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Running head: GENDER, RELATIONAL ORIENTATION, CAREGIVER STRESS

Gender Differences in Linguistic Indicators of Communion and Agency:
Associations with Caregiver Stress

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Abstract

This study examined gender differences in caregivers' use of agentic and communal words when talking about their care recipients' suffering and how this related to their stress, in terms of cardiovascular reactivity and self-reported negative emotion. Seventy-six older adult caregivers of spouses with chronic pain were recorded while describing an incident of their spouses' suffering. Caregivers' heart rate (HR) was continuously monitored during their speeches, and they reported their emotions (distress and anger) after their speeches. In addition, respiratory sinus arrhythmia (RSA) was calculated using HR. Results indicated that male caregivers were more likely to talk about a relational episode of their partner's suffering than female caregivers. There were no significant gender differences in communal or agentic word use, and type of word use was not associated with stress; however, associations between word use and stress differed significantly by caregiver gender. These differences suggested that acting in gender conforming roles was protective in female caregivers; whereas, acting in gender non-conforming roles was associated with increased stress in male caregivers. We also found that communally focused relationships were beneficial for men. The findings reveal novel characteristics that might influence caregiver emotional regulation capacity and suggest the need to consider caregiver experiences differently for men and women, and to examine couples as whole.

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Informal caregiving can negatively impact one's mental and physical health. Multiple studies have evidenced higher levels of depression, emotional and cognitive problems, increased rates of coronary heart disease, stroke, and mortality in long-term informal caregivers of a loved-one or spouse (Schulz & Beach, 1999; Schulz, Beach, Hebert, Martire, Monin, Tompkins, & Albert, 2009). However, it is important to consider the complexities of informal caregiving because research shows differences in peoples' experiences with caregiving are associated with different health outcomes (Beach, Schulz, Yee, & Jackson, 2000). Emotional regulation and gender have both been shown to moderate the relationship between caregiver experiences and their health outcomes (Monin & Schulz, 2009).

Caregiving is common within the traditional heterosexual marriage, and in this context it is important to consider the role of gender. Although women are more likely to be caregivers (Belle, 1987), as society ages, and as demographic projections show, more husbands will be faced with caring for their older wives (Crocker-Houde, 2002). There are important differences in how men and women experience caregiving stress, and previous research has shown that women report more burden and distress associated with caregiving (Lutzky & Knight, 1994).

Women may also experience greater physiological responsiveness and cardiovascular reactivity to conflict and other relational events than men (Robles & Kiecolt-Glaser, 2003; Bloor, Uchino, Hicks, & Smith, 2004; Nealy, Smith, & Uchino, 2002, as cited in Monin & Schulz, 2009). One explanation for this difference is that women are generally more attuned to others' emotions and are better at empathizing than men from a young age (Feldstein, 1976; Haviland & Malatesta, 1981, as cited in Monin & Schulz, 2009). Not only are women more likely than men to recognize others' emotions, but they are more likely to share and experience the emotions of others (Doherty, Orimoto, Singelis, Hebb, & Hatfield, 1995, as cited in Monin & Schulz, 2009).

We draw from theory that suggests that men and women are socialized differently in regards to the importance they place on interpersonal relationships for their well-being. Relational interdependence theory (Kiecolt-Glaser & Newton, 2001) suggests that while men value broader social connections, women's self-esteem and security relies on maintaining close, interpersonal relationships. Two constructs often used in health research to examine gender differences are agency and communion (Bakan, 1966). These two polarized orientations that categorize one's social self are often considered as parallel to socially prescribed masculinity and femininity (Hawkins, 1983). Agency refers to a focus on the self, and the desire to achieve and obtain power; whereas, communion refers to a focus on relationships, and a desire to cooperate and unite with others (Diehl, Owen, & Youngblade, 2008).

Some research has shown that agency is one of the best predictors of psychological well-being (Williams & D'Alessandro, 1994; as cited in Helgeson, 2005); agency is associated with greater perceived health, fewer physical symptoms, reduced psychological distress, and better overall physical health (Helgeson, 1994). Communion, on the other hand, is typically less related to health; however, unmitigated communion (the focus on others with exclusion of the self) is associated with poor health and psychological distress (Helgeson, 2005). Thus, an extreme degree of communion in women caregivers could be particularly detrimental.

One mechanism for the relationship between caregiving and health outcomes is the effectiveness of one's emotional self-regulation. Emotional self-regulation describes the ability of an individual to express and suppress his or her emotions in times of stress (Eisenberg et al., 1989). Previous literature has shown that experiencing sympathy, or concern for others, leads to heart rate deceleration and increased heart rate variability (better emotional self-regulation). However, personal distress, or the experience of internalizing others emotions is associated with an increased cardiac

stress response (Monin & Schulz, 2009). Cardiovascular measurements can assess emotional self-regulation, and one indicator that has been increasingly examined in the context of relationships is Respiratory Sinus Arrhythmia (RSA) or high-frequency heart rate variability (Gyurak & Ayduk, 2008; Smith et al., 2011). RSA indicates the extent to which individuals engage in appropriate regulation of emotions, by responding to stressors with adaptive responses (Gyurak & Auduk, 2008).

The present study examines caregivers' stress and emotional regulation as a function of relational orientation (communion and agency) and gender. We operationalize agency and communion by examining linguistic indicators and the content of caregivers' speeches about their partner's suffering. Recent literature has employed linguistic analysis to measure caregiver emotion-related traits predictive of heart rate reactivity in caregiving spouses (Monin, Schulz, Lemay, & Cook, 2012).

The first aim of the present study is to determine if gender is associated with using communal and agentic words when discussing a partners' suffering. The second aim is to determine whether caregivers' agentic or communal word use is associated with their physiological and emotional reactivity and regulation capacity. Finally, we are interested in determining whether agency and communion have differing effects in men and women. Social-role discrepancy theory (Pleck, 1995, as cited in Helgeson, 2005) suggests that strain arises when individuals fail to live up to their socially-constructed gender role. Therefore, we expect agency and communion, as constructs of masculinity and femininity, may take on different meanings for men and women and affect their caregiving stress differently.

Hypotheses

Our first hypothesis is that gender is associated with communal and agentic linguistic patterns, specifically that a) women will be more likely than men to use communal words, and b) men will be more likely than women to use agentic words in speeches about their partners' suffering. Additionally, c) women will be more likely than men to talk about relational (i.e. an interpersonal conflict, death of a loved one) topics. Our second hypothesis is that agency and communion are associated with physiological and emotional stress in response to a loved one's suffering. Specifically, a) those who use more communal words will show more stress, b) those who talk about relational themes will show more stress, and c) those who use more agentic words will show less stress when talking about the suffering of their partner, as evidenced by cardiovascular reactivity and self-reported emotions following their speeches. We will also explore differential effects of relational and agentic language and relational topics on cardiovascular reactivity and self-reported emotions in men and women.

Methods

Participants

Seventy-seven older adults with musculoskeletal conditions (i.e. osteoarthritis, lower back pain) and their caregiving spouses were recruited from the Internet, newspaper advertisements and community bulletins. Participant demographics are described in Table 1. In order to be eligible to participate, participants had to 1) be over 50 years old; 2) be married or in a marriage-like relationship; 3) live together; 4) one member of the couple had to have experienced at least moderately intense pain over the past month; and 5) complete the Short Portable Mental Status Questionnaire (Pfeiffer, 1975) to evaluate their cognitive functioning. Only those who correctly

answered at least 7 out of 10 items were considered to be eligible for the study. Caregivers, who were taking beta-blockers, a class of drug affecting heart rate, were excluded from participating in the study because of the aims of the parent study (Kjekshus, 1986).

Procedure

The present study analyzed data from a larger parent study that examined caregiver reactivity to a spouse's suffering. In the parent study, caregivers first sat quietly for a three-minute period while their heart rate was monitored continuously. Caregivers then provided baseline self-reported emotions of distress and anger. Next, caregivers' heart rate was monitored as they watched their spouse complete a pain-eliciting task and then as they provided verbal accounts about a time at which their partners suffered. Emotions were self-reported after each task. The verbal account was also preceded by a three-minute period during which participants were asked to think about what they were going to say. Of the 77 speeches, 76 were included for analysis; one was excluded because of a recording error. At the end of the study, participants completed a background interview assessing gender of the caregivers as well as other demographics (i.e. age, education, income, ethnicity). In this study, we limit our analysis to the measures taken during the baseline period and during the suffering speech.

Measures

Communal and agentic word use. Participants' recorded speeches were transcribed. The Linguistic Inquiry and Word Count (LIWC) text analysis program was used to examine the extent to which participants used communal and agentic language in their speeches (see Table 2). We assessed pronoun use (Tausczik & Pennebaker, 2009), specifically first-person plural words ("we" and "us", "our"), to indicate communion-orientation (Rohrbaugh, Mehl, Shoham, Reilly, & Ewy, 2008;

Tausczik & Pennebaker, 2009). We measure agency with the pronouns “I,” “me,” and “mine,” which are associated with attention drawn to the self (Tausczik & Pennebaker, 2009). We also examined the use of social words such as “family”, “spouse”, “wife”, and “husband,” which could indicate a greater focus on relationships. The LIWC, which counts the use of words associated with various meanings, has been evidenced as a reliable and valid tool to help evaluate the meaning of language (Pennebaker, Mayne, Francis, 1997; Pennebaker & Stone, 2003).

Relational themes. In addition to the LIWC analyses, two independent coders categorized the content of the speeches as either relational or non-relational by identifying themes of the overall stressor the participants describe. For example, the coders indicated that the episode of suffering was relational if it dealt with something such as the death or illness of a family member or a conflict between spouses. In contrast, other episodes of suffering focused more on the self, for example, a heart attack or a loss of job. Of the speeches (n=76), 22 focused on relational themes, while 54 focused on other episodes of suffering. There was 100% inter-coder agreement.

Heart rate (HR) and Respiratory Sinus Arrhythmia (RSA). To assess caregivers' cardiovascular stress and emotional regulation at baseline and during the speeches, electrocardiogram measurements were taken. HR was monitored continuously during the three-minute baseline and speech periods, and mean HR scores were calculated for each. The differences in HR from baseline to the speech period were calculated to determine reactivity. The mean change in HR for caregivers from baseline to the speech was 3.23 (SD=5.14, Range: -1.90-17.80). Respiration was measured in conjunction with heart rate to assess changes in resting heart rate variability or RSA. Differences in RSA from baseline to speeches were calculated as a measure of parasympathetic activation, an indicator of emotional self-regulation. The mean change in RSA for caregivers from baseline to speech was 0.18 (SD=1.91, Range: -5.82-7.46).

Self-reported distress and anger. Immediately following the speeches, participants rated their felt emotions on a seven-point likert scale ranging from (1)“not at all” to (7)“extremely,” rating emotions such as “disturbed,” “angry,” “troubled,” and “frustrated,” (Eisenberg et al., 1989). Anger was calculated with the mean ratings for the three items, “annoyed,” “angry,” “frustrated ($\alpha = .80$), Distress was the mean for “disturbed,” “uneasy,” and distressed ($\alpha = .85$). The mean rating for anger was 2.80 (SD=1.72, Range:1.00-7.00), while the mean rating for distress was 3.51 (SD=1.80, Range:1.00-7.00).

Pain. As part of a separate background interview, care-recipients were asked to characterize their pain. They rated average levels of pain on a 10 point likert scale with 10 being most severe. Participants also reported the duration of their pain, and reported each of the physical locations where they experience pain (i.e. feet and ankles, knees, and back).

Instrumental Activities of Daily Life (IADL) Help and Needs. Caregivers reported the extent to which they provided help to their partners with IADLs. They reported frequency of helping with shopping, preparing meals, laundry, and other household tasks on a likert scale from 1 (never) to 6 (several times a day). Care-recipients reported how often they were able to perform the IADLs in the past month on a scale from 1 (never) to 5 (always). These were recoded as a sum of the tasks with which the care-recipient needed or received any amount of help in the past month (Gitlin et al., 2003; Schulz & Beach, 1999).

Results

Preliminary analysis

First, to characterize the caregiving context in terms of the care recipient's condition, descriptive statistics were completed to analyze the type and frequency of care recipients' self-reported pain, the duration and location of their pain condition, and the extent to which they required and received help with IADLs from their partners. On average, care recipients reported experiencing consistent pain at low to medium levels, with a mean rating of typical pain of 3.65 on a scale of 10. They reported experiencing chronic pain for a mean of 10.31 years. Eighty seven percent of care recipients reported suffering from arthritis in at least one location. Of those experiencing arthritis, 43.30% identified their knees as the primary location of concentrated pain. The back was identified as the second most common area, with 17.9% of participants' arthritis affecting their backs. Caregiving spouses reported helping with a mean of 2.98 (SD=0.5) IADLs out of four. Care recipients reported need for assistance with a mean 1.1 IADLs out of four (SD=1.3).

Second, before testing our main hypotheses, correlation analyses were completed to examine potential covariates with gender as well as word use (i.e. word count, use of *I*, use of *we*, use of social words) and relational theme use in caregiver speeches (see Table 3). For gender, there was a significant association with age, with male caregivers more likely to be older. There was also a significant association between gender and education, with female care recipients more likely to have achieved higher levels of education. We conducted a chi-square analysis for gender and employment status and found that male caregivers were more likely to be retired, chi square= 4.01, $p < .05$. For word use, there was a significant positive association between use of social words and relational theme. There was a significant negative association between use of the word *I* and word count.

Additionally, use of social words was negatively associated with care recipient education and caregiver education. Finally caregiver education was also negatively associated with use of “I” and positively associated with word count .

Hypothesis 1: Gender differences in communal and agentic word use and relational themes

To test the hypothesis that women would be more likely than men to use communal words (i.e. “we” and social words), and men more likely than women to use agentic words (i.e. “I”) in their speeches about their partners’ suffering, we conducted multiple linear regressions. We included the variables gender, age, education, and employment status in our models (see Table 4). Gender was not significantly predictive for use of any of the word types. To assess the relationship between gender and speech themes (relational or non-relational), we conducted a chi-square analysis which revealed a significant association (chi square= 4.77, $p < .05$), such that male caregivers were more likely to use relational themes than female caregivers, with 17 of 22 relational speeches made by men. Thus, our hypothesis was not supported.

Hypothesis 2: Communal and agentic language, relational themes, cardiovascular reactivity, and self-reported emotions

Multiple linear regression analyses were also used to test the hypothesis that greater communal and agentic language and relational themes would be associated with cardiovascular reactivity and self-reported distress and anger. The models each included word count as a covariate and one language or theme variable (i.e., *I*, *we*, social words, and relational topics) to predict HR, RSA, as well as self-reported distress and anger. There were no significant associations between any of the linguistic or relational theme variables and cardiovascular reactivity or self-reported anger and distress. Thus, hypothesis 2 was not supported.

Hypothesis 3 (exploratory): Does communal and agentic language and relational themes relate to cardiovascular reactivity and self-reported emotions differently for men and women?

To test the hypothesis that communal and agentic word use and relational theme use were related to reactivity differentially between men and women, we conducted moderation analyses including gender interaction terms in the models predicting cardiovascular reactivity and self-reported emotions. The first regression model included the predictor variables: caregiver gender, caregiver age, care recipient education, caregiver employment status, word count, and one of the language variables (i.e. *I*, *we*, social words), or relational theme variable. In the next step of the model, one of the interaction terms for gender and use of *I*, *We*, Social words, and relational topics was entered. The dependent variables included change in HR, change in RSA, and self-reported emotions of anger and distress.

HR. There was a marginally significant interaction between gender and use of *I*, ($\beta=-1.37$, $SE=0.71$, $t(76)=-1.94$, $p=.05$) (see Figure 1). Follow-up analyses revealed that for men, low use of *I* was associated with significantly higher HR reactivity ($\beta=-0.76$, $SE=0.32$, $t(76)=-2.34$, $p<.05$); however, for women, there was no significant association, ($\beta=0.70$, $SE=0.78$, $t(76)=0.90$, $p=.39$, ns). Additionally, there was a significant interaction between gender and use of *we* on heart rate ($\beta=1.11$, $SE=1.11$, $t(76)=2.43$, $p<.05$) (see Figure 2). Follow-up analyses demonstrated that women with high use of *we* had significantly lower HR reactivity ($\beta=-2.46$, $SE=0.96$, $t(76)=-2.58$, $p<.05$), while for men, there was no significant association between use of *we* and heart rate reactivity ($\beta=0.08$, $SE=0.61$, $t(76)=0.14$, $p=.90$, ns).

RSA. There was a significant interaction for gender and use of social words for RSA ($\beta=.30$, $SE=.14$, $t(76)=2.16$, $p<.05$), such that for men, higher use of social words was significantly

associated with increases in RSA, ($\beta=0.08$, $SE=0.61$, $t(76)=0.14$, $p=0.07$) (see Figure 3). However, for women, there was no significant association, ($\beta=-0.10$, $SE=0.08$, $t(76)=-1.26$, $p=.22$, ns). There was also a marginally significant interaction for gender and talking about a relational theme associated with RSA ($\beta=1.93$, $SE=1.11$, $t(76)=1.74$, $p=.09$) (see Figure 4). Follow-up analyses revealed that the significant association was the result of a cross-over effect of two non-significant associations, with men who discussed relational topics more likely to show increases in RSA ($\beta=1.05$, $SE=0.67$, $t(76)=1.57$, $p=.13$), while women who discussed relational topics, showed decreases in RSA ($\beta=-0.68$, $SE=0.65$, $t(76)=-1.05$, $p=.31$, ns).

Self-Reported Anger. There was a significant interaction for gender and the use of *I*, ($\beta=.47$, $SE=.23$, $t(76)=.78$, $p<0.05$) and anger (see Figure 5). Follow-up analyses revealed that men with higher use of *I* had significantly higher ratings of anger ($\beta=.30$, $SE=.13$, $t(76)=2.31$, $p<.05$), while for women, there was no significant association between use of *I* and anger ($\beta=-.25$, $SE=.19$, $t(76)=-1.34$, $p=0.19$, ns).

Self-Reported Distress. There were no significant associations between any of the interaction terms for gender and word use and self-reported distress.

Discussion

Our analysis revealed gender differences in how caregivers described their partners' suffering and how their communal and agentic language related to their emotional regulation and cardiovascular reactivity to their partner's suffering. First we found that when caregivers were asked to describe an instance of their partner's suffering, men were more likely than women to describe something with a relational theme. This is likely because men were asked to speak about their partners who were women. Husbands might notice that some of the most significant moments of

suffering in their wives' lives were centered on relational episodes, such as times of conflict or loss. Women tended to describe their husbands' suffering in terms of physical pain. Though we expected caregiving wives to discuss more relational themes, the results are still in line with prior research and theory that women are more emotionally attentive to relational issues (Hegelson 1994; Lutzky & Knight, 1994; Smith, Gallo, Goble, Ngu, Stark, 1998) because these results are more of a reflection of the relational nature of the care recipient's suffering.

Second, we found that communal and agentic words had different effects on reactivity for men and women. Specifically, we found that men who use low levels of agentic words tend to have the highest HR reactivity. Self-role discrepancy theory and masculine gender-role stress explains that males who fail to live up to their gender-role norms experience increased stress and maladaptive coping (Eisler & Skidmore, 1987; Pleck, 1995, as cited in Helgeson, 2006). These theories offer a potential explanation, as men who have adopted the caregiver role might experience more cognitive dissonance and consequently stress.

In contrast to our hypothesis and the previous literature, use of communal pronouns was associated with lower heart rate reactivity in women, which could indicate that the act of talking about their partners suffering had some sort of therapeutic, stress reducing-effect in those who were more communally-oriented. Given self-role discrepancy theory, it is possible women felt more at ease in their traditional role. And despite relational interdependence theory, perhaps women who use more communal language (without unmitigated communion) can better focus both on the needs of the self and their partners, and are actually better able to regulate their emotions. The fact that most of the caregivers were caring for spouses with fairly moderate pain suggests that there could also be a threshold before women experience personal distress or "compassion fatigue."

The association between greater social words and better emotional self-regulation in men was also in contrast to our hypothesis; however, it might actually be a function of the content of the caregivers' speech and how men were describing their wives. Social words are correlated with social support and social concerns (Tausczik & Pennebaker, 2009). This would indicate that men whose partners were more socially-oriented might be more in tune with their wives' feelings and more adept at regulating their emotions. This could be true of more communal relationships, because focus on relationships in both spouses can benefit marriage with better marital satisfaction and reduced negative health outcomes (Kiecolt-Glaser & Newton, 2001). This might also explain the result that men who talked about relational topics showed better emotional regulation. Previous studies suggested the greater health benefits of marriage for men compared to women (Berkman & Syme, 1979; House, Robbins & Metzner, 1982; Shye et al., 1995; Helgeson, 2006), so perhaps having a social spouse enhances that benefit, and having less relational spouses could be detrimental for men. Women who discussed relational topics of their husbands' suffering actually showed more maladaptive emotional regulation. This could suggest that, for female caregivers, having a more relational spouse is particularly burdensome. Perhaps men who experience more relational forms of suffering are less masculine and more expressive, presenting more of an opportunity for emotional contagion for their caregiving wives.

Finally, more agentic men showed increased self-reported anger following the suffering speeches. This is in line with previous research that anger is a masculine emotion (Johnson, McKay, Pollick, 2011). However, this could also suggest that anger is a means for men to regulate their emotions to protect themselves. Research shows moderate levels of anger have been associated with high resting RSA in individuals exposed to upsetting stimuli (Gyurak & Ayduk, 2008). This may in fact be a more adaptive reaction than distress or other negative emotions. Increased anger may simply

be an appropriate and gender consistent emotional response to discussing a partners' suffering, so whether it is maladaptive is unclear.

These findings are important because they show a distinct pattern indicating gender differences in the effect of communal and agentic orientation on cardiovascular and emotional reactivity. This was one of the first studies to use objective linguistic markers as indicators of communion and agency and predictors of emotional regulation and cardiovascular reactivity among older adult caregivers. Additionally, unlike previous literature, we did not limit our analysis to word use with LIWC, and rather, considered the topical context of the speeches. Furthermore, we used both objective and subjective measures of stress and emotion regulation through self-report and cardiovascular measurements. The study was also novel in its utilization of RSA, an increasingly recognized marker of emotional regulation capacity (Smith et al., 2011, and Gyduk, 2008).

There were a few limitations to the study. Because the data were cross-sectional, we could not capture the range of caregiver experiences over time or establish causality. The pain of care recipients in this sample was relatively low; however, for most, the duration of pain was rather long, so participants generally were speaking from long-term experiences with disability. Another limitation was that the sample was almost entirely Caucasian. Future studies should recruit a more diverse sample in order to compare these constructs, because social-orientation, as well as conceptualizations of masculinity and femininity, likely differs across cultures.

As the gender gap narrows in terms of caregiving in older adult couples, it becomes increasingly important to examine how men and women differ in how they perceive their roles as caregivers and how they experience stress. Several of our findings were surprising given that previous literature has focused on how women caregivers generally report more stress and burden and

are more reactive to emotional stressors. As more older men begin to care for their partners, it will be important to consider the unique circumstances they face, including the cognitive dissonance that might result from defying gender norms as they adapt to their caregiver role. Moreover, the fact that men who described their partners in more social terms had better emotional self-regulation might suggest the health benefit of more communally-focused relationships in caregiving specifically for men, and interventions should be developed to improve relationship cohesion in older adult caregiving couples.

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Table 1. Participant Demographics

Characteristic	Caregiver N (%)	Care Recipient N(%)
Age		
<55	6 (7.80)	4 (5.20)
55-64	31 (40.26)	30 (38.96)
65-74	30 (38.96)	31 (40.26)
75-84	10 (12.99)	10 (12.99)
84<		2 (2.60)
Gender		
Female	32 (41.56)	45 (58.44)
Male	45 (58.44)	32 (41.56)
Race		
White, Caucasian	75 (97.4)	72 (93.5)
Black, African American	1 (1.3)	1 (1.3)
American Indian or Alaska Native	--	1 (1.3)
Other	1 (1.3)	3 (3.9)
Education		
<High school	5 (6.50)	4 (5.20)
High school	24 (31.20)	22 (28.60)
Some college	12 (15.60)	16 (20.80)
Associates degree	5 (6.50)	7 (9.10)
Bachelor's degree	9 (11.70)	12 (15.60)
Some graduate school	13 (16.90)	6 (7.80)
Professional degree	9 (11.70)	10 (13.0)
Employment		
Full time job for pay	13 (16.90)	--
Part time job for pay	17 (22.10)	--
Homemaker, not currently working for pay	3 (3.90)	--
Not currently employed, retired	35 (45.50)	--
Not currently employed, not retired	8 (10.40)	--
Income		
<\$5000	2 (2.60)	--
\$5000-\$9,999	1 (1.30)	--
\$10,000-\$14,999	1 (1.30)	--
\$15,000-\$19,999	4 (5.20)	--
\$20,000-\$29,999	7 (9.10)	--
\$30,000-\$39,999	13 (16.90)	--
\$40,000-\$49,999	7 (9.10)	--
\$50,000-\$59,999	12 (15.60)	--
\$60,000-69,999	5 (6.50)	--
\$70,000-\$99,999	14 (18.20)	--
\$100,000+	7 (9.10)	--

Table 2. LIWC Results for Word Use

Variable	Mean (SD)	Range
Word Count	340.61 (125.00)	(68.00-631.00)
I	4.54 (2.00)	(1.57-13.24)
We	1.32 (1.28)	(0.00-1.32)
Social	12.78	(6.75-21.19)

Table 3. Inter-correlations among word use and socio-demographic variables

	Word Count	I	We	Social	Relational	Gender	CG Education	CR Education	Income	Age	Spouse Age	Length of Marriage
Word Count	1.00											
I	-0.24*	1.00										
We	0.06	-0.16	1.00									
Social	-0.17	.017	0.18	1.00								
Relational	0.06	-0.04	0.25	0.32*	1.00							
Gender	-0.06	0.09	-0.04	-0.13	0.25*	1.00						
CG Education	0.38**	-0.24*	0.00	-0.25*	-0.04	-0.02	1.00					
CR Education	0.13	-0.17	-0.13	-0.23*	-0.03	0.25*	0.48**	1.00				
Income	0.20	-0.16	-0.16	-0.02	-0.18	-0.15	0.42**	0.46**	1.00			
Age	0.10	-0.10	-0.10	-0.20	-0.04	0.28*	0.10	0.52	0.05	1.00		
CR Age	0.07	0.14	-0.13	-0.09	-0.17	-0.15	-0.08	-0.09	-0.07	0.49**	1.00	
Length of Marriage	-0.10	-0.74	0.10	-0.07	0.07	0.09	0.12	0.05	0.04	0.42**	0.29*	1.00

* correlation significant at .05 level

** correlation significant at .01 level

Table 4. Multiple linear regression predicting word use

	WC		I		We		Social	
	β (SE)	P	β (SE)	p	β (SE)	p	β (SE)	p
Gender	-24.10 (32.34)	.46	0.48 (0.52)	.36	-0.05 (0.32)	.88	-0.29 (0.82)	.72
Age	2.30 (2.00)	.26	-0.02 (0.03)	.64	-0.04 (0.02)	.08	-0.06 (0.05)	.27
Spouse Education	9.10 (8.68)	.30	-0.20 (0.14)	.17	-0.02 (0.09)	.84	-0.37 (0.22)	.09
Retired	-7.32 (35.65)	.84	0.22 (0.57)	.70	0.80 (0.35)	.03	-0.36 (0.91)	.70
Full Time Employed	34.54 (43.03)	.43	-0.06	.67	-0.07 (0.43)	.87	-0.36 (1.10)	.75

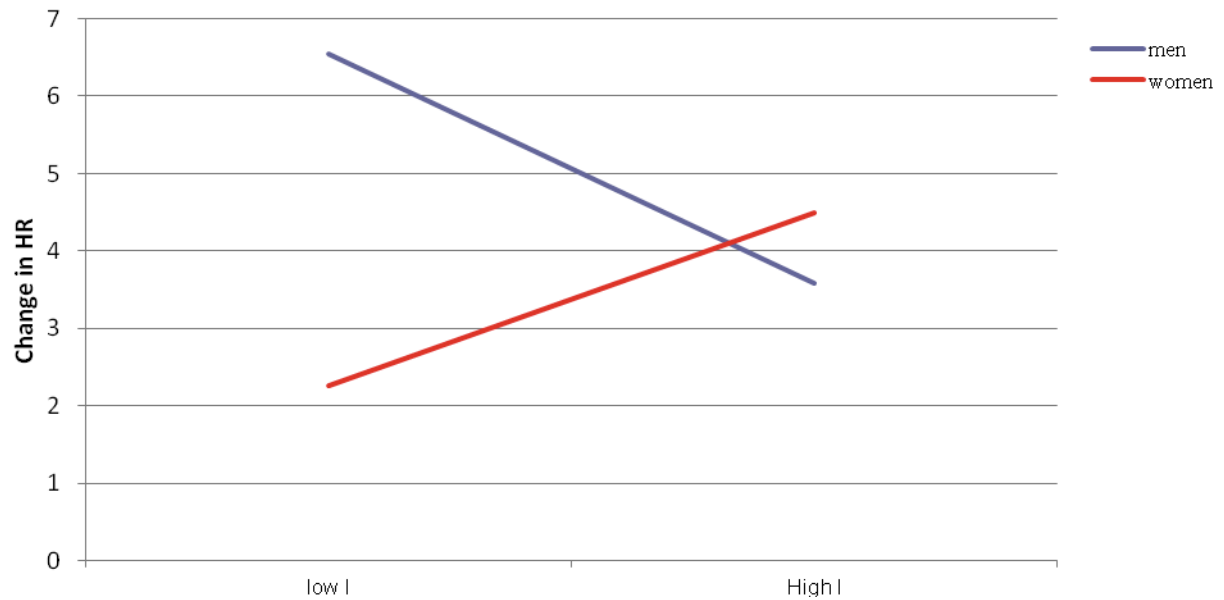
Figure 1. Gender X "I" use predicting HR reactivity

Figure 2. Gender X "we" use predicting HR reactivity

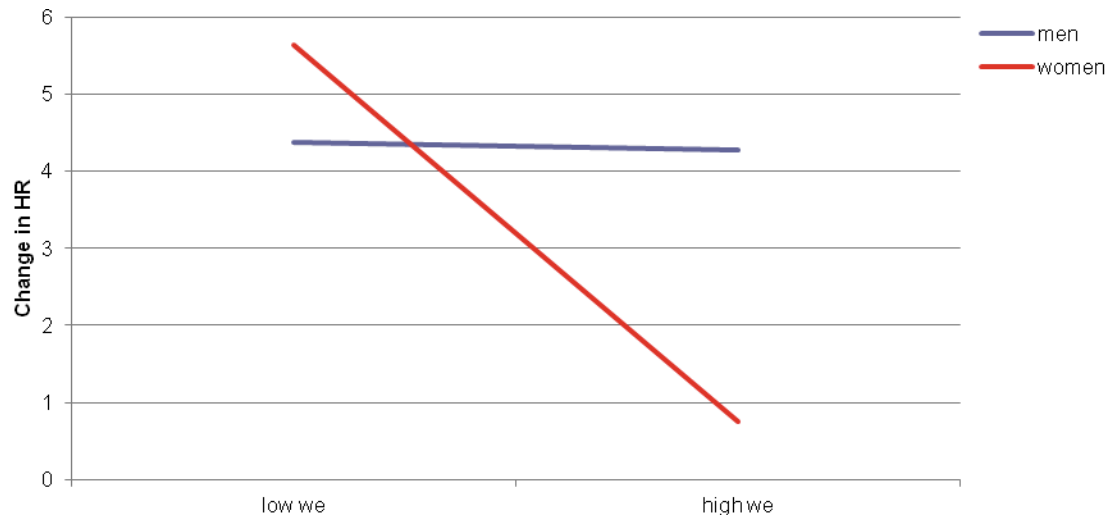


Figure 3. Gender X Social word use predicting RSA change

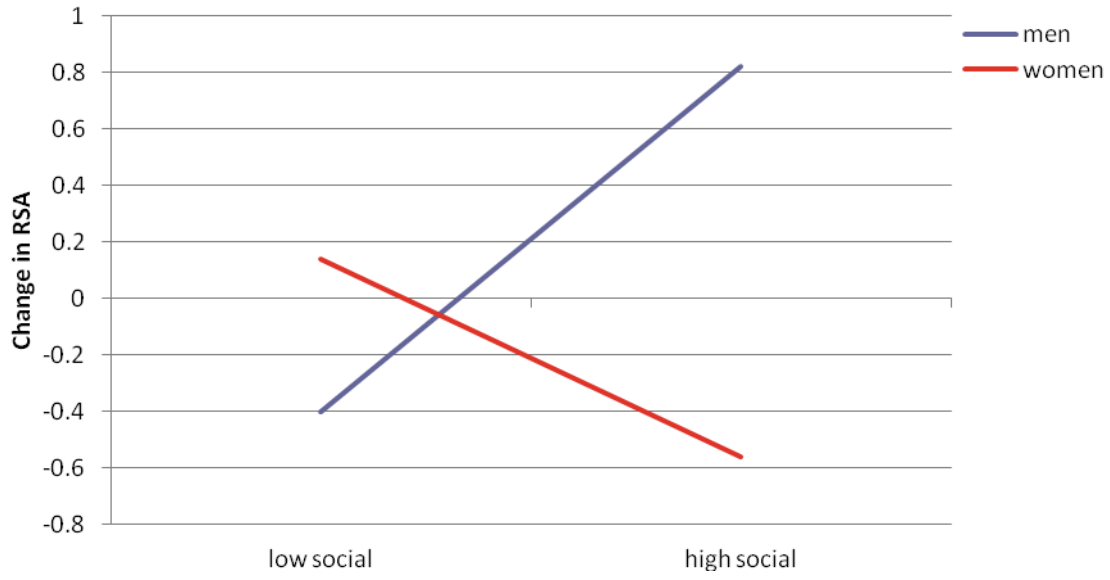


Figure 4. Gender X Relational theme predicting RSA change

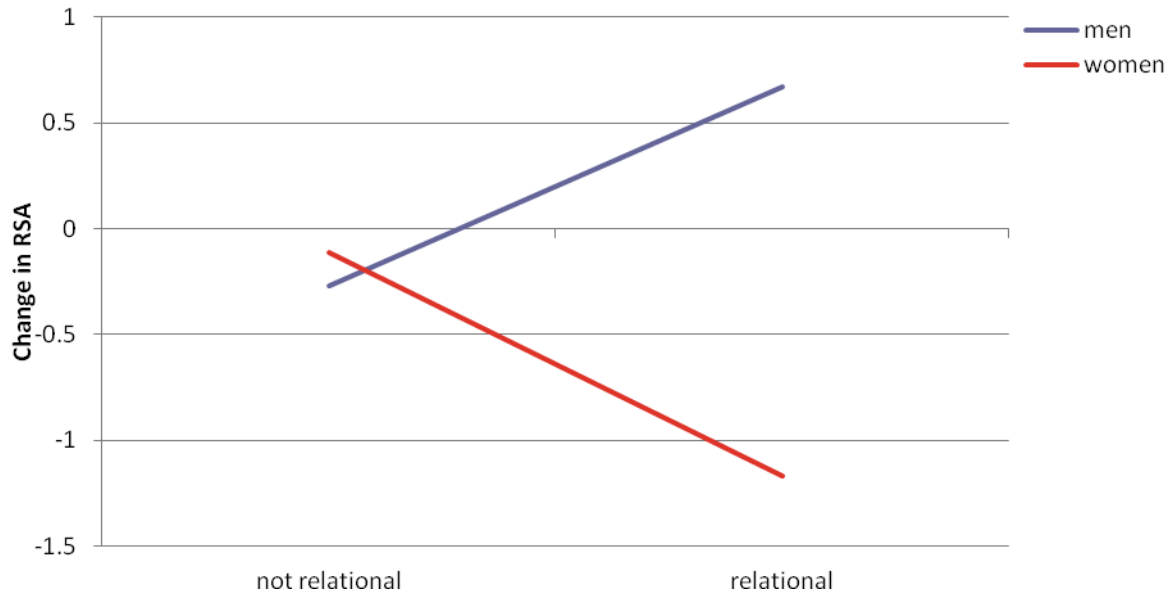
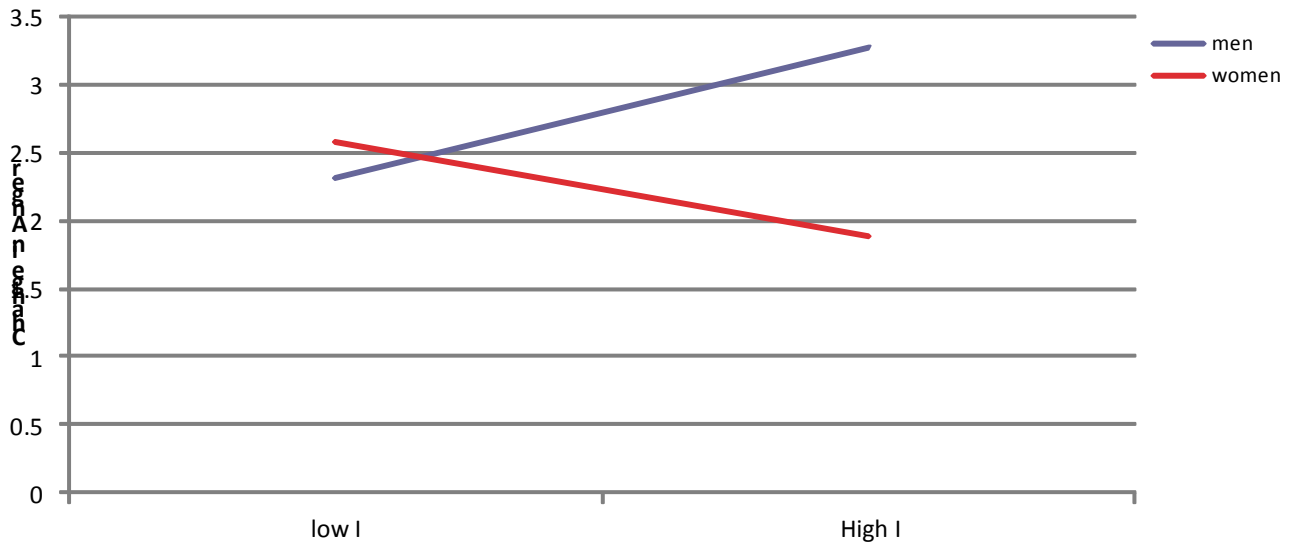


Figure 5. Gender X "I" use predicting anger



Appendix. Examples of Communion and Agency in Speech Excerpts

High Communion

“We always take care of each other. We always have. And we always will. And she is still my best friend.... We don’t...have a hard time with that. We do pretty good. We have to say ourselves, as two people, we do okay... we’re really close...There is not much we don’t do together.”

High Agency

“I was expressing the hard-hearted attitude not really being very uh, sympathetic uh, I just uh, I was kind of shutting down my feelings and not really recognizing them at all and she was being just the opposite she was saying well I do this and so forth. I wish I could remember it but I remember how different and how divergent we were at that time it was very, very peculiar. ... I wasn’t feeling anything about this incident I was being real sort of uh, stoic or uh, cavalier about it and she was....somewhat shocked that I could be that indifferent.”