Monitoring Pronouns in Conflicts

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Monitoring Pronouns in Conflicts: Temporal Dynamics of Verbal Communication in Couples across the Lifespan.

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Abstract

Conflict communication represents a basic process for the quality of intimate relationships, which is fundamental for well-being over the lifespan. In this study the temporal unfolding of different relational perspectives during a conflict situation is investigated by monitoring pronoun use in young, middle-aged and old couples within the theoretical framework of Gottman's phases of conflict. Our results reveal different trajectories of "I"-, "you"-, and "we"-talk over a conflict conversation in both partners. These trajectories differ between females and males. Furthermore, "you"-talk and "we"-talk differed between age groups over time. Understanding the temporal dynamics of marital communication as reflected by pronoun use seems promising for a better understanding of conflict related processes in couples over the lifespan.

Keywords: couple communication, Language use, romantic relationship, conflict, LIWC

Monitoring Pronouns in Conflicts: Temporal Dynamics of Verbal Communication in Couples across the Lifespan.

Introduction

Close relationships are one of the central domains for maintenance of well-being and health across the lifespan (Ryff, 1989; Tobin, Slatcher, & Robles, 2013). Intimate relationship is the most important interpersonal relationship in adulthood. In fact, living in a stable and happy relationship is related to the physical and mental health of couples (Robles, Slatcher, Trombello, & McGinn, 2014; Choi, Yorgason, & Johnson, 2015; Xu, Thomas, & Umberson, 2015).

Couple conflict communication over the lifespan

More specifically, a changing role of social relationships including the relationship to the spouse as couples age has been discussed (Carstensen, 1992). With increasing age, which is in many cases related to declining physical abilities and loss of social contacts through retirement and death of close friends, relationship partners are likely to become an increasingly important source of support. Thus, with increasing age, higher abilities in regulating own and partner's emotions (Fingerman & Charles, 2010), problem solving skills (Blanchard-Fields, Jahnke, & Camp, 1995) and functional dyadic coping (Landis, Peter-Wight, Martin, & Bodenmann, 2013, Landis et al., 2014) may play important roles in stabilizing the relationship quality. In conflict situations old couples report less intensive negative emotions and more positive affection than middle-aged couples (Carstensen, Gottman, & Levenson, 1995; Levenson, Carstensen, & Gottma, 1993; Smith et al., 2009) and compared to young adults, they experience less stress, are less likely to argue and they tend to do nothing when experiencing interpersonal tensions (Birditt, Fingerman, & Almeida, 2005). These findings are in line with socioemotional selectivity theory, which states that with increasing age people actively avoid negative emotional experiences by controlling the emotional course of interpersonal interactions (Carstensen, 1992, 1993).

Accordingly, old individuals displayed in a study more avoidance motivation in their interpersonal relationships, particularly avoiding socially distressing situations more than younger adults (Nikitin, Schoch, & Freund, 2014). However, they did not show less approach motivation than younger adults, which indicates a balance between avoidance and approach motivation. Group comparisons between young, middle-aged and old individuals support

this by indicating, in total, fewer interpersonal tensions in old age (Birditt, et al., 2005). However, when old individuals report interpersonal tensions in daily life, they report more often tensions with their spouse, than with other family members (Birditt et al., 2005). The authors argue, that older adults overall might show less reactive behavior to interpersonal tensions and are more likely to show passive constructive behavior (Birditt et al., 2005).

In general, communication of couples in standardized conflict situations (Coan & Gottman, 2007) has been found to be an important predictor of the maintenance of their relationship, i.e. dysfunctional conflict behaviors predict relationship dissolution (Christensen & Shenk, 1991; Cramer, 2000; Gottman, J. M., Coan, J., Carrere, S., & Swanson, C.1998). It is worthwhile to mention that stability of relationship is not necessarily good for well-being, and maintenance of relationship in discourd is detrimental for health over the lifespan (Newsome, Tyrae & Rook,, 2008). Differences between satisfied couples and couples in discord are supposed to be most evident when couples resolve conflicts (Gottman, 1979). In this context, gender differences have been suggested by numerous studies (Carstensen et al., 1995; Christensen & Shenk, 1991; Heavey, Layne, & Christensen, 1993). These studies showed that women are more confrontational, more expressive emotionally in general and accordingly express also more negative affect. In contrast, men tended to be more defensive and showed more withdrawal, and more de-escalation behavior. The authors conclude from their analyses that these gender differences are maintained across the lifespan (Carstensen et al., 1995).

In his description of couple conflict interactions, Gottman (1979) suggests there are temporal dynamics of conflict communication, and that the conflict communication can be divided in the three phases of agenda building, arguing phase, and negotiation phase. According to this model, the agenda-building phase is characterized by expressing feelings and mindreading. The task of this first phase of the conflict interaction is to define the problem for the consecutive discussion. The second phase, arguing phase, is characterized by open disagreement and summarizing the standpoints of each partner. The task of this phase is airing disagreement and exploring common ground in opinions and feelings regarding the underlying problem. The conflict interaction then ends with the negotiation phase, which is characterized by information exchange, problem solving, agreement, and summarizing points of view of both partners. A successful negotiation phase leads to a mutually

satisfying agreement on how to solve the problem. In comparison, distressed couples are supposed to continue repeating themselves and getting in counterproposal patterns instead of finding a mutual satisfying solution and recovering from the conflict (Gottman, 1979).

Monitoring pronoun use

Recently it has been proposed, that the words that individuals use are reflecting psychological processes of interest (Pennebaker & Graybeal, 2001). Particularly, the proportion of relational or personal pronouns in language samples are of interest here (Pennebaker et al., 2004). Relational pronouns are supposed to mirror the relation of the self to the other, vary as a function of adapting perception about the relationships and reveal couple-related psychological processes (Pennebaker, Mehl, & Niederhoffer, 2003). "I"-words such as "I", "mine", or "my" stand for expressing own thoughts and feelings and stand for self-focused way of thinking. "I"-words found to be related with higher rates of suicidality in individuals (Pennebaker & Stone, 2003; Stirman & Pennebaker, 2001). When individuals are experiencing physical or emotional pain they use more "I"-words, which reflects a switch of attention towards themselves (Rude, Gortner, & Pennebaker, 2004). In relationship context findings related to "I"-talk are not consistent. In couple conflict situations, the use of "I"-words was found to be related to more separateness in couples and to negative emotional behaviors (Sillars, Shellen, McIntosh, & Pomegranate, 1997). However, in a study including couples in discord (Williams-Baucom, Atkins, Sevier, Eldridge, & Christensen, 2010) diverging correlates of "I"-talk were observed: "I"-talk was related to more satisfaction in couples in discord; in contrast, in satisfied couples it was associated with more dis-satisfaction. Accordingly, "I"-use during couple therapy for treating alcohol problems was related to worse outcome (Rentscher, Soriano, Rohrbaugh, Shoham, & Mehl, 2015). In contrast, during coping conversations greater use of "I"-words by spouse was related to better health improvement of the patients, while greater use of "I"-talk by the patients was related with problematic demand/withdraw interaction patters (Rentscher, Rohrbaugh, Shoham, & Mehl, 2013). To sum up, "I" use in couple interactions seems to be related with self-disclosure that can be functional or dysfunctional. Current literature suggests, that in satisfied couples "I"-use in standardized conflict situations might reflect being

expressive about negative feelings and possibly demand patterns (Williams-Baucom, et al., 2010; Sillars et al., 1997).

The use of "You"-words such as "you" and "yours" in couple and family conversations has been linked with the notion of separateness, distancing, arguing, and blaming (Georgiou, Black, & Narayanan, 2011), and was related to less family adjustment (Robbins, Mehl, Smith, & Weihs, 2013), less marital satisfaction in middle-aged/old couples and in young couples (Sillars et al., 1997; Slatcher, Vazire, & Pennebaker, 2008), and more negative behaviors in marital interactions (Simmons, Gordon, & Chambless, 2005). Thus, "you"-talk in conflict situations seems to be an indicator of confrontational communication behaviors. In contrast, "we"-words such as "we", "our", or "ours" are found to reflect togetherness, "we"-ness, and a communal orientation (Pennebaker & Lay, 2002). "We"-talk in couples was related to higher commitment (Agnew, Van Lange, Rusbult, & Langston, 1998), positive changes of symptoms in patients with heart failure (Rohrbaugh, Mehl, Shoham, Reilly, & Ewy, 2008), better health related behavior in patients with problematic alcohol use (Rentscher et al., 2015) and in smokers with lung problems (Rohrbaugh, Shoham, Skoyen, Jensen, & Mehl, 2012), better dyadic adjustment in couples (Robbins, Mehl, Smith, & Weihs 2013), and more positive solutions when discussing the top issue facing their relationship (Simmons et al., 2005). "We"-talk has been studied in conflict situations and found to be related to less negative emotion in middle-aged and old couples (Seider, Hirschberger, Nelson, & Levenson, 2009) and it was related to high relationship satisfaction in couples (Sillars et al., 1997). However, in the study of Seider et al., (2009) "we"-talk of the spouses was not related to the relationship satisfaction of couples.

Applying a lifespan perspective, the use of relational pronouns has also been studied in different age groups. Results of these studies show differences between middle-aged and old couples in "we"-talk in conflict conversations; older couples used more "we"-words in a conflict situation than middle-aged couples (Seider et al., 2009; Sillars et al., 1997). Comparing writing examples of individuals between eight and 85 years, and also comparing Facebook updates of individuals between the 13 and 64 years reveal that, in general, older age is related to less "I"-talk (Kern et al., 2014; Pennebaker & Stone, 2003). The finding that "we" might substitute "I" in old age is in line with socioemotional selectivity theory and might reflect motivational shift that directs attention

to emotionally meaningful goals as a result of limiting time- in this case the cohesion and togetherness in the romantic relationship. Existing social relationships become more important and even though the size of the social network of older people becomes smaller, these close relationships tend to have higher relationship quality (Carstensen, 2006; Lang & Carstensen, 1994).

Moreover, gender differences have been observed in the context of language use (Mehl & Pennebaker, 2003; Mulac, Bradac, & Gibbons, 2001; Newman, Groom, Handelman, & Pennebaker, 2008; Pennebaker et al., 2003). In general, findings show that women use more "I" and their language is direct, elaborate and affective (Mehl & Pennebaker, 2003; Newman et al., 2003). Studies comparing men and women language use, demonstrate controversial findings, which is most probably due to the heterogeneity of the language samples that were used. More specifically, in couple conflict conversations, so far no gender differences have been observed (Sillars et al., 1997; Williams-Baucom et al., 2010), except more use of "you" in women in one study (Seider et al., 2009).

To sum up, monitoring the use of personal pronouns in couples' conflict conversations is a promising indicator of relevant psychological processes that might differ between genders and between age groups. Conceptually, the importance of the temporal dynamics within couple conflict conversation has been underlined for long (Gottmann, 1979). However, to our knowledge, no study so far has empirically investigated this suggested temporal unfolding within a conflict situation applying a micro-analytical perspective on the established conflict conversation paradigm (Gottmann, 1979). In addition, it is an open question if there are age differences between young, middle-aged, and old adults regarding these trajectories of changes in use of personal pronouns within couple conflict conversations.

The Current Study

The main aim of this study was to investigate the temporal dynamics of use of personal pronoun by couples in a conflict interaction. It is assumed that the changes in use of pronouns "I", "you" and "we" reflect Gottman's three phases of conflict interaction (Gottman, 1979). In the first phase (agenda building), couples define the topic of the conflict interaction task and should, hence, use "we"-statements frequently. In the second phase (arguing), partners express their thoughts and feelings and, hence, we expect a frequent use of "I"-statements reflecting

emotional and problem-oriented disclosure. In the third phase (negotiation), we expect again more frequent use of "we"-statements reflecting the communal focus. We, thus, expect a u-shaped form representing the use of "we"-statements and an inverse u-shaped form representing the use of "I"-statements.

The use of the "you"-statements should decline constantly over the eight minutes of the conflict interaction. Gotmann's theory suggests that in prototypical couple conflicts the confronting nature declines over the conflict conversation leading to an at least temporary reduction of the tension at the end of a conflict. Figure 1 illustrates our assumptions about the hypothetical temporal dynamics of pronoun use in conflict situation of couples. The assumptions rely on a continuous view of sequences and imply a u-shaped slope of "we", an inversed u-shaped slope of "I" and negative linear slope of "you" over time.

Due to previous findings for gender differences in conflict interaction (Carstensen et al., 1995; Christensen & Shenk, 1991; Heavey et al., 1993) and verbal communication (Mehl & Pennebaker, 2003; Mulac et al., 2001; Newman et al., 2008; Pennebaker et al., 2003), we assumed different pathways of change for men and female participants.

In line with previous findings exploring age-group differences (Pennebaker & Stone, 2003; Seider et al., 2009; Sillars et al., 1997) we expect general age differences in the use of "we", "I" and "you"-words. Considering that aging is related to more avoidance of negative emotion in close relationships (Carstensen et al., 1995; Nikitin et al., 2014) we expect that old couples use fewer "you"-words, reflecting less blaming and arguing in the conflict situation. Furthermore, with the growing importance of close relationships in old age (Carstensen, 2006) and with increasing shared identity among old couples (Sillars et al., 1997), greater use of "we"-words with increasing age is expected. So far, there are no studies investigating the dynamics of verbal communication over time in young, middle-aged, and old age groups. We expected that the temporal unfolding of pronouns during conflict conversation possibly also might reflect the known tendency to avoid negative emotions and be less involved in the conflict conversation. As this is the first study to study trajectories of pronoun use, the testing of age differences is of exploratory nature.

Method

The present study is part of a larger research project on the impact of stress on relationship development of couples and children across the lifespan.

Participants

The final sample consisted of 368 heterosexual couples. Couples from three different age groups were recruited: (1) 20 to 35 years, (2) 40 to 55 years, and (3) 65 to 80 years. After exclusion of 4 couples from our data set because of missing data, our sample included $N = 121$ young, $N = 124$ middle-aged, and $N = 119$ old couples. Of the remaining 364 couples, 240 couples were married (58% in first marriage and 8% in second marriage) and 237 had children (65.1%). Mean relationship duration was 21.06 years (minimum 1 year and maximum 60 years) and relationship duration was highly correlated with participants' age (for female participants $r= 0.88$, p < .001 and for male partners $r= 0.86$, p < .001). Mean age difference between male and female partners was 2.68 years (minimum 0, maximum 11 years) for young couples, 3.40 years (minimum 0, maximum 15 years) for middle-aged couples and 2.70 years (minimum 0, maximum 14) for old couples. Our sample represented relatively highly satisfied couples with $M= 4.33$, ($SD =. 50$) for female partners and $M = 4.38$ ($SD= .47$) on the 5-point scale of the German Version of the Relationships Assessment Scale (RAS; Hendrick, 1988; Sander & Böcker, 1993). Detailed demographic information of the participants is listed in Table 1.

Procedure

This project was advertised in newspapers and on the radio as a study on the impact of stress on relationship development of couples. Couples who were interested in participating were contacted and informed about the procedure of the study. If couples were interested and agreed to participate, they completed the questionnaires independently from each other at home and brought the questionnaires to the laboratory. At the laboratory, both partners provided informed consent and were then escorted to separate rooms where they filled in two additional sets of questionnaires. Couples had to go through three videotaped interaction tasks: one standard conflict interaction task, and two tasks of mutual support. For the purpose of this study, data from the standard conflict interaction task will be used.

Conflict interaction task. We used the conflict interaction task as introduced by Levenson and Gottmann (1983). For the conflict interaction, both partners identified a source of tension in their relationship that they would like to discuss with each other. To help partners identify primary areas of couple immanent stress, a list of most common problem areas was used (Problem Areas Questionnaire, PAQ A; Heavey, Christensen, & Malamuth, 1995). Partners separately rated how stressed they are with respect to the 13 areas of the PAQ A (e.g., communication with the partner, sexuality, finances, children, or annoying habits of the partner) on a 4-point scale. Additionally, participants were allowed to freely add three additional areas. In order to identify the topic of their stress communication task, the couple had to choose one issue from the PAQ A that either caused high tension for both partners or caused high tension in one but not in the other partner. Participants were then left alone and asked to discuss this relationship-relevant issue for eight minutes while being videotaped. The most frequently discussed topic of discussion in young couples was "annoying habits of partner" (N= 17, 14%, stressfulness of the topic M =1.60, SD = 0.96) followed by "leisure time" (N= 16, 13.2%, stressfulness of the topic M =1.80, SD = 0.68) in middle-aged couples, "childcare and parenting" (N = 23, 18.5%, stressfulness of the topic M =2.20, SD= 0.99), followed by "communication with the partner" (N = 21, 16.9%, stressfulness of the topic M = 1.93, SD = 0.97) and in old couples "communication with the partner" (N = 19, 16.1%, stressfulness of the topic M = 1.83, SD = 0.78) followed by "leisure time" (N = 15, 12.7%, stressfulness of the topic M = 1.64, SD = 0.71). Male and female partners did not differ regarding the degree of the stress related to the discussed topic (t (361) = 0.749, p = .454). There was a significant group difference between the average degree of the stress related to discussed topic for young, middle-aged and old couples F (2, 364) = 6.83, p < .001. For old couples the topic of the conflict interaction was significantly less stressful than for young and middle-aged couples.

Verbal communication. A team of trained research assistants transcribed the conflict interactions from standard and Swiss-German dialect into standard written German. These transcriptions were analyzed using the software "Linguistic Inquiry and Word Count" (LIWC; (Pennebaker, Booth, & Francis, 2007) based on the German dictionary (Wolf et al., 2008). LIWC is a software for quantitative text analysis with a series of built-in dictionaries. Counting each word and sorting it to the respective linguistic categories of its dictionary, LIWC

gives the percentage of each word category in relation to the total word count. LIWC has an option that enables segmentation of a text, to give percentage of each word category in a specific segment that is defined by user. For this study we analyzed the transcriptions of the conflict interaction in 1-minute segments (for 8 minutes of conflict interaction we had 8 time segments). One of the LIWC categories is "personal pronouns" which is divided in "I", "you", "we" and "other". The word category "I" includes personal pronouns relate to self (my, my, mine), "you" includes pronouns "you", "yours" and "we" includes "our", "ours", "we", "us". Descriptive statistics of pronouns use is summarized in Table 2. To be able to investigate temporal trajectories of pronoun use the transcriptions were divided into eight one minute sequences.

Data analysis

The dataset consisted of 364 (couples) x 2 (persons) x 8 (sequences) = 5824 observations. For our analyses we used a multilevel model for dyadic data that treats the three levels of distinguishable dyadic data (time nested within persons nested within couples) as two – instead of three - levels of random variation. Level one thereby represents variability due to within person repeated measures for male partners and female partners, and level two represents between-couples variability across male partners and across female partners; this is called a *double entry* or double intercept solution (see Laurenceau & Bolger, 2005, and Raudenbush et al., 1995, for more details). The double entry solution represents the state of the art treatment of longitudinal dyadic data as this solution allows the female and male slopes to covary and thus considers mutual interdependencies in the dyad over time. However, the double entry solution does not allow to explicitly test gender-specific effects. Thus, following the recommendations by Kenny, Kashy, and Cook (2006) conjoint *single-entry* models with dummy coded gender variables were estimated to explicitly test for gender differences. The models were estimated in R (version 3.0.1; Core Team, 2013) using the lme4 package (Bates, Maechler, Bolker, & Walker, 2013).

To test our hypotheses we modelled the change in pronoun use over the course of the eight sequences introducing a variable *time* which represents the number of the sequences. Time was centered at the first sequence of the conflict interaction such that time ranged from 0 to 7. In all models we tested for linear and quadratic effects of *time* using orthogonal polynomials *(timeQ)*. The effects of *time* on pronoun use were first tested separately for

female and male spouses using the double entry method. Second, *gender* differences were tested relying on a single entry method with adding interaction effects with a dummy coded gender variable (0 = female, 1 = male). Further, we tested for age group differences in the use of pronouns by adding two dummy coded variables to the models (double entry solution). The dummy coded variables were defined as (*ageYM*: 0 = young and 1 = middle-aged, *ageYO*: 0 = young and 1 = old).

Double entry models were specified as follows: Equations 1.1 and 1.2 represent the models testing for the linear and quadratic effects of time on pronoun use separately for male and female partners. Equations 1.3 to 1.8 represent models testing for age group differences in the overall use of pronoun (1.3. and 1.4), as well as for age group differences in linear (1.5 and 1.6) and quadratic trends (1.7 and 1.8) over time.

$$YM_{ij} = \beta_{0jM} + \beta_{1jM}\left(time_{ij}\right) + \beta_{2jM}\left(timeQ_{ij}\right) + \varepsilon M_{ij} \tag{1.1}$$

$$YF_{ij} = \beta_{0jF} + \beta_{1jF}\left(time_{ij}\right) + \beta_{2jF}\left(timeQ_{ij}\right) + \varepsilon F_{ij} \tag{1.2}$$

$$\beta_{0jM} = \gamma_{00M} + \gamma_{01M}\left(ageYM_{jM}\right) + \gamma_{02M}\left(ageYO_{jM}\right) + u_{0jM} \tag{1.3}$$

$$\beta_{0jF} = \gamma_{00F} + \gamma_{01F}\left(ageYM_{jF}\right) + \gamma_{02F}\left(ageYO_{jF}\right) + u_{0jF} \tag{1.4}$$

$$\beta_{1jM} = \gamma_{10M} + \gamma_{11M}\left(ageYM_{jM}\right) + \gamma_{12M}\left(ageYO_{jM}\right) \tag{1.5}$$

$$\beta_{1jF} = \gamma_{10F} + \gamma_{11F}\left(ageYM_{jF}\right) + \gamma_{12F}\left(ageYO_{jF}\right) \tag{1.6}$$

$$\beta_{2jM} = \gamma_{20M} + \gamma_{21M}\left(ageYM_{jM}\right) + \gamma_{22M}\left(ageYO_{jM}\right) \tag{1.7}$$

$$\beta_{2jF} = \gamma_{20F} + \gamma_{21F}\left(ageYM_{jF}\right) + \gamma_{22F}\left(ageYO_{jF}\right) \tag{1.8}$$

Results

Use of relational pronouns over time

In a first step we tested whether use of "I"-words, "you"-words and "we"-words changed over the 8-minute conflict interaction. The results of our models are summarized in Table 3. The intercept of the models

represents the sum of pronouns used within the first sequence (when *time* is coded as zero) for men and women. Linear and quadratic slopes indicate the trend of pronoun use over time.

   "I"-talk. In the first model (see Table 3) we predicted the use of the pronoun "I" by a linear and quadratic time polynomial separately for men and women. There was a significant quadratic effect of time on use of singular personal pronouns by female partners. The negative slope of quadratic effect of time indicates that the change of female "I"-talk over the 8-minute of conflict interaction has an inversed u-shape. Neither linear, nor the quadratic effect of time was significant for male partners, although they showed a similar trend for a quadratic effect of time. Next, to test gender differences we applied the single entry method adding interactions with a dummy coded gender variable. Results of the single entry method showed a significant gender difference in use of "I"-talk, $b =$ -0.418, $p = .007$, indicating that women overall used more "I" during the 8-minute interaction. Further, the significant *gender* x *time* (quadratic) interaction confirmed gender difference of change of "I"-talk over time between male and female partners, $b = 14.438$, $p = .043$. There was no significant interaction for the linear time trend, $b = -4.41$, $p = .54$. Results suggest that female spouses have a decreased use of "I" in the beginning and end phase of the discussion. For men this pattern of change in "I"-talk over time was less pronounced and not significant.

   "You"-talk. In line with our hypothesis there was a significant linear effect of time on "you"-talk. For both male and female participants "you"-talk declined over the course of the interaction as indicated by the negative estimate for time (see Table 3). The subsequent single entry model showed a significant gender difference in use of "you" pronouns, $b = -0.694$, $p < .001$, indicating that women overall used more "you". However, there were no significant differences in linear nor in quadratic changes of "you"-talk over time between male and female partners, $b = 4.07$, $p = .496$ and $b = -6.47$, $p = .279$, respectively.

   "We"-talk. For both male and female partner linear and quadratic effects of time on "we"-talk were significant. Significant positive quadratic effects of time on "we"-talk for both partners confirmed a u-shaped change of "we"-talk during the conflict interaction, indicating that females and males used "we" more in the beginning and end of the interaction. Results of the single entry method revealed that men used overall more

"we"-talk than women, $b = 0.12$, $p = .046$. However, there were no significant *gender* X *time* interactions, $b = -2.90$, $p = .501$ (linear), and $b = -1.26$, $p = .769$ (quadratic), indicating that men and women did not differ in the changes of "we"-talk over the course of the interaction.

Age group differences

In a further step, we compared the use of "I"-talk, "you"-talk and "we"-talk and their linear and quadratic trajectories over time between young, middle-aged, and old couples.

"I"-talk. The results of the first set of models comparing the linear and quadratic trajectories are summarized in Table 4. Among men the difference was marginal significant comparing young and middle-aged men and significant comparing young and old men, indicating that older men used "I" less often than young men and middle-aged men showed similar trends (marginal significant). Women showed the same trend as men but the differences between age groups in the overall use of "I" were not significant. Interaction effects between age group and trends over time were not significant, indicating that there were no significant differences between age groups in the linear and quadratic trend of "I"-talk over the course of the conflict.

"You"-talk. As displayed in Table 4, for female partners there was a significant main effect of age group on "you"-talk. Middle-aged and old female partners used "you"-words less often than young female partners. For differences in trajectories we found significant linear time by age group interactions for men, indicating that young men showed less of a linear decrease in the use of "you" compared to old men. Similar trend (marginal) was found for time by age group interactions comparing middle-aged and young men. Among women trajectories did not differ between age groups.

"We"-talk. We did not find any significant effect of age group on the overall use of the pronoun "we". Further, the effect of age groups on trajectories were only significant for quadratic effect of time on "we"-talk by the oldest male partners, $b = -14.94$, $se = 6.59$, $p = .023$, indicating that the quadratic trend was stronger among young men, compared to older men (see Figure 2). However, the difference in the quadratic trend failed to reach significance comparing young men to middle-aged men. For women all age group by time interactions were nonsignificant, indicating that quadratic trajectories did not differ between age groups.

Discussion

The present study examined the temporal dynamics of personal pronoun use in 364 young, middle-aged and old couples over the course of an eight-minute conflict interaction. We hypothesized that "I", "you", and "we"-talk during the conflict interaction would reflect the theoretical implications of the conflict interaction framework (Gottman, 1979); namely, the three phases: agenda-building, arguing and negotiation. As previous studies reported gender differences in couples' conflict communication (Carstensen et al., 1995; Christensen & Shenk, 1991; Heavey, Layne, & Christensen, 1993), we tested the gender differences in use of relational pronouns. In the same vein, age differences have been reported in conceptually related research (Kern et al., 2014; Pennebaker & Stone, 2003), which we also tested in additional analyses.

We hypothesized that the trajectory of "I"-use follows an inverted u-shape pattern, reaching its peaks during the "argue phase" of the conflict interaction, reflecting arguing and expressing one's own negative as well as positive thoughts and emotions. For all age groups, "I"-talk showed an inverted u-shape slope over time. However, the quadratic effect of "I"-talk was only significant for female partners. In general, female partners used more "I"-words than male partners. "I" use has been linked with a self-focused perspective and the expression of own thoughts and emotions, negative as well as positive ones. These results correspond to more general studies examining language use where women tend to use more "I" (Mehl & Pennebaker, 2003; Newman et al., 2003). This is also in line with findings that women engage more in disclosure of deeper thoughts and feelings (Dindia & Allen, 1992) and rely more on coping strategies involving emotional expression (Tamres, Janicki, & Helgeson, 2002). More specifically in conflict situations, female partners have been reported to be emotionally more expressive than male participants, while male partners showed more "stone walling" and withdrawal (Carstensen et al., 1995; Christensen & Shenk, 1991; Heavey, Layne, & Christensen, 1993).

In general, the use of "you"-words decreased linearly throughout the conflict interaction for both, male and female partners. Overall, gender differences were observable; women used more "you"-words over the course of the conflict interaction. Since "you"-talk was found to be related to arguing and blaming (Georgiou et al.,

2011), the higher use of "you" by female partners are in line with gender specific findings regarding demand-withdrawal patterns of conflict interactions in couples, which suggest demand being a female strategy (Carstensen et al., 1995; Heavey et al., 1993). The temporal unfolding of "you" is in so far interesting, as it peaks right in the beginning of the conflict conversation. Taking "you" as an indicator of blaming and arguing, the decrease of "you"-talk of male and female partners in the conflict interaction might be a specific pattern in samples like the current one with highly satisfied couples. Further research is needed with more heterogenous samples in order to explore potentially different patterns of "you" use in conflict situations as a proxy of blaming behavior. Possibly, couples in discord or with highly dysfunctional conflict patterns do not show this constant decline, never reaching a functional negotiation phase in their conflicts.

As expected, changes of "we"-talk over the course of the conflict interaction followed a u-shape trajectory for male and female partners, at least in the more parsimonious models which did not control for age differences. Interestingly "we"-talk was higher in male partners and the u-curve shaped trajectory was only significant for males. Pennebaker and Lay (2002) have discussed that "we" can variously be a marker of communal perspective and occasionally used as a "royal we" signaling power differences ("We have to clean this mess up"). Although the empirical evidence that "we"-talk has been replicated several times in different labs (Seider et al., 2009; Sillars et al., 1997; Simmons et al., 2005), the limitations of the LIWC-based counting approach is that the linguistic context cannot be taken into account and needs to be investigated with other language analysis methods. Accordingly, on one hand higher use of "we"-talk by male participants might mirror the de-escalation behavior of male partners in previous findings by applying a communal perspective over the discussion (Carstensen, 1995). On the other hand it cannot be ruled out, that power-related aspects involving emotional distancing and withdrawal of male participants in conflict interactions are also explanations for the use of "we" in this context. Further research is needed to identify which of the two conflicting hypotheses is correct or under which circumstances the first or second hypothesis holds.

Lifespan literature suggests age differences in intimate relationships (Carstensen et al., 1995; Lang & Carstensen, 1994; Levenson et al., 1993) and use of personal pronouns (Pennebaker & Stone, 2003; Seider et al.,

2009). Accordingly, age group differences were tested and it was analyzed whether the observed patterns of change in use of "I", "you" and "we"-talk during conflict would differ between age groups. At a group-comparison level, old and middle-aged women used less "You"-talk than young women in this study. This goes in line with findings from research of conflict behavior of elderly couples (Carstensen et al., 1995), which implies that elderly couples are less engaged (Seider et al., 2009) during conflict conversations. Accordingly, in this study, elder men used less "I" in the conflict conversation as compared to young men indicating less emotional expression and involvment in the conflict situation. However, this age difference could not be found in women, who in general used more "I" than men, though.

Furthermore, the unfolding of "you"-talk over time was different for old as compared to younger male partners. The slope of elderly males suggests a stronger decline of confrontational language over the conflict situation, which again is line with the notion of less engaged conflicts in elderly couples. The decline of "you"-talk by women did not differ between age groups. The main effect of a linear decrease of "you" talk did not hold in the model controlling for age differences. As the significant interaction suggests, it was driven by the male elderly in the sample. Further research is needed to get a better understanding of the prototypical unfolding of "you" talk in conflict conversations.

Against other findings in the literature, where at least older wifes showed higher we-ness in conflict situations (Seider et al., 2009), in this study no baseline differences could be found. Possibly, this might reflect sample differences: in their study age differences in pronouns use were tested in a heterogeneous sample of satisfied and unsatisfied couples. Trajectories of changes of "we"-talk over the course of the conflict interaction differed in three age groups of our sample. The quadratic slope of "we"-talk was significantly different for old men as compared to the younger male partners suggesting a less pronounced u-shaped curve in older male partners. This could be interpreted as reflection of the attempt of maintaining a communal orientation even during the arguing phase, which is characterized by a confrontational nature. However, the female trajectories did not differ between age groups. Possibly, we-talk has different meanings for men and women in these conflict situations of young or old couples. Seider and colleagues (2009) showed that marital dissatisfaction was more

strongly associated in older couples with the use of "you" as a proxy of separateness in conflict discussions–indicating a shift of meaning separateness in older couples.

Limitations

Our elderly couples also represent long-term couples. Thus, like in earlier studies extensively discussed (Carstensn et al., 1995), it is empirically impossible to disentangle the effects of age and relationship duration. Therefore, age differences with respect to "we"-talk may also reflect differences in relationship duration as older couples have been together for longer time periods. It would be intriguing to investigate young couples (short relationship duration) in the old-age group in order to disentangle age-related from relationship-duration related effects. Moreover, another major limitation of the study is that there are differences in the perceived stressfulness of the conflict situation between the three age groups. Hence, age differences may also in parts be attributed to differences of the experienced stressfulness of the subject addressed in the conflict conversation. In general, the experimental manipulation of conflict in the lab might provoke different reactions in different couples which are meaningful. Further research is needed to look at further possible moderating variables like whether the perceived stressfulness of the conflict topic is shared in both partners or whether couples are in discord or very happy.

Although, for this study we used observational data, the conflict situation was experimentally induced in the lab. Monitoring conflict interactions of couples in real-life situations (in absence of a video camera) could be a more promising way in the future to study language use of couples in conflict interactions. "I"-talk, "you"-talk and "we"-talk might have been interpreted as proxies for self-disclosure, separateness or blaming, as well as togetherness or commitment, respectively. However, an additional content analysis of the verbal expressions could reveal, if this interpretation may be conceived as valid.

Conclusion and Outlook

Investigating the use of relational pronouns is a promising way to investigate the temporal intra and inter-individual dynamics and within couples dynamics. This study is a first contribution to a better understanding of prototypical conflict situations in satisfied couples across ages. Gottmans' theoretical framework of different phases within conflict situations was helpful to reveal gender and age differences in the temporal unfolding of

relational perspectives within conflict discussions. Further research is needed for a better understanding of the adaptiveness of these trajectories in more or less satisfied couples. Furthermore, the analyses of possible mutual influences within the couple considering actor and partner effects would be intriguing. All this would help to define relationship behavior that serves stabilization (Scholz, König, Eicher & Martin, 2015) of marital well-being over the lifespan and critically inform research and preventive measures in this area. It would also be intriguing to investigate "new" couples in old age partners in order to disentangle the influence of relationship duration and biological age. In this endeavor, monitoring relational pronoun in social interaction seems a promising pathway for future research.

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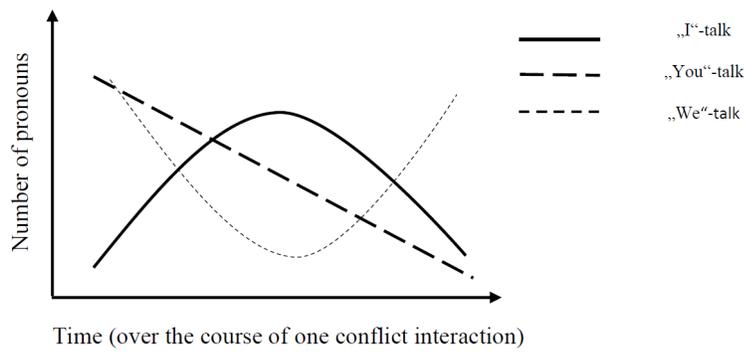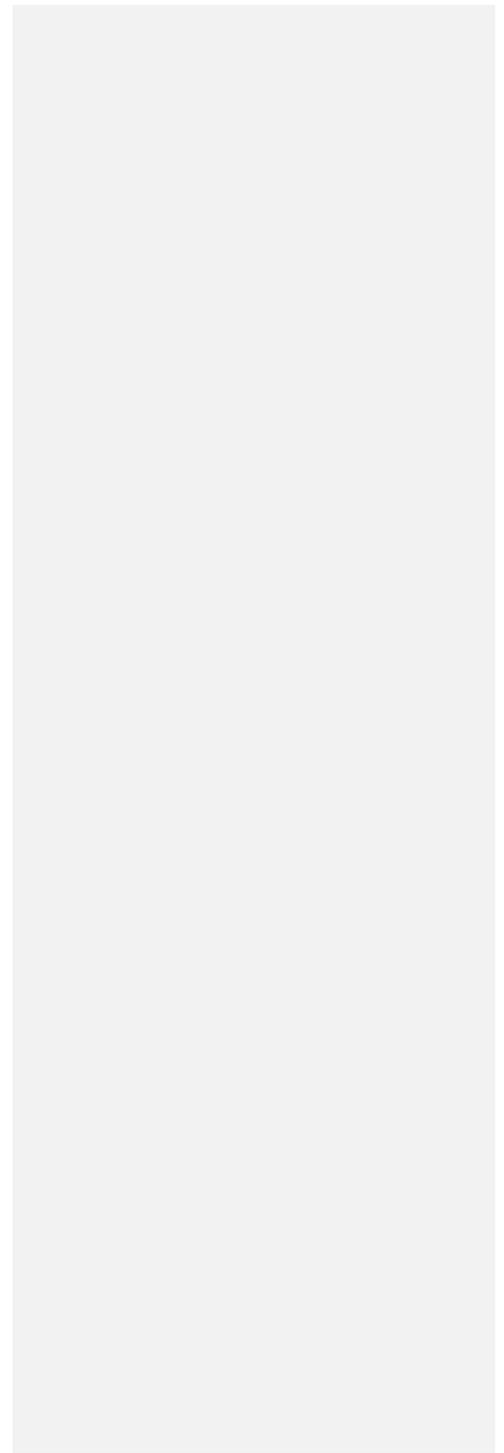*Figure 1.* Hypothetical temporal dynamics of "I"-talk, "you"-talk, and "we"-talk over the course of a conflict interactions.
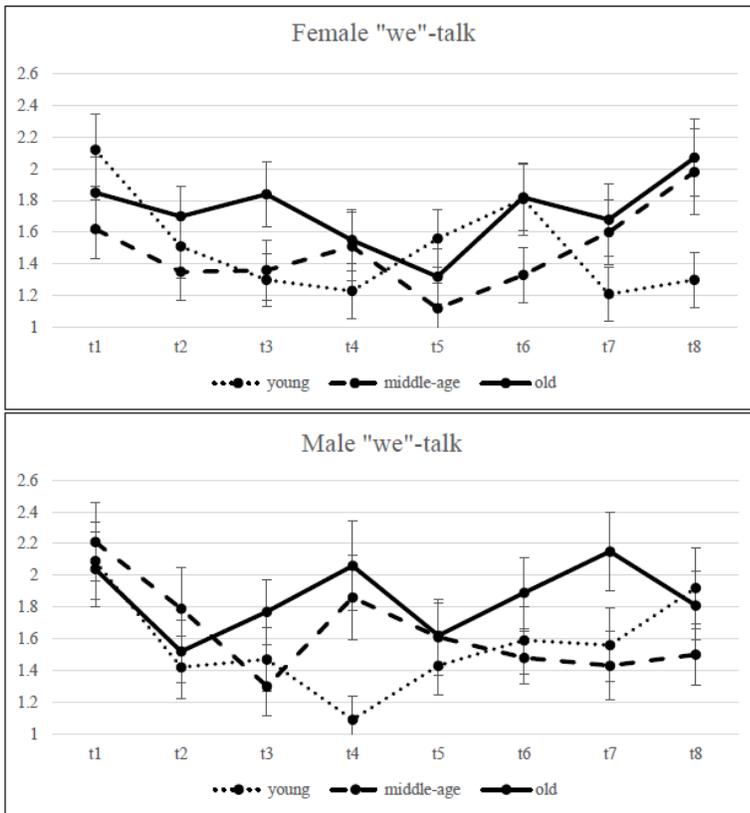
Figure 2. "We"-talk of young, middle-aged and old male and female partners across the conflict

Interaction.

Table1. Demographic characteristics of the participants

	Young (N=121)		Middle-age (N=124)		Old (N=119)	
	Female	Male	Female	Male	Female	Male
Relationship Duration M (SD)	4.65 (3.53)		18.15 (9.61)		42.59 (12.89)	
Marital status						
Not married	72.1%		6.4%		0.0%	
Engaged	2.5%		0.8%		0.0%	
Married	23.8%		72.8%		76.9%	
2.Marriage	.08%		8.0%		14.9%	
Children	10.0%		44.8%		45.2%	
Living situation						
Living alone	10.7%		1.6%		1.7%	
Cohabiting with	55.7%		87.1%		94.9%	
Shared-flat +partner	7.4%		5.6%		2.5%	
Shared flat	13.1%		0.8%		0.8%	
other	13.1%		4.8 %		0.0%	
Education						
Primary school	0.0%	0.8%	0.0%	0.0%	7.6%	3.3%
Secondary	3.3%	1.6%	1.6%	0.8%	6.7%	3.3%
Commercial college	25.6%	31.1%	46.4%	34.7%	49.6%	38.8%
High school	25.6%	23.8%	20. %	5.6%	18.5%	8.3%
University	45.5%	42.6%	32.0%	58.9%	17.6%	46.3%

Table 2.

Descriptive statistics of word count, "I", "you" and "we" over the conflict conversation (duration in total 8 minutes)

		1 minute M (SD)	2 minute M (SD)	3 minute M (SD)	4 minute M (SD)	5 minute M (SD	6 minute M (SD)	7 minute M (SD)	8 minute M (SD)	Overall
WC	Male	70.79	74.05	77.72	80.76	76.38	77.80	75.28	76.56	76.15
		(33.56)	(36.39)	(36.30)	(36.50)	(38.50)	(37.20)	(37.63)	(38.74)	(22.66)
	Female	72.51	85.18	85.29	81.79	84.62	83.88	82.87	74.43	81.33
		(37.34)	(41.04)	(41.15)	(40.82)	(41.02)	(42.27)	(39.32)	(40.48)	(25.33)
"I"	Male	5.80	5.63	5.57	5.79	5.85	5.43	5.46	5.19	5.59
		(4.05)	(4.08)	(4.11)	(4.10)	(4.17)	(3.82)	(4.24)	(4.02)	(2.35)
	Female	5.73	6.06	6.16	6.52	6.15	6.10	5.93	5.41	6.01
		(3.99)	(4.22)	(4.14)	(3.93)	(4.04)	(4.03)	(3.78)	(4.06)	(2.24)
"You"	Male	3.57	3.19	3.13	3.24	3.34	3.13	2.68	3.02	3.16
		(3.32)	(2.98)	(3.33)	(3.01)	(3.25)	(3.27)	(2.81)	(3.17)	(1.69)
	Female	4.35	4.18	3.92	3.61	3.85	3.67	3.65	3.61	3.85
		(3.94)	(3.99)	(3.35)	(3.19)	(3.31)	(3.25)	(3.37)	(3.40)	(1.90)
"We"	Male	2.12	1.58	1.51	1.67	1.55	1.65	1.71	1.74	1.69
		(2.67)	(2.42)	(2.16)	(2.67)	(2.32)	(2.21)	(2.55)	(2.46)	(1.21)
	Female	1.86	1.52	1.50	1.43	1.33	1.65	1.50	1.78	1.57
		(2.36)	(2.07)	(2.06)	(2.16)	(1.90)	(2.52)	(2.24)	(2.57)	(1.11)

Note: WC: Word Count, "I": percentage of 1. Person singular pronouns, "You": percentage of 2. Person singular pronouns, "We": percentage of 1. Person plural pronouns.

Table 3

Results from multilevel models predicting linear and quadratic trends in the use of relational pronouns "I", "we"

and "you" in distinguishable dyads

Note.	Model Estimate (SE)		
	I	You	We
Fixed Effects			
Intercept			
Women	5.821(0.15)***	3.961 (0.13)***	1.555(0.08)***
Men	5.779 (0.16)***	3.057 (.012)***	1.708(0.09)***
Time (within)			
Linear			
Women	4.418 (5.97)	-21.978(4.99)***	-6.802 (3.61) †
Men	-8.265 (5.97)	-14.079(4.99)**	-9.117 (3.61)*
Time (within)			
Quadratic			
Women	-18.495 (4.43)***	6.200 (3.70) †	9.642 (2.68)**
Men	-5.831 (4.43)	0.522 (3.70)	8.530 (2.68)**
Random Effects			
Intercept (SD)			
Women	1.842	1.582	0.811
Men	1.978	1.315	0.933
-2log likelihood	32196.4	29975.86	25962.94
AIC	32216.39	29995.86	25982.93
BIC	32283.09	30062.54	26049.62

(Standard errors are in parenthesis) AIC = Akaike Information Criteria; BIC = Bayesian Information Criteria.

† $p < .10$. * $p < .05$. ** $p < .01$. *** $p < .001$.

Table 4

Results from multilevel models predicting linear and quadratic trends in the use of relational pronouns "I",

"we" and "you" in young, middle-aged and old dyads.

	"I"	"You"	"We"
		Model Estimate (SE)	
Fixed effects			
Intercept			
Women	5.988 (0.27) ***	4.595 (0.22) ***	1.501 (0.15) ***
Men	6.420 (0.27) ***	3.384 (0.21) ***	1.579 (0.15) ***
Time Linear (within)			
Women	6.92 (10.35)	-16.252 (8.66) †	-15.758 (6.25) *
Men	-17.902 (10.35) †	2.611 (8.66)	-10.346 (6.25) †
Time Quadratic (within)			
Women	-19.166 (7.68)*	3.372 (6.43)	6.114 (4.64)
Men	-1.114 (7.68)	-5.920 (6.41)	17.027 (4.64) **
Age Group Middle			
Women	-0.311 (0.33)	-0.614 (0.28) *	-0.132 (0.18)
Men	-0. 644 (0.34) †	-0.412 (0.26)	0.093 (0.19)
Age Group Old			
Women	-0.55 (0.33)	-0.705 (0.28)*	0.129 (0.18)
Men	-1.204 (0.34) **	-0.363 (0.26)	0.089 (0.19)
Time Linear * Age Middle			
Women	7.962 (14.55)	-5.052 (12.17)	14.893 (8.78) †
Men	25.289 (14.55) †	-21.274 (12.17) †	-7.848 (8.78)
Time Linear * Age Old			
Women	-15.941 (14.70)	-12.250 (12.30)	11.889 (8.88)
Men	3.125 (14.70)	-28.900 (12.30) *	11.949 (8.88)
Time Quadratic * Age Middle			
Women	-8.214 (10.79)	1.076 (9.03)	6.580 (6.52)
Men	-12.563 (10.79)	3.242 (9.03)	-10.601 (6.52)
Time Quadratic * Age Old			
Women	10.615 (10.91)	6.611(9.13)	3.948 (6.59)
Men	-1.337 (10.91)	16.290 (9.13) †	-14.939 (6.59) *
Random Effects			
Intercept (SD)			
Women	1.816	1.540	0.805
Men	1.918	1.276	0.926

-2log likelihood	32168.26	29943.14	25939.12
AIC	32358.99	29987.13	25983.11
BIC	32212.26	30133.83	26129.83

Note. (Standard errors are in parentheses) AIC = Akaike Information Criteria; BIC = Bayesian Information Criteria.

Reference category for age group differences is the young group.

† $p < .10$. * $p < .05$. ** $p < .01$. *** $p < .001$.