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Social Network Typologies of Black and White Married Couples in Midlife

Although research shows that conjoint social networks are associated with well-being among newlyweds, little is known about how these network types are linked to marital quality and psychological well-being for long-term married couples and about potential race differences in their configurations and associations. Using a pattern-centered approach to examine the social networks of 91 White and 62 Black couples in their 16th year of marriage, this study revealed four couple network types (friend-focused, wife family-focused, bilateral family-focused, and diverse). Results suggested that spouses in the wife family-focused network type (characterized by above-average contact with the wife's family and below average contact with the husband's family and with nonkin) reported the lowest positive marital quality and highest negative marital quality. The association of network type with negative marital quality was also moderated by gender and race. The findings highlight the importance of considering the meaningful complexity within couples' shared networks.

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Relationships are critical for an individual's health and well-being throughout the lifespan (Berkman & Syme, 1979; Umberson & Montez, 2010). The marital relationship, in particular, offers a host of benefits for an individual's health and well-being (Kiecolt-Glaser & Newton, 2001; Robles, Slatcher, Trombello, & McGinn, 2014). Network typology research

(e.g., Fiori, Antonucci, & Akiyama, 2008; Fiori, Antonucci, & Cortina, 2006; Fiori, Smith, & Antonucci, 2007; Jager, 2011; Litwin, 2001; Litwin & Shiovitz-Ezra, 2011; Wenger, 1997), however, has shown that the unique make-up of an individual's social network and the combination of relationships in that network is just as predictive of well-being, if not more, than any one relationship, and when individuals marry, they have access to the resources and demands of two sets of social ties: their own and their spouses'. In fact, this joining of the social networks may provide an important mechanism explaining links between marriage and improved health and well-being (Acock & Demo, 1994; Curran, McLanahan, & Knab, 2003). What remains to be seen, however, is whether these joined networks are associated with individuals' well-being and with their perceptions of marital quality in midlife.

Although there is an emerging body of research examining these conjoint, duocentric, or conjugal networks among married couples (e.g., Jackson, Kennedy, Bradbury, & Karney, 2014; Jones, 1980; Julien, Chartrand, & Begin, 1999; Kennedy, Jackson, Green, Bradbury, & Karney, 2015; Stein, Bush, Ross, & Ward, 1992; Widmer, Kellerhals, & Levy, 2004), there remain critical gaps in our understanding of the nature of these different configurations and their associations with marital and psychological well-being. First, much of the research has either examined newlywed couples (e.g., Jackson et al., 2014; Kennedy et al., 2015) or couples who have been together for potentially widely varying lengths of time (e.g., a minimum of 2 years; Julien et al., 1999; Stein et al., 1992; Widmer et al., 2004). But research has shown that social networks continue to be influential beyond the early years of marriage (Bryant & Conger, 1999). Studying long-term relationships (of homogeneous length) may offer a window into these conjoint network types for couples who have spent many years negotiating their configurations and enables us to draw conclusions about how couples who are homogenous in marital duration may nevertheless differ in the degree to which their networks are shared. Second, those studies that have examined nonnewlyweds have lacked diversity in their samples (e.g., Stein et al., 1992), although there is evidence of racial differences in the nature of shared networks (e.g., Jackson et al., 2014; Kennedy et al., 2015) and the implications of

those networks for divorce (Orbuch, Bauermeister, Brown, & McKinley, 2013). Therefore, the purpose of the present study is threefold: (a) describe variation in the conjoint networks of Black and White couples in long-term marriages, (b) examine their associations with marital quality and psychological well-being, and (c) explore whether there are race or gender differences in the associations of the network types with psychological well-being and marital quality.

Linear Approaches to Understanding Social Networks and Marriage

Researchers have long been interested in the intersection of individual social networks and marriage (e.g., Acitelli & Antonucci, 1994; Acock & Hurlbert, 1993; Burger & Milardo, 1995). For some of these researchers, marital status was conceptualized as a contextual factor that moderates the association between individual network characteristics and well-being (e.g., Acock & Hurlbert, 1993). Other studies have linked isolated aspects of individuals' social networks to marital outcomes (Acitelli & Antonucci, 1994; Brown, Orbuch, & Maharaj, 2010; Burger & Milardo, 1995; Helms, Crouter, & McHale, 2003; Orbuch, Bauermeister, Brown, & McKinley, 2013). Although these studies clearly indicate that individuals' social ties may be differentially important for husbands' and wives' marital quality, they do not methodologically account for the interdependence of couples' networks. But spouses' social networks should not be understood as isolated entities. In fact, Burger and Milardo (1995) found that husbands reported greater conflict and ambivalence in their marriage if their wives interacted frequently with friends. This implies that, at the very least, one spouse's social network involvement may have implications for the other spouse's marital well-being, but couples' shared network involvement, or the overlap of their networks, may be an even more important predictor of marital quality.

Consistent with prior research on network overlap (the term most commonly used in the literature to refer to shared friends and family), the current study is guided by interdependence theory, which emphasizes that as couples become increasingly interdependent in their marriage, they develop increasingly connected social networks (Kalmijn, 2003;

Milardo, 1982, 1986; Surra, 1988). A more interdependent social life and communication with a partner's friends and family not only allows for opportunities to develop and maintain an identity as a couple but also promotes relational satisfaction and stability by reducing uncertainty in the relationship and acting as a barrier to breaking up (Kearns & Leonard, 2004; Kennedy et al., 2015). Indeed, friendship networks become more overlapping the longer couples are together (Kalmijn, 2003; Milardo, 1982), and, conversely, networks tend to shrink after a divorce (Milardo, 1987). Furthermore, network overlap is positively associated with marital satisfaction (Hansen, Fallon, & Novotny, 1991; Kearns & Leonard, 2004; Orthner, 1975) and with spousal support (Cornwell, 2012).

Some studies, however, have not found a link between interdependence and marital outcomes; for example, Bryant and Conger (1999) found that the number of network members shared by both husbands and wives was not predictive of marital success. These inconsistencies in the literature may stem from the fact that most of this research does not take into account both mutual network members and individual social ties (Stein et al., 1992). A notable exception comes from Julien et al. (1999), who found that the relative proportion of shared to nonshared ties was also not predictive of relational adjustment for cohabiting heterosexual couples, although the relatively short nature of these nonmarital relationships precludes generalizations to more established married couples. Theoretically, although mutual friendships may benefit couples, having separate social ties may also be important for individuation, personal growth, and well-being. Thus, in terms of both marital quality and psychological well-being, the optimal network type may entail a combination of mutual and individual social ties.

Furthermore, only a few studies have distinguished between family and friend ties (the diversity of connections) as well as the balance of connections to husbands' and wives' families of origin (the bilateralism of couples' networks; Julien et al., 1999; Kearns & Leonard, 2004). It is possible that the interdependence of kin relationships is even more important for marital quality than is the interdependence of nonkin relationships because bilateral kin relations may "prevent the formation of coalitions in the event of conjugal conflict" (Julien et al., 1999, p. 518). In fact, Julien et al. found that a more balanced

inclusion of partners' kin in joint networks predicted better relational adjustment. We argue that because a nonlinear, configural approach (i.e., cluster analysis) to examine spouses' social networks allows for a simultaneous examination of network overlap, bilateralism, and diversity, such an approach may offer a unique opportunity to understand their complex associations with marital quality and psychological well-being. We turn now to an overview of research taking this pattern-centered, configural approach (or network-type approach) and explain how the marital relationship has been understood within this context.

Pattern-Centered Approach

During the past several decades, an increasing number of researchers interested in the link between social networks and health have moved away from a variable-centered approach (i.e., examining the health implications of isolated aspects of social networks) and have instead taken a pattern-centered approach by examining social network types. The identification of network types reveals the "combination and interaction of disparate network characteristics" (Litwin, 1995, p. 155) and how they are related to well-being (Fiori et al., 2006; Litwin, 2001). Typically using cluster-analytic techniques (for a review, see Antonucci, Fiori, Birditt, & Jackey, 2010), these studies have uncovered a relatively consistent pattern of network types that include (a) smaller networks characterized by family connections, (b) larger networks characterized by diverse relations, (c) friendship-centered networks, and (d) restricted networks characterized by few ties (e.g., Fiori et al., 2006, 2007; Litwin, 2001). Importantly, individuals classified into restricted network types tend to fare worse on measures of psychological well-being relative to those with more diverse or more friend-focused networks.

To account for the marital relationship, most of these studies have simply included marital status as a network variable in the derivation of the network types (e.g., Fiori et al., 2006, 2007, 2008; Litwin, 2001; Litwin & Shiovitz-Ezra, 2006; Stone & Rosenthal, 1996). Not surprisingly, individuals in more diverse networks tend to be married, whereas individuals in more restricted networks are less likely to be married (e.g., Fiori et al., 2006). Although these studies conceptualize the spousal relationship as

an important component of the social network, they include unrelated married individuals rather than married couples and thus do not consider the interdependence of husbands' and wives' networks. Early work on conjoint network types, however, revealed that the shared nature of couples' networks had important implications for individual and marital well-being (Jones, 1980; Stein et al., 1992; Widmer et al., 2004).

In perhaps the most comprehensive of these studies to date, Stein et al. (1992) conducted a cluster analysis of various couple-level network indices (e.g., shared [overlapping] family, wife's separate friends) to examine the conjoint networks of 49 White married couples (married an average of 15 years). They uncovered the following four network types: (a) his separate family; (b) her separate friends, his separate friends; (c) our shared family; and (d) few shared family. Couples in the "her separate friends, his separate friends" network had the highest marital satisfaction, whereas those in the "few shared family" network had the lowest. Wives in the latter network type had the highest levels of depressive symptoms. These results are consistent with the idea that a shared or bilateral kin network may be critical for well-being and that wives may be particularly vulnerable to the negative effects of poorly integrated networks. Stein et al. also found that conjoint network types had greater predictive power than a linear combination of the network variables used in the analysis, highlighting the usefulness of this approach. Recently, Jackson et al. (2014) and Kennedy et al. (2015) described a new method of measuring the combined social networks of couples, which they referred to as "duocentric social networks, p. 295." Using a newlywed sample of 27 Black and 30 White couples, spouses were asked to separately list and describe 40 members of their social network and then the researchers examined overlap in their reports. Although these researchers found variability in the degree to which these networks overlapped, they did not examine links between the networks and outcomes (e.g., marital quality), making it difficult to assess which networks were more or less beneficial.

BETWEEN- AND WITHIN-COUPLE VARIABILITY IN SHARED NETWORKS

Adding further complexity to our ability to assess the benefits or costs of shared network types is that there may be variations in the effects of these networks both across couples (i.e., race) and within couples (i.e., gender). For example, social networks may play a particularly integral role in Black Americans' cultural traditions (Black, Cook, Murry, & Cutrona, 2005; Brown et al., 2010; Sarkisian & Gerstel, 2004; Taylor et al., 2003), perhaps in part because of a long history of adverse structural, economic, and social factors (i.e., racism, discrimination; Jackson, 2000; Murry, Brown, Brody, Cutrona, & Simons, 2001). Scholars have suggested that Black Americans often construct extended kin networks with close trusted family and friends ("fictive kin") who provide vital support that may be unavailable from more traditional formal sources (Sarkisian & Gerstel, 2004; Taylor et al., 2003). This support, however, may come with additional burdens for married Black couples (Marks et al., 2008; Neighbors, 1997; Sarkisian & Gerstel, 2004).

Although married Black couples with higher income and education report more emotionally and financially stable marriages than lower income couples (Bryant et al., 2010; Cutrona, Russell, Burzette, Wesner, & Bryant 2011), they are also faced with greater demands from their network members (McLoyd, Hill, & Dodge, 2005; Neighbors, 1997). As such, limiting network contact may be a coping strategy to prevent strain on the marriage. Indeed, Orbuch et al. (2013) found that Black couples who minimized contact with each other's families had less conflict about in-laws than did White couples, which may help explain why Kennedy et al. (2015) found that Black couples had significantly lower network overlap and less dense duocentric networks than White couples. But there is some evidence that despite the stress associated with network demands, extending support to family may also enhance couple's emotional closeness because of cultural norms and expectations of support (Lincoln & Chae, 2010; Marks et al., 2008). Perhaps a way to explain these mixed findings is that the network demands may be differentially experienced by wives and husbands, and thus there may be different associations with well-being.

Studies linking individuals' social ties to marital quality have indeed shown that husbands' and wives' marital quality may be differentially affected by their social ties (Acitelli & Antonucci, 1994; Brown et al., 2010; Burger & Milardo, 1995; Helms, Crouter, & McHale,

2003). In addition, research shows that spouses may be differentially affected by their shared social ties. For example, in a diverse sample of 347 newlywed couples examined across three waves, Kearns and Leonard (2004) found that the interdependence of couples' networks at the time of marriage predicted marital quality 1 year later for wives, but not husbands. Although Kearns and Leonard controlled for race in their study, more recent research suggests that race may actually interact with gender in predicting network structure (Jackson et al., 2014). Specifically, Jackson and colleagues found that despite being embedded in networks with more family members, Black wives still reported fewer sources of emotional support and fewer good quality relationships than did White wives. Although this study used cutting-edge methodology to assess couples' shared networks, the more limited focus on a small sample of lower income Black and White newlyweds precludes generalizability to longer term, more financially secure couples. Furthermore, identifying which spouses benefit most from shared network ties requires a consideration of how network configurations are linked with marital and individual well-being.

The Present Study

The current study draws on a diverse group of couples (91 White couples, 62 Black couples) who have all been married for 16 years to address the following: (a) describe variation in the conjoint networks of Black and White couples in long-term marriages, (b) examine their associations with marital quality and psychological well-being, and (c) explore whether there are race or gender differences in the associations of these networks with marital quality and psychological well-being. We use husbands' and wives' responses to questions about contact with the family of origin and in-laws as well as numbers of individual and couple friends and relatives with whom couples relied on for support to create couple- and individual-level network variables analyzed from a pattern-centered approach.

To capture couples' shared networks, we created four couple-level variables using the averages of spouses' reports of shared network members and joint contact with each other's families. Although the nature of the data (i.e., questions did not assess names of individuals)

precluded assessments of actual shared ties or overlap as measured in some previous couple network research (e.g., Jackson et al., 2014; Kennedy et al., 2015; Stein et al., 1992), we considered our measure to be a parsimonious alternative. To provide a more complete picture of the overall network, we also measured six individual-level variables tapping into separate contacts for each spouse (e.g., number of wife's friends). In the present study, we use the term *overlap* to refer to a large number of shared friends or relatives and shared contact with families. To be consistent with previous network-type literature, we use the term *diversity* to refer to relatively high numbers of or frequency of contact with both kin (i.e., relatives) and nonkin (i.e., friends), *family-focused* to refer to a relatively high number of or frequency of contact with kin, and *friend-focused* to refer to a relatively high number of nonkin. Finally, we use the term *bilateral* to refer to a high degree of similarity in average contact with the wife's family compared to average contact with the husband's family, such that a highly bilateral network would be one in which both the husband has average contact (relative to other husbands) and the wife has average contact (relative to other wives; or alternatively, both have high or low contact).

Although primarily exploratory, we hypothesized that we would find several qualitatively distinct conjoint network types, with varying degrees of overlap, diversity, and bilateralism. We also expected to find racial differences in the distribution of network types, particularly in terms of contact with family members and number of shared family and friends. Finally, we predicted that network types would be associated with both husbands' and wives' marital quality (positive and negative) and psychological well-being (depressive symptoms). Specifically, we expected network types with greater diversity, overlap, and bilateralism to be associated with greater levels of marital and individual well-being given research showing the benefits of these network characteristics (Fiori et al., 2006; Hansen et al., 1991; Julien et al., 1999; Kearns & Leonard, 2004; Litwin, 2001).

Method

Participants

The Early Years of Marriage Project (http://projects.isr.umich.edu/eym/) is a longitudinal panel study following 373 couples (174 White

and 199 Black) who obtained marriage licenses in Wayne County, Michigan, in 1986. Eligible couples were same-race couples applying for their first marriage in which the wife was younger than 35 years. On average at Year 1, husbands were 27 and wives were 24, and the mean number of years of education was 13.13 ($SD = 1.89$) for wives, and 13.11 ($SD = 1.92$) for husbands, with a range from 8 to 17 years. In a comparison of the Early Years of Marriage Project sample to a nationally representative sample of Black and White newlywed individuals in the General Social Survey data, no differences by race in income, education, parental status, cohabitation, employment, or other sociodemographic factors were found (Orbuch, Veroff, Hassan, & Horrocks, 2002).

Participants completed face-to-face interviews in their homes with race-matched interviewers in Years 1, 3, 7, and 16. Spouses were interviewed separately and then together as a couple. By Year 16, 46% ($N = 172$) of the couples had separated or divorced. Attrition rates varied across the waves, but were quite low in Year 16; only 12.5% of the original sample could not be located. The current study includes only those participants married at Year 16 ($N = 183$) and with no missing data on network variables at Year 16 ($N = 153$; 91 White couples and 62 Black couples). Attrition analyses showed that the 153 couples included in the study were more likely to be White and were more highly educated and had higher income, higher positive marital quality, and lower negative marital quality than the 220 couples not represented from the Year 1 sample (172 of whom were divorced by Year 16). Retained wives were older at Year 1, but there were no retention differences on the basis of husband's age or parental status. Additional attrition analyses showed that the 30 couples with missing network data at Year 16 did not differ from our final sample of 153 couples (with full data) on husband or wife age or education, income, parental status, or marital quality (positive or negative).

In our final sample, the average age for wives was 40.46 ($SD = 4.33$) and the average age for husbands was 41.92 ($SD = 3.85$). The average education for wives was 13.64 ($SD = 1.92$) and 13.65 ($SD = 1.98$) for husbands. Average income at Year 16 was $66,498 ($SD = \$18,806$), with a range from $8,250 to $80,000. Nearly all couples were parents by Year 16 (96%).

Measures

Year 16 couple-level social network variables. Respondents were asked a series of questions about their families and friends. First, to capture their shared ties, participants were asked several questions about shared contact with family and number of shared family and friends. These questions were used to create the four couple-level social network variables. First, on a scale from 1 (*several times a week*), 2 (*once a week*), 3 (*2 or 3 times a month*), 4 (*about once a month*), 5 (*a few times a year*) to 6 (*never*), participants were asked, "During the past year, how often did the two of you together see or have contact with your own family?" and "How often did the two of you together see or have contact with your (wife's/husband's) family?" After reverse-coding items so that higher scores represent greater frequency of contact, responses to these questions were averaged across spouses to create the following couple-level variables: (a) contact with wife's family together and (b) contact with husband's family together. Then, on a scale from 1 (*many*) to 4 (*none*), participants were asked two questions about those they could call on for advice or help as a couple if needed. First they were asked, "As a couple, how many family members and relatives could you call on for advice or help if you needed it?" and then "About how many good friends could you, as a couple, call on for advice or help if you ever needed it?" After reverse-coding these items such that higher numbers represent more network members, answers to these questions were averaged across spouses to create the following variables: (c) number of shared supportive relatives and (d) number of shared supportive friends. Although all relatives are, in a sense, shared, we use the term *shared supportive relatives* in the present study to represent those relatives from whom both spouses have the potential to receive support. Intraclass correlations revealed that although spousal reports were highly and significantly correlated, they were not entirely overlapping. Unfortunately, given the nature of our data (i.e., questions assessed numbers of friends or relatives shared and amount of contact shared rather than actual names), we were unable to assess actual overlap as measured in some previous couple network research (e.g., Cornwell, 2012; Jackson et al., 2014; Kennedy et al., 2015; Stein et al., 1992). Thus, we used the averages of the two spousal reports of numbers of shared ties and contacts as

a relatively parsimonious method of assessing shared social ties (e.g., shared friends).

To capture spouses' nonshared ties, participants were asked on a scale from 1 (*several times a week*), 2 (*once a week*), 3 (*2 or 3 times a month*), 4 (*about once a month*), 5 (*a few times a year*) to 6 (*never*), "How often did you by yourself see or have contact with your own family?" Responses to this question were used to create the following variables: (e) wife's contact with her family alone and (f) husband's contact with his family alone. Next, on the same scale, participants were asked, "How often did you by yourself see or have contact with your (wife's/husband's) family?" Responses to this question were used to create the following variables: (g) wife's contact with her in-laws alone and (h) husband's contact with his in-laws alone. Finally, participants were asked on a scale from 1 (*many*) to 4 (*none*), "If you consider good friends only those people who you personally could call on for advice or help if you needed it, how many good friends do you have?" Responses to this question were used to create the following variables: (i) number of wife's supportive friends and (j) number of husband's supportive friends. All variables were then converted to *T* scores (i.e., to have a mean of 50 and a *SD* of 10) for ease of comparison and to eliminate effects because of scale differences (Hair & Black, 2000).

Year 16 positive marital quality. Year 16 positive marital quality for husband and wife was assessed separately. The variable for both husband and wife consisted of the mean of five items measured on scales from 1 to 4, as follows: "how happy would you describe your marriage," from 1 (*very happy*) to 4 (*not too happy*); "how certain would you say you are that the two of you will be married 5 years from now," from 1 (*very certain*) to 4 (*not at all certain*); "how stable do you feel your marriage is," from 1 (*very stable*) to 4 (*not very stable at all*); "how satisfied are you with your marriage," from 1 (*very satisfied*) to 4 (*very dissatisfied*); and "how often have you considered leaving your spouse," from 1 (*often*) to 4 (*never*). With the exception of this last item (considering leaving), all items were reverse coded so that higher numbers represented greater positive marital quality. Cronbach's alpha for husband's positive marital quality was .87, and for wife's positive marital quality it was .83. Because of significantly negative skewness and positive kurtosis, as well as unequal variances between husbands' and wives' reports, we transformed these variables using the multiplicative inverse. Because these transformations greatly improved normality and led to homogeneity of variance between husbands and wives, we used the transformed variables in all of our analyses.

Year 16 negative marital quality. Year 16 negative marital quality for husband and wife was also assessed separately. The variable for both husband and wife consisted of the mean of six items; five of the six items were measured on a scale from 1 (*often*) to 4 (*never*), as follows: "how often did you feel irritated or resentful about things your (wife/husband) did or didn't do"; "how often did you feel upset about how you and your (wife/husband) were getting along in the sexual part of your relationship"; "how often did you feel that your (wife/husband) was upset about how the two of you were getting along in the sexual part of your relationship"; "how often did you feel tense from fighting, arguing or disagreeing with your (wife/husband)"; and "how often have you felt you were not as good a (wife/husband) as you would like to be." One additional item, "When you think about what each of you puts in and gets out of your marriage, how angry do you feel?" was measured on a scale from 1 (*very angry*) to 4 (*not at all angry*). All items were reverse coded. Cronbach's alpha for husband's negative marital quality was .77, and for wife's negative marital quality it was .81. These variables were normally distributed with equal variances between husbands and wives.

Year 16 depressive symptoms. Year 16 depressive symptoms were also assessed separately for husbands and wives. Ten items from the 20-item Center for Epidemiologic Studies Depression Scale (Radloff, 1977) were responded to on a 3-point Likert-type scale from 0 (*rarely or never*) to 3 (*most of the time*). Means were then calculated. Cronbach's alpha for husband's depressive symptoms was .86, and for wife's depressive symptoms it was .86. Because of significantly positive skewness and kurtosis, as well as unequal variances between husbands' and wives' reports, we transformed these variables using the multiplicative inverse or reciprocal transformation (Tabachnick & Fidell, 2013). Because these transformations greatly improved normality for both variables and led to homogeneity of variance between husbands and wives, we used the transformed variables in all of our analyses.

Sociodemographic factors. Race was coded as 1 (Black) or 0 (White). Education, assessed separately for husbands and wives, was defined as the highest grade in school attained as of 1986 (Year 1), ranging from 8 to 17+ (less than high school to graduate and professional degrees). For household income at Year 16, participants were asked to report what all members of their household made together before taxes, including everything from salaries to dividends, ranging from 1 (*none or less than $2,999*) to 22 (*$75,000 and over*). We recoded each category as the midpoint to approximate a continuous variable ranging from $1,500 to $80,000. Responses for husbands and wives were averaged to create a single household income variable.

Analysis Strategy

To describe the conjoint social network types of married couples (Aim 1), we used two clustering techniques (hierarchical and *k*-means) in a similar procedure used in previous research (e.g., Fiori et al., 2007; Smith & Baltes, 1997). First, we applied a hierarchical clustering procedure using Ward's (1963) minimum-variance method in SAS (Version 9.2; SAS Institute Inc., Cary, NC), and we determined the ideal number of clusters by using criteria available in SAS (Milligan & Cooper, 1987). Specifically, we examined the simultaneous elevation of the pseudo-F statistic over the pseudo-T^2 statistic because pseudo-F indicates separation among all clusters at the current step, whereas pseudo-T^2 measures the dissimilarity of the two clusters most recently joined. In this way, the appropriate number of clusters (four) was confirmed before the *k*-means iterative partitioning procedure was performed in SPSS (Version 21.0; IBM Corp., Armonk, NY). Although we did not use a latent class analysis as our primary approach because it requires local independence in the clustering variables (Zhang, 2004), we performed a latent class analysis using Mplus Version 7.0 (Muthén & Muthén, Los Angeles, CA) to confirm a four-cluster solution. Indeed, our analysis (available upon request) confirmed both the nature and number of the four-cluster solution.

Next, we conducted a chi-square analysis to determine if there were race differences in the four network types (Aim 2). Finally, to examine how positive and negative marital quality and depressive symptoms differed on the basis of network types, race, gender, and the interactions among these factors (Aim 3), we ran a series of 2 (gender) × 4 (cluster) × 2 (race) repeated-measures analyses of covariance with gender as a repeated factor and cluster and race as between-group factors. Because income (Krause, 2001), education (Ajrouch, Blandon, & Antonucci, 2005; Wenger, 1996), and number of children (Seeman & Berkman, 1988) have been associated with network characteristics, we controlled for these variables in all of the analyses. Gender was considered the repeated factor because our data were structured such that the dyad was the unit of analysis, and wives' and husbands' responses could not be treated as independent observations. This approach is consistent with previous research on conjoint social networks (e.g., Stein et al., 1992) and is recommended by dyadic data analysts (Kenny, Kashy, & Cook, 2006). Because of low power, for select post hoc pairwise comparisons, we provide the effect size (Cohen's *d*; Cohen, 1992) of the mean difference. Following Cohen's guidelines, effect sizes near or below .2 are considered small, effect sizes near .5 are considered medium, and effect sizes near or above .8 are considered large.

RESULTS
Network Types

Consistent with our first hypothesis, we found qualitatively distinct couple network types. Specifically, four distinct conjoint network types emerged: friend-focused, wife family-focused, bilateral family-focused, and diverse. The characteristics of these four network types and their relative frequencies are shown in Table 1 and Figure 1. Table 1 presents the means (both standardized, to an overall sample mean of 50 and a standard deviation of 10, and unstandardized) for each of the 10 network variables for each of the four network types. Means approximately half a standard deviation above or below the overall sample mean of 50 (representing defining peaks of the clusters) are shown in bold. Figure 1 provides a visual characterization of the network types, with mean scores indicated by bars either rising above the mean of 50 or falling below the mean of 50 (e.g., the friend-focused network type is above average on the first three variables listed [shared and individual friends]).
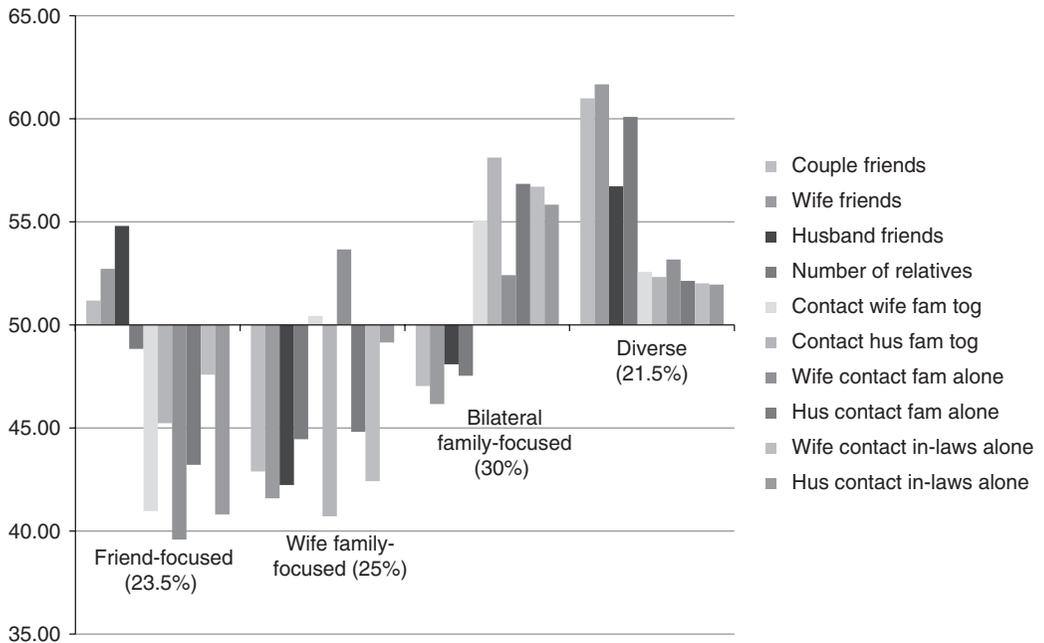
The first network type, labeled "friend-focused" (*n* = 36), was characterized by average to high numbers of friends, with the number

Table 1. *Network Types by Delineating Characteristics*

Network type	Couple friends	Wife friends	Husband friends	Number relatives	Wife family together	Husband family together	Wife family alone	Husband family alone	Wife in-laws alone	Husband in-laws alone
					Delineating characteristics					
Friend-focused (*n* = 36)	51.18	52.72	**54.80**	48.84	**40.97**	**45.24**	**39.59**	**43.22**	47.59	**40.81**
	(2.57)	(2.78)	(2.92)	(2.82)	(2.97)	(2.97)	(3.64)	(2.89)	(2.75)	(1.72)
Wife family-focused	**42.89**	**41.59**	**42.23**	**44.46**	50.44	**40.72**	53.67	**44.82**	**42.42**	49.15
(*n* = 38)	(2.04)	(1.97)	(1.97)	(2.04)	(4.14)	(2.39)	(5.39)	(3.13)	(1.89)	(3.13)
Bilateral family-focused	47.04	46.17	48.09	47.53	**55.06**	**58.12**	52.42	**56.84**	**56.71**	**55.84**
(*n* = 46)	(2.30)	(2.30)	(2.41)	(2.30)	(4.72)	(4.62)	(5.24)	(4.96)	(4.26)	(4.26)
Diverse (*n* = 33)	**60.99**	**61.67**	**56.72**	**60.09**	52.57	52.33	53.17	52.14	52.02	51.96
	(3.20)	(3.42)	(3.06)	(3.20)	(4.41)	(3.88)	(5.33)	(4.24)	(3.48)	(3.61)

Note. Means are first reported as standardized to an overall mean of 50 and a standard deviation of 10; those approximately half a standard deviation above or below the mean (representing defining peaks of the clusters) are shown in bold. Below these means are unstandardized (raw) means. The number of couple friends, wife friends, husband friends, and shared relatives range from 1 (*none*) to 4 (*many*); the remaining contact frequency variables range from 1 (*never*) to 6 (*several times a week*).

FIGURE 1. MEAN SCORES IN CRITERION VARIABLES BY NETWORK TYPE.

Note. Scores are shown in *t* scores, which are standardized to have an overall *M* = 50 and *SD* = 10 for ease of comparison across network types. fam = family; hus = husband; tog = together.

of husband's friends being particularly high, as well as below average contact with both families, but particularly with the wife's family. The second network type, labeled "wife family-focused" (*n* = 38), was characterized primarily by very few individual friends as well as few shared supportive relatives or friends. Although contact with the wife's family was average or above average, contact with husband's family was very low. The third network type, labeled "bilateral family-focused" (*n* = 46), was characterized by below-average

numbers of friends and relatives, but high levels of individual and shared contact with both families. Finally, the fourth network, labeled "diverse" ($n = 33$), was characterized by very high numbers of friends (particularly wife friends and shared friends) and relatives and above-average contact with both families.

Because the cluster analyses here focused on relative differences between couples, the approach did not capture within-couple mean differences. For example, although on average the couples within the wife family-focused network type reported relatively high frequencies of contact with the wife's family, the level of contact was relative to other wives in the sample and not necessarily to contact with the husband's family. To validate our interpretation of these network types, we conducted additional analyses using categorical measures created from the ordinal responses to the original seven network questions. For example, we created a variable assessing the balance between husbands and wives on shared contact with families, with three possible categories: more contact with the wife's family together than the husband's family together, equal contact, or more contact with the husband's family together. We then conducted a series of cross-tab analyses and chi-square tests (Categorical Balance Measure × Network Type) to determine if the characterizations of the network types were consistent with values on these categorical measures. For example, analyses revealed that among the couples in the "wife family-focused" network type, there were many more couples than expected by chance in which there is more contact with the wife's family together than the husband's, and many fewer (in fact, only one couple) in which there is more contact with the husband's family together than the wife's ($\chi^2 = 25.02$, $p < .001$). The pattern of findings across these supplementary analyses was consistent with our original interpretations of the network types.

Race Differences

To determine whether there were race differences in the network types, we conducted a chi-square analysis. Consistent with our hypothesis, the chi-square test was significant, $\chi^2(3) = 13.71$, $p < .01$. As seen in Table 2 (percentage within race) and confirmed by standardized residuals, there were more White couples than would be expected by chance in both the

Table 2. *Race Differences by Network Type*

Network type	White (% within race)	Black (% within race)
Friend-focused, $n = 36$	28 (30.8)	8 (12.9)
Wife family-focused, $n = 38$	19 (20.9)	19 (30.6)
Bilateral family-focused, $n = 46$	20 (22.0)	26 (41.9)
Diverse, $n = 33$	24 (26.4)	9 (14.5)

friend-focused network type and in the diverse network type. There was a higher proportion of Black couples in the bilateral family-focused and wife family-focused network types.

Links Between Network Types, Marital Quality, and Depressive Symptoms

We estimated a series of repeated-measures analyses of covariance predicting spouses' positive and negative marital quality and depressive symptoms from the network types, race, and gender and the interactions among network types, race, and gender, controlling for household income, wife and husband education, and total number of children. Table 3 lists the estimated (adjusted) means and standard errors for positive and negative marital quality and depressive symptoms by network type, race, and gender.

Positive marital quality. For positive marital quality, there was a trend for the between-subjects effect of couple network type, $F(3, 141) = 2.20$, $p = .09$. Post hoc pairwise comparisons with a Bonferroni correction showed a trend, albeit with a robust effect size, such that spouses in the wife family-focused network type (adjusted $M = 0.71$, $SE = 0.03$) rated their positive marital quality lower than did spouses in the diverse network type (adjusted $M = 0.82$, $SE = 0.03$), $p = .08$, $d = 0.61$. There were no significant variations in the associations with network types by race or gender.

Negative marital quality. For negative marital quality, there was a trend for a between-subjects effect of couple network type, $F(3, 141) = 2.38$, $p = .07$. Post hoc pairwise comparisons with a Bonferroni correction showed a trend such that spouses in the wife family-focused network type had higher negative marital quality (adjusted $M = 2.45$, $SE = 0.08$) than did spouses

Table 3. *Estimated Means and Standard Errors for Marital Quality and Depressive Symptoms Separately by Network Type, Spouse, and Race, Controlling for Household Income and Husband and Wife Education*

| Outcome | Race | Friend-focused | | Wife family-focused | | Bilateral family-focused | | Diverse | |
		Husband	Wife	Husband	Wife	Husband	Wife	Husband	Wife
Positive marital quality	White	0.78 (0.04)	0.78 (0.04)	0.76 (0.05)	0.71 (0.05)	0.78 (0.04)	0.87 (0.05)	0.84 (0.04)	0.86 (.04)
	Black	0.76 (0.07)	0.74 (0.07)	0.70 (0.05)	0.68 (0.05)	0.75 (0.04)	0.70 (0.04)	0.78 (0.07)	0.82 (.07)
Negative marital quality	White	2.20 (0.11)	2.25 (0.11)	2.41 (0.13)	2.58 (0.13)	2.40 (0.13)	2.16 (0.13)	2.00 (0.12)	2.23 (.12)
	Black	2.15 (0.20)	2.21 (0.20)	2.51 (0.13)	2.29 (0.13)	2.31 (0.12)	2.21 (0.11)	2.32 (0.19)	1.98 (.19)
Depressive symptoms	White	0.66 (0.02)	0.66 (0.02)	0.67 (0.03)	0.64 (0.03)	0.62 (0.03)	0.68 (0.03)	0.70 (0.02)	0.70 (.03)
	Black	0.65 (0.04)	0.65 (0.04)	0.66 (0.03)	0.65 (0.03)	0.68 (0.02)	0.65 (0.02)	0.67 (0.04)	0.73 (.04)

Network type

in the diverse network type (adjusted $M = 2.13$, $SE = 0.10$), $p = .08$, $d = 0.60$. This main effect, however, must be understood in the context of a significant three-way interaction between gender, network type, and race, $F(3, 141) = 2.75$, $p < .05$. Post hoc pairwise comparisons showed that this effect was driven largely by an interaction between gender and network type for White couples. That is, White wives in the wife family-focused network type reported significantly higher negative marital quality (adjusted $M = 2.58$, $SE = 0.13$) than did White wives from the bilateral family-focused network type (adjusted $M = 2.16$, $SE = 0.13$, $p < .05$, $d = 0.73$) and the diverse network type (adjusted $M = 2.23$, $SE = 0.12$, $p < .05$, $d = 0.60$). There was a trend such that they also reported higher negative marital quality than those in the friend-focused network type (adjusted $M = 2.25$, $SE = 0.11$, $p = .05$, $d = 0.57$). In contrast, White husbands who were in the diverse network type reported significantly lower negative marital quality (adjusted $M = 2.00$, $SE = 0.12$) than did husbands in either the wife family-focused (adjusted $M = 2.41$, $SE = 0.13$, $p < .05$, $d = 0.71$) or the bilateral family-focused (adjusted $M = 2.40$, $SE = 0.13$, $p < .05$, $d = 0.68$) network types. There were no significant differences on the basis of network type for Black spouses. There was a trend for a two-way interaction between gender and race, $F(1, 141) = 3.70$, $p = .06$, but post hoc comparisons showed no significant differences between Black and White husbands and wives. Although many of our effects were trends because of a relatively small sample size, effect sizes were robust.

Depressive symptoms. No significant differences in depressive symptoms emerged for network type, gender, or race, and no significant interactions were detected.

Discussion

Married individuals must negotiate the resources and demands of two sets of social ties, their own and their spouses' social ties. In the present study, we were interested in the different configurations of conjoint networks of long-term married couples and whether these conjoint network types were associated with individual and marital well-being. We successfully classified 153 couples into four network types on the basis of individual- and couple-level structural social network variables considered simultaneously. Consistent with our hypothesis, we found qualitatively distinct marital network types with varying degrees of diversity and bilateralism: the friend-focused, wife family-focused, bilateral family-focused, and diverse network types. Although the bilateral family-focused network type was the most prevalent ($n = 46$), couples were fairly evenly distributed across all four.

Contrary to our hypothesis, however, the network types did not distinguish themselves on the basis of overlap. That is, in those networks in which shared supportive friends and relatives and shared contact with families was particularly low (i.e., wife family-focused) or particularly high (i.e., diverse), individual numbers of supportive friends was also relatively low (i.e., wife family-focused) or high (i.e., diverse). The networks instead distinguished themselves more in terms of bilateral contact with families (i.e., wife family-focused) and diversity of network members and contact (i.e., diverse). It must be acknowledged, however, that our findings may underestimate the importance of overlap in part because our measure did not adequately capture the concept. As outlined earlier, the nature of our data (i.e., questions assessed ordinal estimates of numbers of supportive friends and relatives shared and amount of contact shared with

families) precluded us from assessing actual overlap in network members; instead, we used the averages of the two spousal reports of these ordinal estimates as a way of assessing shared social ties. Thus, it is possible that a more precise measure could reveal important distinctions in couple network types on the basis of overlap.

Previous network typology research conducted at the individual level of analysis (e.g., Fiori et al., 2006, 2007; Litwin, 2001) has similarly uncovered friend-focused, family-focused, and diverse network types. Consistent with research examining marital network types (e.g., Jackson et al., 2014; Jones, 1980; Kennedy et al., 2015; Stein et al., 1992; Widmer et al., 2004), our findings revealed network types also distinguished by differences in shared and non-shared kin and nonkin ties across husbands and wives. For example, similar to the distinction between the bilateral family-focused and wife family-focused network types in the present study, Stein et al. (1992) found one marital network type characterized by a focus on one spouse's family (in this case, the husband's family) and another characterized by a more even distribution of the husband's and wife's family and friends. Differences, of course, could be a result of the sample differences between Stein's study and the present study (e.g., the sample in Stein's study was all White).

Our findings underscore the utility of taking a pattern-centered dyadic approach to understanding couples' joint social networks. Previous research on marital networks has focused on either newlyweds (Jackson et al., 2014; Kearns & Leonard, 2004; Kennedy et al., 2015) or couples who have been married for widely varying lengths of time (Stein et al., 1992), preventing us from drawing conclusions about the continued diversity of marital network types for longer term married couples. For example, it is not clear whether the diversity of network types uncovered in the Stein et al. study was driven primarily by the couples in the sample who had been married for a shorter period of time. The findings from the present study imply that even among those married for a substantial and consistent length of time, diversity in marital network types exists. Our findings also caution against using only more traditional linear approaches to capturing diversity in couples' networks because they may obscure important and meaningful differences in how couples connect with family and friends. Further complexity

emerged when considering who comprised these network types and their links with well-being.

Meaningful Complexity in Couples' Conjoint Social Network Types

Among the few researchers who have explored the idea of conjoint network types, only one group has used a diverse sample of Black and White couples (Jackson et al., 2014; Kennedy et al., 2015). Consistent with this work and with our hypothesis, we found racial differences in the distribution of network types. Specifically, whereas White couples were fairly evenly distributed across the network types, there was a much higher proportion of Black couples in the bilateral family-focused and wife family-focused network types. This focus on the family is consistent with traditional cultural norms of filial obligation and connection among Black families (Fingerman, VanderDrift, Dotterer, Birditt, & Zarit, 2011; Sarkisian & Gerstel, 2004; Taylor et al., 2003) and with research showing that Blacks generally describe a higher proportion of family members in their networks than Whites (Ajrouch, Antonucci, & Janevic, 2001; Fiori et al., 2007). Furthermore, research indicates that Black Americans often extend kinship status to friend relationships ("fictive kin"; Chatters, Taylor, & Jayakody, 1994), which could also partially explain the higher proportion of Black couples in the two family-focused network types.

Although a family-focused network may enhance emotional closeness with kin (Lincoln & Chae, 2010; Marks et al., 2008), it can also be associated with greater (potentially stressful) demands from network members, particularly among married Black couples with relatively high levels of income and education (McLoyd et al., 2005; Neighbors, 1997). Thus, it is essential to examine the associations of these network types (and the racial differences in their distribution) with individual and marital well-being. Our findings show that although the prevalence of certain network types is different for Black and White couples, those networks are not necessarily differentially associated with lower well-being or marital quality among these groups.

Our findings further suggest that the extent to which network types interact with race and gender to predict well-being may be sensitive to which index of functioning is being examined.

No significant differences in depressive symptoms emerged for network type or the interaction of network type with gender or race, implying that one's individual level of well-being may be less associated with couple network types than one's levels of marital quality. Our modest sample size and resulting power limitations, however, could be partially responsible for the lack of significant findings, given that the between-subjects effect of cluster was not insubstantial, $F(1, 139) = 1.76$, $p = .16$, and that previous research has demonstrated that couple network types are important for depressive symptoms (at least among women; Stein et al., 1992).

For positive marital quality, couple network type emerged as a predictor at the level of a trend (along with trends for race and income); there were no significant two- or three-way interactions with race or gender. Overall, these results showed that irrespective of race or gender, couples in the wife family-focused network type were the most disadvantaged and those in the diverse network type the most advantaged. This suggests that turning heavily to the wife's family, to the potential exclusion of the husband's family, may be largely responsible for these differences in positive marital quality. Our findings are consistent with Stein et al.'s (1992) showing that individuals in a network type characterized by few shared relatives had the lowest marital satisfaction, whereas those with a medium-sized shared family network and large, separate friend networks had the highest marital satisfaction. This implies that a healthy combination of individual and shared ties with a focus on both families is key for both positive marital quality and individual mental health, confirmed by both qualitative (Jones, 1980) and quantitative work (Widmer et al., 2004).

Similarly, we found that those in the wife family-focused network type had the highest levels of negative marital quality, but this main effect was qualified by a significant three-way interaction between gender, race, and network type. Specifically, our findings suggest that this interaction was driven largely by White husbands and wives. Interestingly, White wives in the wife family-focused network type reported the greatest negative marital quality in comparison to White wives in the other clusters. On the other hand, White husbands in the diverse network type reported the lowest negative marital quality when compared with White husbands in the other clusters. In contrast, there were no

significant differences among Black husbands and wives in the different network types.

These findings are particularly surprising for White wives given that the wife family-focused network type was defined in large part by a strong focus on her family. It may be that White husbands who do not frequently see their families of origin rely instead on their wives as their primary source of support. This overdependence on the wife could be associated with her higher reports of negative marital quality. The couples in the wife family-focused network type also stand out in terms of the numbers of individual and couple friends as well as shared relatives they report, which are quite low relative to the other network types. It is possible that wives in this network type are reporting poorer quality marriages in part because of a lack of friends and relatives shared with husbands, consistent with the finding that network overlap is positively associated with marital satisfaction (Hansen et al., 1991; Kearns & Leonard, 2004; Orthner, 1975). But because our design is correlational, it is also conceivable that White wives in poor-quality marriages are turning toward their families of origin for support. We do know that women are more likely than men to mobilize social support in times of stress (Belle, 1983; Walen & Lachman, 2000), perhaps because women's individual social networks tend to be more diverse and more supportive than men's (Acitelli & Antonucci, 1994; Antonucci, 1994; Fiori & Denckla, 2012; Umberson, Chen, House, Hopkins, & Slaten, 1996). In light of these differences, it is notable that White men in diverse couple networks reported the lowest levels of negative marital quality. For White husbands, it seems that having a couple network type characterized by a large number of both shared and individual supportive friends and by frequent contact with both families is associated with better marital quality. This is in line with the interdependence perspective, which proposes that a more interdependent social life allows for opportunities to develop and maintain an identity as a couple (Kearns & Leonard, 2004; Kennedy et al., 2015), potentially reducing feelings of resentment and irritation in the marriage. However, our findings also underscore the importance of a combination of both shared and individual ties.

A different story emerged for Black couples, for whom there were no significant differences in negative marital quality by network type. This

is consistent with previous literature indicating that marital quality for Black spouses may be more dependent on external circumstances (e.g., socioeconomic conditions, discrimination, and racism) than it is for White spouses (Brown et al., 2010), likely because of a long history of adverse structural, economic, and social conditions (Jackson, 2000; Murry et al., 2001). In addition, research shows that although an extended family network has many cultural and emotional benefits (Lincoln & Chae, 2010; Marks et al., 2008; Sarkisian & Gerstel, 2004; Taylor et al., 2003), the demands of such a network can also act as a source of stress for Black couples (McLoyd et al., 2005; Neighbors, 1997), even among those in satisfying, established relationships (Marks et al., 2008). We also know that Black Americans experience greater network turnover than do White Americans (Cornwell, 2015). Thus, any potential benefits of particular network types for Black spouses may be mitigated by qualities of these relationships and the larger context in which they are embedded. As such, we may not be tapping into the most relevant network characteristics for the quality of Black marriages (i.e., strain and equity; Brown et al., 2010). In sum, although negative marital quality seems to be particularly sensitive to racial and gender differences in its associations with marital quality, it also appears that, in general, how you construct your network with your spouse is linked to how you feel about your marriage.

Considerations and Conclusions

Despite a number of strengths to our study (e.g., a nonlinear conjoint network approach, a focus on established diverse couples, and inclusion of shared and nonshared kin and nonkin ties), our findings should be understood in light of important limitations. The cross-sectional nature of this study limits our ability to speculate about directions of effects. For example, we cannot conclude from our analyses that a more diverse and bilateral network results in higher marital quality. Given that marital quality can influence network interdependence over time, at least among wives (Kearns & Leonard, 2004), it could be that happier couples are able to more easily and cooperatively navigate their shared and unshared ties rather than shared ties or bilateralism leading to greater happiness. The current study was a first step toward illuminating

the importance of these shared and unshared ties for couples' marital and individual well-being. Following these couples over time may help provide evidence of directionality; more specifically, longitudinal research could indicate what aspects of the individuals or the couple are associated with the formation of different network types, how marital network membership may remain consistent or change over time, how marital network typologies may be associated with marital and individual well-being over time, and how movements into or out of particular network types might be associated with changes in marital quality and individual well-being.

Future research could take advantage of natural developmental transitions, such as retirement (during which social networks tend to undergo rapid transformations; Wang, Henkens, & van Solinge, 2011), to examine some of these questions. For example, it could be that belonging to the diverse network type could become even more beneficial for couples as they navigate the social network gains and losses associated with the transition to retirement. Such research could also offer insight into how couples' social network changes associated with their retirement might be linked with changes in well-being. For instance, couples who move from a diverse to a wife family-focused network across the transition to retirement may experience poorer outcomes than spouses who make the reverse shift or who maintain stability in the network across the transition.

An additional limitation of the present study was the modest size of our sample, which reduced the power of our analyses to detect gender and race differences as well as to examine potential moderators of these links, as previous literature has suggested that socioeconomic status may be associated with social network characteristics (Ajrouch et al., 2005). The medium to large effect sizes we uncovered indicate that the findings were relatively robust, however. On the other hand, the size and makeup of our sample also limits our ability to generalize our findings, especially given the high rate of attrition in our sample attributed to divorce. Thus, it is unclear whether our findings would generalize to newlyweds or to individuals who have been married for shorter periods of time. Future longitudinal research might reveal whether membership in particular couple network types is associated with a greater likelihood of divorce.

Our measures were limited in several ways. First, our measures of both numbers of friends and relatives as well as frequency of contact with families were on ordinal scales, but for the purposes of our analyses we treated them as interval by creating means. So, for example, the difference between someone who has contact with their family several times a week (6) and someone who has contact once a week (5) was assumed to be the same as the difference between someone who has contact once a week and 2 or 3 times per month (4). Thus, it must be kept in mind that the mean values do not indicate actual occasions of interaction but, rather, represent approximate degrees of interaction. Second, although frequency of contact with families together was assessed in addition to an ordinal estimate of the number of couples' shared supportive relatives, the frequency of contact variables with shared friends were not assessed (only an ordinal measure of the number of shared supportive friends was assessed). This may limit the predictive power of these network types because some research indicates that frequency of contact with shared confidants may be more important for spousal support than the number of shared confidants (Cornwell, 2012).

Finally, and as previously mentioned, the fact that these questions assessed numbers of supportive friends and relatives shared and amount of contact shared, rather than names of network members, precluded us from being able to assess actual overlap as measured in previous couple network research (e.g., Jackson et al., 2014; Kennedy et al., 2015; Stein et al., 1992). Thus, we used the averages of the two spousal reports of numbers of shared ties and contact as a method of assessing overlap. Although we felt that this approach was the most parsimonious available to us, it is clearly not as precise as that used in the previous research. This is especially true given that husbands' and wives' reports of shared friends and relatives in the present study did not perfectly correlate. Although such discrepancies between husband and wife reports might be interesting to consider as an additional predictor variable, this type of analysis was beyond the scope of the present study and merits future investigation. Thus, although it is likely that the findings underestimated the importance of overlap because of the weaknesses of the current measures, important variations were uncovered in terms of the bilateral nature and diversity of the networks.

Future research would benefit from using more precise measures of overlap, along with bilateralism and diversity, in a couple network-type approach. We know that a detailed personal network interview can be combined with a pattern-centered approach to create network types, as shown by Stein et al. (1992), who used a network generation technique similar to that of Jackson et al. (2014) and Kennedy et al. (2015) but then clustered the resulting variables (shared family, shared friends, husband's separate family, husband's separate friends, wife's separate family, and wife's separate friends). But Stein et al. did not include other potentially important structural network variables that can be created from this network generation technique, such as density and centralization (see Kennedy et al., 2015). A recent study by Green et al. (2012) examining the social networks of homeless women showed that such structural variables developed from this type of detailed personal network interview can be included in a cluster analysis to better classify types of individual social networks. We believe that an important next step in the research will be to combine a duocentric approach that collects detailed network data from both husbands and wives and includes such structural variables as husband and wife density and centralization, with a pattern-centered approach such as cluster analysis to create couple network types. In addition, given that the benefits conferred by relationships may depend in part on their closeness (Birditt & Antonucci, 2007; Fingerman, Hay, & Birditt, 2004), we believe that this research would also benefit from the inclusion of more functional and qualitative variables (such as support exchanges and relationship quality).

Furthermore, an important next step in the research will be to take into account other potential moderators, in addition to race and gender, in understanding the links between marital network typologies and well-being. For example, Jones (1980) found that each marital network type uncovered in her study provided adequate support for some couples and was associated with problems for others. Thus, studying other individual or couple difference factors (e.g., personality) in understanding how marital network types may influence the quality of marriages and individuals' mental health is an important avenue for future research. Relatedly, future research might consider network types as mediators of the associations between individual

differences and marital quality outcomes. For example, research shows that differences in spouses' education (i.e., whether the husband or the wife has more education) influence marital quality (LaPierre & Hill, 2013). Given that there is an established relationship between education and network characteristics (Ajrouch et al., 2005; Wenger, 1996), it could be that differences in the education levels of the husband and wife may contribute to the development of different types of networks, which in turn can influence marital quality.

In conclusion, our study addresses notable gaps in the extant literature on marital network typologies by including a diverse sample and examining not only race differences in conjoint network types but also the interaction of network types, gender, and race in predicting important marital and individual well-being outcomes. These findings point clearly to the importance of examining the marital relationship within the broader context of couples' outside relationships as well as the need to begin to address key characteristics of these couples. Social epidemiologists have suggested that strengthening support networks is a more feasible and effective intervention for improving well-being at the population level than is reducing exposure to stressors (Cassel, 1976; Krieger, 2001). Because the marital relationship not only represents a key source of support, but also potentially shapes the social network itself, it is essential to continue to investigate the nature of these conjoint networks and to identify which individuals may be deriving fewer benefits from them and why.

Note

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