behavioral resistance in response to diet-related support and control

Table 2 shows the results from multilevel models using the receipt of partners' diet-related social support and control to predict individuals' behavioral resistance (H2). Diet-related

Table 3. Multilevel models predicting appreciation

| | Estimate | SE | <i>t</i> | Effect size (<i>pr</i>) |
|------------------------|----------|------|----------|---------------------------|
| IV: DRSS | | | | |
| DRSS | .62 | .06 | 10.76*** | .58 |
| IV: Persuasion | | | | |
| Persuasion | .44 | .06 | 6.72*** | .40 |
| RQ | .02 | <.01 | 3.46** | .22 |
| IV: Pressure | | | | |
| Pressure | .24 | .01 | 2.44* | .16 |
| RQ | .03 | <.01 | 4.33*** | .28 |
| Gender (main effect) | .26 | .15 | 1.70 | .16 |
| Pressure × RQ | <.01 | <.01 | < 0.01 | <.01 |
| Pressure × Gender | −.12 | .20 | −0.62 | .04 |
| RQ × Gender | −.05 | .01 | −4.09*** | .27 |
| Pressure × RQ × Gender | .03 | .01 | 2.09* | .14 |

Note. IV = independent variable; DRSS = diet-related social support; RQ = relationship quality; BR = behavioral resistance. All analyses controlled for BMI. Multilevel models were run separately for each combination of independent and dependent variable. Nonsignificant interaction models (both at levels 1 and 2) were trimmed from tables; only results from the most parsimonious model for the main effects and significant interactions are presented.

* $p < .05$. ** $p < .01$. *** $p < .001$.

social support was not found to be significantly related to behavioral resistance. More frequent persuasion and pressure were associated with more behavioral resistance (both $ps < .001$), but these effects were moderated by gender and relationship quality, as discussed below.

Appreciation in response to diet-related support and control

Table 3 shows the results from multilevel models using the receipt of partners' diet-related support and control to predict individuals' appreciation of such attempts (H2). The results revealed that receiving more frequent diet-related social support and persuasion from a partner was significantly related to feelings of more appreciation (both $ps < .001$). More frequent pressure also was significantly related to feelings of more appreciation ($p < .05$), but this effect was moderated by gender and relationship quality, as described below.

Hostility in response to diet-related support and control

Table 4 shows the results from multilevel models using the receipt of partners' diet-related

support and control to predict individuals' hostility in response to such attempts (H2). The results revealed that receiving more frequent pressure was marginally related to feelings of more hostility ($p = .056$), with this association significantly different between genders. A simple slopes analysis revealed that receiving more frequent pressure was significantly related to feelings of more hostility for women ($b = .21$, $SE = .08$, $p = .006$) but not for men ($b = .04$, $SE = .05$, $p = .46$). The associations between support and persuasion with hostility were nonsignificant.

Guilt in response to diet-related support and control

Table 5 shows the results from multilevel models using the receipt of partners' diet-related support and control to predict individuals' guilt in response to such attempts (H2). The results revealed that receiving more frequent social support ($p = .01$) and persuasion ($p = .001$) was significantly related to feelings of more guilt. Receiving more frequent pressure also was significantly related to feelings of more guilt, but this association differed between the genders ($p = .001$). A simple slopes analysis revealed

Table 4. Multilevel models predicting hostility

| | Estimate | SE | <i>t</i> | Effect size (<i>pr</i>) |
|----------------------|----------|------|----------|---------------------------|
| IV: DRSS | | | | |
| DRSS | -.05 | .03 | -1.65 | .11 |
| IV: Persuasion | | | | |
| Persuasion | .01 | .03 | 0.44 | .03 |
| RQ | <-.01 | <.01 | -2.96** | .19 |
| IV: Pressure | | | | |
| Pressure | .13 | .05 | 2.71* | .18 |
| RQ | <-.01 | <.01 | -2.9* | .19 |
| Gender (main effect) | -.04 | .07 | -0.49 | .05 |
| Pressure × Gender | .18 | .09 | 1.91 | .13 |
| RQ × Gender | .01 | <.01 | 1.81 | .12 |

Note. IV = independent variable; DRSS = diet-related social support; RQ = relationship quality; BR = behavioral resistance. All analyses controlled for body mass index. Multilevel models were run separately for each combination of independent and dependent variables. Nonsignificant interaction models (both at Levels 1 and 2) were trimmed from tables; only results from the most parsimonious model for the main effects and significant interactions are presented.

* $p < .05$. ** $p < .01$.

Table 5. Multilevel models predicting guilt

| | Estimate | SE | <i>t</i> | Effect size (<i>pr</i>) |
|----------------------|----------|------|----------|---------------------------|
| IV: DRSS | | | | |
| DRSS | .11 | .04 | 2.58* | .17 |
| IV: Persuasion | | | | |
| Persuasion | .26 | .04 | 6.31*** | .38 |
| RQ | <-.01 | <.01 | -0.66 | .04 |
| IV: Pressure | | | | |
| Pressure | .49 | .06 | 8.7*** | .50 |
| RQ | <-.01 | <.01 | -0.16 | .01 |
| Gender (main effect) | .14 | .09 | 1.61 | .15 |
| Pressure × Gender | .37 | .11 | 3.31* | .22 |
| RQ × Gender | <.01 | <.01 | 1.23 | .08 |

Note. IV = independent variable; DRSS = diet-related social support; RQ = relationship quality; BR = behavioral resistance. All analyses controlled for body mass index. Multilevel models were run separately for each combination of independent and dependent variables. Nonsignificant interaction models (both at Levels 1 and 2) were trimmed from tables; only results from the most parsimonious model for the main effects and significant interactions are presented.

* $p < .05$. *** $p < .001$.

that receiving more frequent pressure was significantly related to feelings of more guilt for both men ($b = .31$, $SE = .06$, $p < .001$) and women ($b = .68$, $SE = .10$, $p < .001$), but the association was stronger for women.

Exploratory analyses

Additional analyses were conducted to examine relationship quality as a potential

moderating variable with all key predictor variables. To perform these analyses, Level 1 interactions were computed between support and each type of control with relationship quality. Following recommendations by Aiken and West (1991), variables were centered prior to computing interaction terms.

For each set of exploratory analyses, we entered variables in the following stepwise order: BMI as a covariate at Level 1 (Step 1);

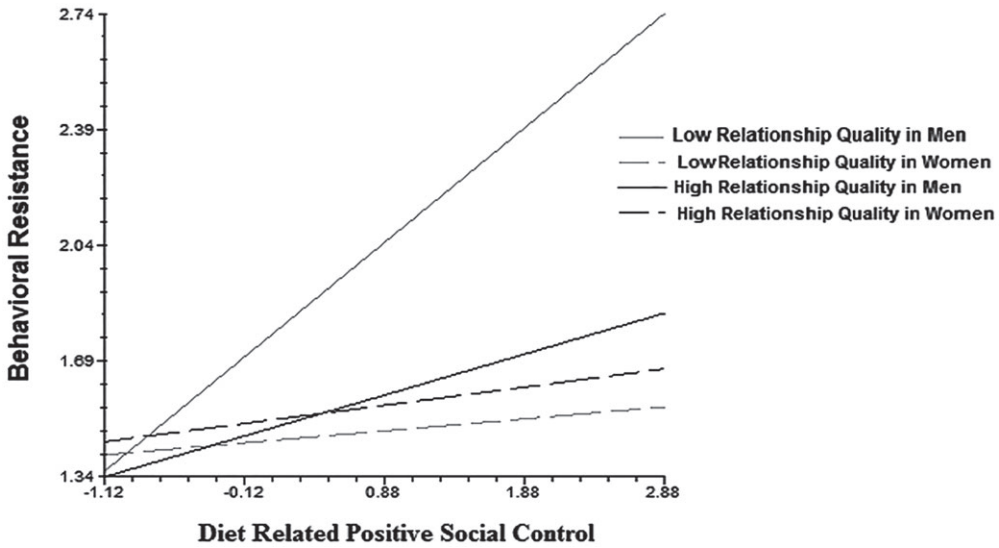


Figure 1. Gender and relationship quality moderate the association between persuasion and behavioral resistance.

main effects of support or control and relationship quality at Level 1 (Step 2); two-way interactions between support or control and relationship quality at Level 1 (Step 3); and gender at Level 2 to examine three-way interactions between support or control, relationship quality, and gender (Step 4). These three-way interactions indicate that not only was relationship quality a significant moderator but that there was a significant difference between genders for this moderator. To further probe these effects, models separated by gender were run, and simple slopes were examined as ± 1 SD of support or control and relationship quality. The further within-gender analysis revealed for which gender relationship quality was a significant moderator, and it also revealed what level(s) of support or control relationship quality caused the slopes to be significantly different.

As shown in Table 3, the relation between persuasion and behavioral resistance was found to be moderated not only by relationship quality, but this moderated relationship was significantly different between genders ($p = .03$). Simple slopes analysis (performed within gender) revealed that this relationship was only significant for gay men in low-quality relationships ($b = .40$, $SE = .08$,

$p < .001$). Specifically, gay men who received more frequent persuasion from their partners reported more behavioral resistance to such attempts (see Figure 1).

Also shown in Table 3, the association between pressure and behavioral resistance was significantly moderated by relationship quality, with a difference between genders for this association ($p = .01$). The simple slopes analysis revealed a complex pattern of findings. Specifically, within-gender simple slopes analysis revealed that receiving more frequent pressure was significantly related to more behavioral resistance for men in low- and high-quality relationships ($b = .45$, $SE = .09$, $p < .001$ and $b = .19$, $SE = .08$, $p = .02$, respectively); however, the association was stronger for men in low-quality relationships. Within-gender simple slopes analysis also found that receiving more frequent pressure was significantly related to more behavioral resistance only for lesbians in high-quality relationships ($b = .26$, $SE = .01$, $p = .01$; see Figure 2a).

Finally, as shown in Table 4, the association between pressure and appreciation was significantly moderated by relationship quality, with a difference between genders for this association ($p = .04$). Within-gender

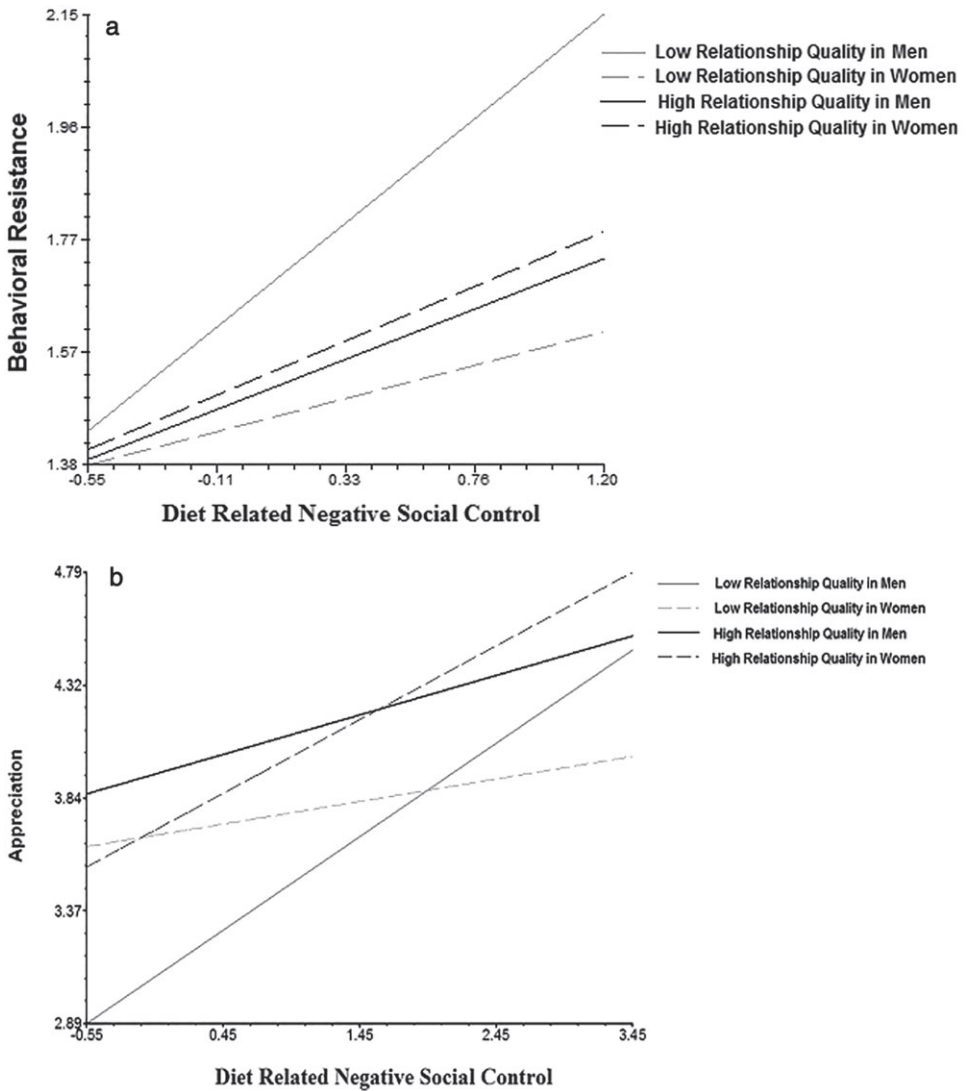


Figure 2. (a) Gender and relationship quality moderate the association between pressure and behavioral resistance. (b) Gender and relationship quality moderate the association between pressure and feelings of appreciation.

simple slopes analysis revealed that receiving more frequent pressure was related to more feelings of appreciation only among gay men in low-quality relationships ($b = .49, SE = .14, p < .001$; see Figure 2b).

Discussion

Given heightened diet-related concerns among lesbian women and gay men (e.g., Bilyk et al., 2013), this study sought to examine the

role romantic partners play in attempting to support or, alternatively, seeking to control their partners' eating behaviors. In addition to examining differences between gay men and lesbian women, we further sought to understand whether contextual influences such as the nature of the relationship between the provider and recipient were important to consider (Okun et al., 2007; Tucker, 2002).

Contrary to our first hypothesis, lesbian women reported receiving diet-related social

support more frequently from their partners than gay men. Although this finding also suggests that women are more often the targets of support attempts, which is inconsistent with other research that has found that men are more often targets, it is more likely that women in same-sex relationships are similar to women in heterosexual relationships in that they are proactive in managing the health of other household members (Connell & Janevic, 2003); thus, this gender difference likely reflects the person providing, rather than receiving, support. The lack of gender differences found for the frequency of social control receipt is generally contradictory to the literature on health-related social control among heterosexual couples, most of which has focused on middle-aged and older adults. One study of younger married couples, however, found no gender differences in the actual frequency of social control attempts (Tucker & Anders, 2001), suggesting an age or cohort explanation for why gender differences in control attempts did not emerge in this study, which was composed mainly of young adults (i.e., young men and women in any type of romantic relationship are just as likely to use social control as a tactic to promote healthy eating behaviors). Another possibility relates to differences seen in the literature between heterosexual and same-sex couples with regard to “health behavior work” (Reczek & Umberson, 2012). Specifically, same-sex couples have been found to be involved in cooperative health behavior work in which health behavior influence is reciprocal among both members of a couple—a phenomenon rarely seen in heterosexual couples. Variability in the frequency of control attempts is, thus, more likely to be a function of factors other than gender, such as who in the relationship is the “health expert” or is more in need of partner involvement due to engagement in unhealthy behaviors (Reczek & Umberson, 2012).

In support for our second hypothesis, we found that more frequent receipt of diet-related support and persuasion were related to more appreciation, regardless of gender and relationship quality. These findings suggest that same-sex partners appreciate their partners’ involvement by affirming and encouraging

good eating behaviors or attempting to influence poor eating behaviors using persuasion, consistent with the literature on heterosexual individuals (e.g., August & Sorokin, 2011; Stephens et al., 2013). Individuals may respond with appreciation to support and persuasion because their partners’ efforts may be welcomed if they are perceived by the recipient to reflect interest, caring, or concern for the recipient’s health (Rook et al., 1990).

At the same time, however, and contrary to our second hypothesis, individuals reported feeling guilty that their partners were involved in supporting and persuading them to change their dietary behaviors. These findings could partially be due to an explicit or implicit connotation that individuals are unable to self-regulate their own eating behaviors and thus need help; alternatively, these individuals may perceive themselves to be a source of stress, or burden, to their partners (Rook et al., 2011; Tangney, 1991). This idea is supported by the literature suggesting that social control, in particular, is a burdensome experience to spouses (August et al., 2011). The unexpected finding that support was related to a negative emotion such as guilt could also be explained by the idea that these support behaviors were reported (i.e., “visible”) to recipients and therefore involve an emotional cost by decreasing recipients’ feelings of self-efficacy (Bolger, Zuckerman, & Kessler, 2000).

The lack of significant associations for support or persuasion and hostility is in line with our second hypothesis, suggesting that these more positive diet-related interactions are unlikely to elicit psychological distress (e.g., Stephens et al., 2013). Although support was unrelated to behavioral resistance for all participants, persuasion was related to more behavioral resistance only among men who reported low relationship quality. This finding is consistent with the literature on heterosexual young adult couples, where attempts by dating partners to influence each other’s diet behaviors using more persuasive tactics backfired, leading individuals to ignore, hide, or do the opposite of what their partners requested (Okun et al., 2007). One explanation for this finding is that men in low-quality relationships who do not have a favorable love-to-conflict

ratio may perceive persuasive tactics as more negative, such as being selfishly motivated or posing a threat to their autonomy. As a result, these men may be more willing to resist their partners' attempts to change their eating behaviors (Okun et al., 2007; Tucker, 2002). It is possible that this finding did not emerge among women because they may not respond well, or at all, to control—regardless of the type—as evidenced by our findings pertaining to pressure and consistent with other research in this area (August & Sorkin, 2010; Burke & Segrin, 2014; Markey et al., 2008).

All findings for pressure depended on gender or relationship quality. Similar to findings for support and persuasion, more frequent pressure was related to more guilt (particularly for women). Taken together, these findings suggest that individuals in same-sex relationships feel guilty about having their partners help them self-regulate their own eating behaviors (using any form of involvement) for the possible reasons cited above.

Pressure was also related to more hostility for women, in support of our second hypothesis and consistent with the domain-specific effects of different types of social network involvement in health (Okun et al., 2007; Tucker & Anders, 2001). Similar to the heterosexual literature on emotional responses to negative strategies of social control and consistent with the dual effects hypothesis of social control (Lewis & Rook, 1999), individuals (particularly women) respond with psychological distress to these heavy-handed attempts to regulate their eating behaviors. Individuals may respond with hostility to pressure as a result of the use of more blatant attempts to restrict the recipient's autonomy (Hughes & Gove, 1981; Lewis & Rook, 1999) and because these types of attempts may be characterized as negative social exchanges, which, by definition, arouse emotional distress (Rook, 1992).

The stronger adverse effects for women versus men in response to pressure may be partially explained by the idea that using pressure to change eating behaviors is a stronger indicator of power and control in a relationship (Lewis, Butterfield, Darbes, & Johnston-Brooks, 2004). Given evidence that

lesbian women report valuing relationship equality more than gay men (Kurdek, 1995), these women may react to such expressions of power and control with particularly negative emotions. This idea also can be applied to findings that women in high- (but not low-) quality relationships reported more behavioral resistance to pressure, which is consistent with findings from a study by Okun et al. (2007) of younger heterosexual couples. It may also suggest that lesbian women in high-quality relationships who value shared decision making (Kurdek, 1995) do not respond well to their partners' use of nonshared approaches to regulate their eating behaviors.

One puzzling finding is that gay men in low-quality relationships reported appreciating more frequent pressure from their partners. It is possible that these men appreciate their partners' heavy-handed involvement in their eating behaviors because this involvement may connote expressions of love or concern in an otherwise troubled relationship. Alternatively, research suggests that negative social control strategies are more likely to be used for reasons related to their partners' appearance (Markey et al., 2008). Given research suggesting the importance gay men place on appearance (Yelland & Tiggemann, 2003), these men with low-quality relationships may appreciate the investment of their partners in attempting to pressure them to change their eating behaviors to improve their appearance. These positive emotional responses do not necessarily translate into better eating behaviors among these men, however, as gay men in low-quality relationships also reported being more behaviorally resistant to such pressure—similar to findings for persuasion. Thus, although men who experience more conflict and less love in their relationships may appreciate their partners' attempts to control their behaviors, they tend to ignore, hide, or do the opposite of what their partners request, which is likely to contribute to future conflicts.

In summary, the findings for pressure suggest that gender and relationship quality are particularly important in considering the behavioral and emotional responses to partners' use of pressure to regulate eating behavior. Although lesbian and gay couples

have been found to report similar levels of relationship quality as heterosexual couples (Kurdek, 2005; Peplau & Fingerhut, 2007), the pattern of findings for pressure is much more complex than those seen in the literature on heterosexual couples, highlighting the complexity of same-sex relationships (Markey & Markey, 2011).

Limitations and future directions

Several limitations of the findings and implications for future research should be noted. First, this study was cross-sectional; thus, it is unclear if emotional and behavioral responses to support and control attempts may elicit more or less support and control from a same-sex romantic partner over time or how these dynamics will more generally unfold over the course of the relationship. Future research would benefit from longitudinal approaches to understanding how same-sex romantic partners impact eating behaviors and emotions in the long term and, ultimately, health outcomes such as the development and management of chronic diseases in which eating behaviors play a key role. Relatedly, although this study focused on individuals' subjective experiences of support and control and how these experiences were related to their own behavior and emotions, future research would benefit from dyadic perspectives to further understand the dynamics and effects of these attempts among both members of the couple. In addition, the couples in this study reported relatively high relationship quality ($M = 108.06$ for men, $M = 109.29$ for women; possible range = 15–135). Thus, the effects seen in this study cannot be generalized to same-sex couples in less satisfied relationships, although research suggests that social control, in particular, occurs more frequently in satisfied relationships of longer duration (Rook & Ituarte, 1999). In a related vein, because analyses that examined relationship quality as a moderator were exploratory in nature, these findings need to be interpreted with caution and replicated to increase confidence that they are not spurious. Another limitation is that the reliability for the measure to assess behavioral resistance was lower

than other studies using this same scale (e.g., Rook et al., 2011). It is unclear why this scale did not exhibit more acceptable reliability in this sample. Regardless of lower than anticipated internal consistency, this variable was significantly associated with key study variables. Finally, a large majority of participants in this study were non-Hispanic White. The relative lack of racial/ethnic diversity could be obscuring the results given findings from other studies suggesting that these social processes operate differently among racial/ethnic minorities (e.g., August & Sorkin, 2011). Future research would benefit from examinations of more diverse samples of both sexual and racial/ethnic minorities.

Despite these limitations, this is one of the first studies to explicitly examine two key social network functions that individuals in same-sex couples engage in to promote healthy eating behaviors in their partners. The findings from this study could help inform the design of interventions aimed at promoting healthy eating behaviors among same-sex couples. Findings from this study suggest that control attempts, particularly more heavy-handed attempts, may backfire and actually lead to engagement in worse dietary behaviors and more feelings of hostility and guilt. It is therefore possible that receiving social influence from a romantic partner may have a negative impact on both physical and emotional health, which may exacerbate lesbian women's weight-related issues and gay men's disordered eating and body image concerns (Bilyk et al., 2013). Thus, members of these couples could be taught appropriate ways to promote healthy eating without compromising their partners' psychological, and ultimately physical, well-being. In addition, these findings can add to the growing body of literature suggesting that the relationship dynamics of same-sex couples are similar to heterosexual couples in many important ways (e.g., Kurdek, 2005) but that the gender of one's partner may be particularly important in considering the negative interactions that occur in romantic partners' efforts to promote engagement in healthy eating behaviors.

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