Brief report

Associations Between Perceived Support in Older Adult Marriages and Dyadic Covariations in Momentary Affect and Aches

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Received April 10, 2014; Accepted September 22, 2014

Decision Editor: Shevaun Neupert, PhD

Abstract

Objectives: Spousal support within marriage may be particularly important in old age when spouses become more likely to rely on each other’s help. However, spousal support does not have to be unanimously positive. In fact, very little is known about covariations in spousal affect and aches as couples engage in their daily routines and environments.

Method: Up to 27 simultaneous, momentary assessments from 49 older adult married couples (M age = 72 years [60–83]; M relationship duration = 42 years) were used taking into account the perspective of both partners.

Results: This study shows that social support within marriage was associated with reduced overall levels of negative affect (NA) but unrelated to positive affect (PA). Interestingly, high spousal support was both associated with reduced overall NA means but also with an increased covariation in NA between partners. No similar covariations were observed for aches and PA.

Discussion: Spousal support may be a double-edged sword; it is associated with reduced overall NA, but it may also lead to more permeable boundaries between spouses that seem to be specific to NA.

Key Words: Aches—Affect—Couples—Social support—Time sampling

A prime mechanism linking marriage with well-being and health is spousal support, especially so in old age when spouses are operating at the limits of their individual capacities (Berg & Upchurch, 2007; Hoppmann & Gerstorf, 2014). Spousal support is generally associated with higher well-being and better health, but spousal support may not be unanimously positive and can come at a cost with poor quality social interactions outweighing the risks of poor health behaviors (DeLongis, Capreol, Holtzman, O’Brien, & Campbell, 2004; Holt-Lunstad, Smith, & Layton, 2010; Rafaeli & Gleason, 2009). For example, spouses may drag each other down when getting involved in each other’s stressors or problems (Larson & Almeida, 1999). There may also be circumstances when unwanted support can be interpreted as a negative reflection of one’s own competencies, thereby undermining self-esteem, especially given growing concerns about independence with aging (Smith & Goodnow, 1999). The purpose of the present study therefore was to examine the possibly double-edged nature of perceived spousal support for momentary affect and aches in older couples. Specifically, we examined associations between perceptions of spousal support and up to a total of 27 repeated assessments of momentary negative affect (NA), positive affect (PA), and aches in 49 older married couples.

Spousal support may make older adults more attuned to how the respective partner is feeling, thereby creating
more permeable boundaries that particularly facilitate the transmission of NA (Larson & Almeida, 1999). Indeed, past research suggests that NA, but not PA, covaries within couples coping with prostate cancer, particularly when partners report many spousal collaborations (Berg, Wiebe, & Butner, 2011). Such spousal covariation in emotional experiences may be considered through the lens of several mechanisms. For example, one may envision a couple in which both partners are involved with each other’s problems, and are thus both affected emotionally (Hicks & Diamond, 2008). Alternatively, spousal covariations may operate in the context of a joint problem (e.g., barriers to shared goals), in that the difficulties of one spouse affect the entire dyad (Hoppmann & Gerstorf, 2013). It is also possible that partners need to be in sync with each other’s emotional experiences in order to be helpful (Randall, Post, Reed, & Butler, 2013). Finally, spousal covariations might follow from emotion transmissions, where the emotions of one spouse travel to the other (Larson & Almeida, 1999). Hence, although spousal support may be beneficial in general, it may also create more permeable boundaries particularly for NA, thereby making it likely that NA covaries within couples reporting high spousal support.

Physical health experiences can also be intricately tied to perceptions of spousal support (Martire, Schulz, Wrosch, & Newsom, 2003). This may be especially true for older married couples in which one or both partners is suffering from debilitating chronic pain, such as arthritis conditions. For example, daily spousal support satisfaction has been linked with pain and NA in persons with rheumatoid arthritis (Holtzman & Delongis, 2007) and pain behavior has been associated with emotional congruence in persons with osteoarthritis and their spouses (Druley, Stephens, Martire, Ennis, & Wojno, 2003). Taken together, it appears that pain, affect, and spousal support can be intimately related between spouses in their day-to-day lives.

This study extends previous evidence on NA covariation among spouses coping with prostate cancer (Berg et al., 2011). Specifically, we link older adult perceptions of support that is available to them from their spouse across a variety of different situations with momentary PA, NA, and aches using simultaneous momentary assessments from community-dwelling older married couples. We expect that perceived spousal support overall relates to more PA, less NA, and fewer aches, but that the benefits of perceived spousal support may be undercut if they go along with an increased vulnerability to NA covariation in particular. Following dyadic literature terminology (Cook & Kenny, 2005), we use the term “actor” to refer to associations between an individual’s characteristics with his or her own score on a variable (i.e., intraspoouse effect), whereas the term “partner” is used to refer to an individual’s partner’s score on a variable (i.e., interspoouse effects).

### Method

#### Participants

This study involved 49 older married couples from Atlanta, Georgia (see Hoppmann & Blanchard-Fields, 2011). Couples were recruited through media advertisements, community organizations, and participant pools. Eligibility required participation of both partners, minimum age of 60 years, and ability to read newspaper-sized print and use a small stylus.

Participants were predominantly Caucasian (91.8%; African American = 8.2%) and highly educated (82.5% with at least some college). Self-rated health (M = 3.51, SD = 0.99; 5-point scale) and cognitive fitness (M advanced vocabulary = 21.63; SD = 6.51; M letter sets = 16.43; SD = 4.90; Ekstrom, French, Harman, & Dermen, 1976) was good. Eight additional couples were excluded due to low cognitive status (<5 on vocabulary and/or letter sets) or other problems (device switches, technical problems). Spouses received US$70.

#### Procedure

After completing baseline questionnaires, spouses started a 9-day time-sampling phase during which each spouse completed up to three evenly spaced simultaneous momentary assessments each day using pocket computers, for a total of up to 27 assessments.

#### Measures

##### Spousal support

Seven items from the Quality of Relationship Inventory (QRI) assessed perceptions of spousal support (Pierce, 1994). The QRI captures relatively stable support perceptions, hence ratings were based on past weeks and months (Pierce, 1994; M = 4.32; SD = 0.60; 5-point scale; Cronbach’s alpha = 0.84).

##### Momentary affect

Participants rated their current PA (happy, excited, content, calm; M = 3.50; SD = 0.45) and NA (sad, irritated, frustrated, tired; M = 1.81; SD = 0.52) from 1 (not at all) to 5 (very much). Items were selected to cover high and low arousal affective states (Tsai, Knutson, & Fung, 2006).

##### Momentary aches

Current ache ratings (i.e., backaches, headaches, muscle soreness; Brown & Moskowitz, 1997) were based on a single item (M aches = 2.06; SD = 0.90; 5-point scale). Most participants (93.7%) reported at least some aches during the study.

#### Control variables

Age (M = 72 years [60–83]), gender (50% female), number of children (M = 2.7 children), marriage duration (M = 42 years), marital satisfaction (M = 4.45; SD = 0.54; 5-point scale; Hendrick, 1988), and arthritis presence (33.7%) were used as controls.
Statistical Analysis

The three-level nested data structure (measurement occasions within persons within couples) was accounted for through Hierarchical Linear Modeling (Raudenbush, Bryk, Cheong, & Congdon, 2000). Day was not included as an additional level of analysis due to limited statistical power. A more elaborate description of the data analytic approach including equations is available online (Supplementary Material).

Results

Table 1 shows descriptive statistics for the study variables. Of note, husbands were older and more satisfied with their marriages than wives. Older age was related to more children, longer marriages, and higher NA. Perceived spousal support and marital satisfaction were correlated, and both associated with more PA and less NA. More NA was related to less PA and more aches. Arthritis presence was associated with more aches.

We first examined associations of covariates with mean levels and spousal covariations in momentary PA, NA, and aches (Table 2, A models). Wives reported overall lower PA than husbands. Older spouses reported more NA than younger spouses. Spouses with higher marital satisfaction reported more PA and less NA. Spouses with arthritis reported more aches. Importantly, we found support for the predicted spousal covariation in PA and NA. No similar association was found for aches.

We then modeled associations between perceived spousal support and mean levels as well as covariations in momentary PA, NA, and aches (Table 2, B models). An individual’s own (“actor”) and his or her partner’s (“partner”) spousal support perceptions were associated with lower overall NA. Importantly, actor and partner support ratings predicted covariations in NA, as illustrated in Figure 1. This implies that spouses who report being able to rely on their partner for support fare better in terms of overall reduced NA, but they also are more likely to feel low when their partner is feeling low. No similar main effects or covariations were observed for PA or aches.

Most variance originated at the situation level for PA (situation level = 61%; person level = 32%; couple level = 7%), NA (situation level = 60%; person level = 29%; couple level = 12%), and aches (situation level = 54%; person level = 36%; couple level = 9%). Using the Pseudo $R^2$ approach (Snijders & Bosker, 1999), reductions in variance were calculated for each model between specified and unconditional models: PA (Pseudo $\Delta R^2 = 0.00$), NA (Pseudo $\Delta R^2 = 0.18$), and aches (Pseudo $\Delta R^2 = 0.15$). The reduction in deviance was significant: PA ($\chi^2 = 193.13$, df = 13, $p < .01$), NA ($\chi^2 = 263.50$, df = 13, $p < .01$), and aches ($\chi^2 = 297.00$, df = 13, $p < .01$).

Discussion

Actor and partner perceptions of spousal support were both independently associated with lower overall NA in the present sample. We also found spousal covariations in NA and PA. No similar associations were found for aches. NA covariations were associated with spousal support perceptions thus extending previous research on affect transmission in couples (Berg et al., 2011; Bolger, DeLongis, Kessler, & Wethington, 1989; Larson & Almeida, 1999; Saxbe & Repetti, 2010). Importantly, these findings held over and above age, gender, number of children, marital satisfaction, arthritis, and marriage duration.

Table 1. Means and SD of the Central Study Variables for Wives and Husbands, and Variable Intercorrelations (N = 98)

<table>
<thead>
<tr>
<th></th>
<th>Wives (SD)</th>
<th>Husbands (SD)</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
<th>10</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age</td>
<td>70.98 (5.11)</td>
<td>73.33 (4.06)</td>
<td>0.229*</td>
<td>0.284**</td>
<td>0.026</td>
<td>−0.249*</td>
<td>0.004</td>
<td>0.001</td>
<td>0.204*</td>
<td>0.078</td>
<td>−0.119</td>
</tr>
<tr>
<td>Number of children</td>
<td>2.80 (1.43)</td>
<td>2.69 (1.50)</td>
<td>0.250*</td>
<td>0.013</td>
<td>0.035</td>
<td>0.081</td>
<td>−0.045</td>
<td>−0.021</td>
<td>0.096</td>
<td>−0.099</td>
<td></td>
</tr>
<tr>
<td>Marriage duration</td>
<td>42.41 (14.9)</td>
<td>42.41 (14.9)</td>
<td>0.068</td>
<td>0.000</td>
<td>0.108</td>
<td>0.173</td>
<td>−0.079</td>
<td>−0.014</td>
<td>−0.003</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Relationship satisfaction</td>
<td>4.34 (0.60)*</td>
<td>4.56 (0.45)*</td>
<td>−0.202*</td>
<td>−0.020</td>
<td>0.362**</td>
<td>−0.288**</td>
<td>−0.128</td>
<td>0.605***</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gender</td>
<td>0.00 (0.00)*</td>
<td>1.00 (0.00)*</td>
<td>0.194</td>
<td>−0.179</td>
<td>0.081</td>
<td>0.052</td>
<td>−0.103</td>
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</tr>
<tr>
<td>Arthritis condition</td>
<td>0.43 (0.50)</td>
<td>0.24 (0.43)</td>
<td>0.015</td>
<td>0.044</td>
<td>0.407**</td>
<td>−0.020</td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>Positive affect</td>
<td>3.41 (0.48)</td>
<td>3.57 (0.40)</td>
<td>−0.532**</td>
<td>−0.175</td>
<td>0.318***</td>
<td></td>
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<tr>
<td>Negative affect</td>
<td>1.85 (0.50)</td>
<td>1.77 (0.53)</td>
<td>0.388**</td>
<td>−0.250*</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Aches</td>
<td>2.10 (0.95)</td>
<td>2.01 (0.85)</td>
<td>−0.062</td>
<td></td>
<td></td>
<td></td>
<td></td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Spousal support</td>
<td>4.26 (0.67)</td>
<td>4.38 (0.51)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<td></td>
</tr>
</tbody>
</table>

Note. ANOVAs tested mean differences between wives and husbands; correlations are based on means that were aggregated across wives and husbands unless indicated otherwise. ANOVA = analysis of variance.

* $p < .05$. ** $p < .01$. 
Actor and partner spousal support perceptions were associated with lower overall NA, corroborating the beneficial role of spousal support for affective experiences (Feldman, Downey, & Schaffer-Neitz, 1999). Of note, actor and partner support perceptions were not associated with overall PA. This discrepancy may be explained by a congruency effect, in that NA may be more likely during negative experiences when support is needed, whereas PA may be more responsive to uplifts, which do not require support from the partner.

Furthermore, spouses covaried in their PA and NA, but not aches. These findings can be interpreted in light of previous reports that pain experiences in one partner do not necessarily manifest in a similar way in the other partner (Martire, Keefe, Schulz, Parris Stephens, & Mogle, 2013), whereas affective experiences of individuals tend to be related between spouses (Goodman & Shippy, 2002). However, considering links between pain and affect, and potentially increased spousal dependency in old age, it is reasonable to hypothesize that in a sample of older married couples where both partners experience chronic health conditions, perceptions of spousal support may be associated with covariations in aches and affect.

Although we did not observe an association between perceived spousal support and covariations in PA, we did find the expected effect for NA. It is possible that spousal support is facilitated by a recognition of spousal NA—in order to help, it may be necessary to detect and empathize with the NA in one’s spouse, consequently becoming more susceptible to sharing in that experience of NA as well. Indeed, older adults tend to be higher in emotional empathy relative to cognitive empathy (O’Brien, Konrath, Grühn, & Hagen, 2013), which may point to a potential vulnerability to the NA of their spouse.

We note that while previous investigations identified NA transmission in wives but not husbands (Berg et al., 2011), our gender interactions were nonsignificant. This may at least in part be due to the relatively small sample and because spouses did not differ in patient versus caregiver roles. Future investigations should examine whether gender moderates NA covariation in spousal support, for example, when coping with chronic pain. Alternatively, less rigid gender roles with aging can also minimize differences that may have existed earlier in life (Miller, Hemesath, & Nelson, 1997).

Limitations
These findings must be seen in light of several limitations. First, self-reports offer valuable insight into subjective experiences, but they are ideally complemented by biomarkers (Saxbe & Repetti, 2010). Further, we used a broad measure

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Table 2. Hierarchical Linear Models Predicting Momentary Affect and Physical Symptoms From Actor and Partner Spousal Support Using Full Maximum Likelihood Estimation in HLM (N = 98)

<table>
<thead>
<tr>
<th>Fixed effects</th>
<th>Positive affect</th>
<th>Negative affect</th>
<th>Aches</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Model A</td>
<td>Model B</td>
<td>Model A</td>
</tr>
<tr>
<td>Intercept</td>
<td>3.07**</td>
<td>3.08**</td>
<td>1.54**</td>
</tr>
<tr>
<td>Marriage duration</td>
<td>0.00</td>
<td>0.00</td>
<td>-0.00</td>
</tr>
<tr>
<td>Gender</td>
<td>-0.16</td>
<td>-0.16</td>
<td>0.10</td>
</tr>
<tr>
<td>Number of children</td>
<td>-0.02</td>
<td>-0.01</td>
<td>-0.02</td>
</tr>
<tr>
<td>Age</td>
<td>-0.01</td>
<td>-0.00</td>
<td>0.03*</td>
</tr>
<tr>
<td>Arthritis condition</td>
<td>0.06</td>
<td>0.03</td>
<td>0.06</td>
</tr>
<tr>
<td>Relationship satisfaction</td>
<td>0.25**</td>
<td>0.17</td>
<td>-0.23*</td>
</tr>
<tr>
<td>Support, actor</td>
<td>0.05</td>
<td>-0.30**</td>
<td></td>
</tr>
<tr>
<td>Support, partner</td>
<td>-0.10</td>
<td>-0.29**</td>
<td></td>
</tr>
<tr>
<td>Positive affect</td>
<td>0.14**</td>
<td>0.14**</td>
<td>0.11**</td>
</tr>
<tr>
<td>Negative affect</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Aches</td>
<td>0.01</td>
<td>0.11**</td>
<td></td>
</tr>
<tr>
<td>Positive affect/negative affect/aches × support, actor</td>
<td>0.05</td>
<td>0.13**</td>
<td></td>
</tr>
<tr>
<td>Positive affect/negative affect/aches × support, partner</td>
<td>0.01</td>
<td>0.01**</td>
<td></td>
</tr>
</tbody>
</table>

Note. Unstandardized coefficients; we also tested whether perception of spousal support interacts with gender to predict covariation in affect and aches. Our findings were not significant. We suspect that the absence of gender-specific associations in our findings may at least in part be due to power. HLM, Hierarchical Linear Modeling.

*p < .05. **p < .01.
of spousal support (Pierce, 1994). Future studies should target more specific components, such as intimacy or self-affirmation, as key psychological ingredients. Additionally, findings are based on one-shot assessments of spousal support. Future extensions may involve time-varying spousal support measures and day-level variables, such as stressor versus nonstressor days (Hahn, Cichy, Small, & Almeida, 2014). Finally, we recruited a relatively small sample of high-functioning spouses due to (in 2006) limited previous research using pocket computers in old age. This limits power and generalizability to less healthy couples. Future research should involve more vulnerable populations, such as spouses coping with debilitating illness.

Conclusions
Taken together, perceived spousal support can be a double-edged sword. Greater perceived spousal support has been associated with lower overall NA, but concurrently, these perceptions can also be associated with more vulnerability to NA between spouses. Though generally regarded as a positive marital characteristic, it is necessary to explore all sides of perceived spousal support to arrive at a more comprehensive understanding of the health and well-being implications of spousal support for older married couples.

Supplementary Material
Supplementary material can be found at: http://psychsocgerontology.oxfordjournals.org/

Figure 1. Negative affect of the actor as a function of negative affect of the partner, separately for different levels of spousal support. Higher individual (actor) and spousal (partner) support ratings are those that reach above the 75th percentile, while lower support ratings are those that fall below the 25th percentile. Higher and lower spousal support are depicted for illustrative purposes only, as spousal support was considered a continuous variable. The figure illustrates that more spousal support relates to increased covariation between partners in negative affect.

Funding
This work was supported by National Institute of Health (R01 AG15019) to Fredda Blanchard-Fields (1948–2010).

Acknowledgments
Christiane Hoppmann gratefully acknowledges the support of the Michael Smith Foundation for Health Research and the Canada Research Chairs Program.

References


