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Meta-Analytic Evidence that We-Talk Predicts Relationship and Personal Functioning in

Romantic Couples

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Abstract

Interdependence is a hallmark of romantic relationships, and first-person plural pronoun use (“we-talk”) can indicate interdependence between self and other. We-talk often positively, but sometimes negatively, relates to relationship and personal functioning. A meta-analysis of 30 studies supported a positive association overall between one’s own and partners’ we-talk and relationship and personal functioning, as well as each of five indicators (relationship outcomes, relationship behaviors, mental and physical health, and health behaviors) for individuals in romantic relationships. Partner use of we-talk was generally more strongly related to relationship functioning than own use. Females’ and spouses’ use of we-talk related more to males’ and patients’ functioning, respectively. In general, our results revealed that we-talk was most strongly associated with relationship functioning, and that partner effects tended to be stronger than actor effects. Both patterns of meta-analytic findings support the notion that we-talk reflects interdependence between romantic partners.

Keywords: word use, LIWC, romantic relationships, health, well-being, interdependence

Interdependence is a hallmark of romantic relationships (Neff & Karney, 2007, Rusbult, Kumashiro, Coolsen, & Kirchner, 2004). Romantic partners influence each other's thoughts, feelings, and behaviors through shared experiences and interactions, leading to strong associations with relationship satisfaction (e.g., Herzberg, 2013) and personal coping outcomes (e.g., Manne & Badr, 2008). Interdependence may manifest in multiple ways, including how people reference themselves. Using first-person plural (we-talk), rather than singular (e.g., I, me), pronouns indicates a shared identity rather than an individual one. In light of the potential benefits of interdependence, it is unsurprising that we-talk in romantic relationships has often associated with positive relationship and personal functioning. The purpose of this study was to meta-analytically examine the association between we-talk and personal and relationship functioning among romantic couples, as well as key moderators of these associations.

Interdependence and We-Talk

Interdependence can include identity expansion with the addition of a partner (Aron & Aron, 1996) and motivations shifting from self-oriented to relationship-oriented (Rusbult & Buunk, 1993). According to Interdependence Theory, romantic partners influence mental representations of the self to become more inclusive of how they both think, feel, behave, and rely on each other for support over time (Agnew, Van Lange, Rusbult, & Langston, 1998; Kelley & Thibaut, 1978; Thibaut & Kelley, 1959). This can help partners understand and care for each other, thus meeting the needs and desires of each partner. In this way, partners are cognitively interdependent (hereafter "interdependent"), resulting in mutual influence on each other's relationship and personal functioning.

Partners who are interdependent may communicate about themselves and their relationship in ways that differ from those who are less interdependent (Chung & Pennebaker,

2007). For example, if a couple is interdependent, they may say, “we can work this out” rather than “you and I can work this out.” Partners’ identities may start to merge into one unit—we—rather than two separate entities—you and I—as couples become more interdependent; their orientation may shift from individual to relational as partners influence each other.

In relationships research, we-talk has also been conceptualized as indicative of constructs other than interdependence. For example, we-talk may reflect perceived support and an expanded sense of self (Aron, Aron, & Norman, 2001). In coping research, we-talk has been construed as a marker of communal coping, where partners view a problem as shared, rather than individual, and work together to address it (Lyons, Mickelson, Sullivan, & Coyne, 1998). In all cases, postulation about the psychological constructs we-talk reflects center on interdependence. We-talk among couples may indicate the self as part of a greater whole, with related implications (e.g., working together, mutual influence, expanded identity).

We-talk and Relationship Functioning

We-talk generally has predicted positive relationship functioning (e.g., marital quality, acting positively with a partner). For example, in an observational study examining couples’ communication patterns during a conflict discussion, one’s own we-talk was positively related to marital quality (Williams-Baucom, Atkins, Sevier, Eldridge, & Christensen, 2010). It is possible that interdependence, reflected in we-talk, may curtail negative feelings and emphasize positive feelings about one’s partner, leading to positive relationship outcomes. Another study supported this assertion, providing evidence that we-talk was associated with positive problem-solving and fewer negative interaction behaviors (Simmons, Gordon, & Chambless, 2005). We-talk also predicted relationship functioning in the context of coping with health problems (e.g., Robbins, Mehl, Smith, & Weihs, 2013) or military deployment (Borelli et al., 2013). Taken together, we-

talk may signal or possibly facilitate cooperation with one's partner throughout conflict and stressful times.

Despite a large body of positive associations between we-talk and relationship functioning, null relationships have also emerged. In a study examining naturally-occurring instant messages between romantic partners, there was an essentially zero effect for all associations with we-talk and relationship quality (Slatcher, Vazire, & Pennebaker, 2008). This could be due to at least three factors. First, this study was a naturalistic observation study, rather than a typical in-lab observation study, meaning participants were in their own typical environments and allowed to converse naturally, rather than in a lab setting. This distinction substantially altered the context in which we-talk was used—naturally occurring conversations versus those prompted by a researcher. Second, in everyday conversations, people may use we-talk in the context of anything from amicably dividing up chores to a heated argument; whereas in-lab studies prompt participants to engage in a focused conversation about the relationship. Additionally, the study's small sample size or participants' use of more shorthand in the typed instant messages (resulting in potentially fewer pronouns) may have been responsible for the nonsignificant association. Meta-analytic methods can begin to clarify the degree to which study design or power were more likely to have yielded the null results.

We-talk and Personal Functioning

We-talk is also related to personal functioning, including mental and physical health and health behaviors. This is consistent with the well-supported link between interdependence and well-being (Impett, Gable, & Peplau, 2005; Sels, Ceulemans, Bulteel, & Kuppens, 2016). One study found we-talk positively related to mental health in writing samples where participants described positive and negative events in their relationship (Frost, 2012). We-talk in this study

also positively related to closeness and relationship satisfaction; therefore, it is possible that we-talk positively related to mental health when it coincided with a positive or negative mental representation of the relationship (Gove, Hughes, & Style, 1983).

On the other hand, interdependence, and thus we-talk, in situations where partners' relationships are strained or unavailable, can be linked to poorer mental health. For example, female spouses of deployed military members were asked to freely speak about their feelings regarding their spouses' deployment, as well as their perception of how their relationships were faring (Borelli et al., 2013). We-talk was not significantly related to anxiety, depressive symptoms, or perceived stress. It is possible that for some women, interdependence positively and, for others, negatively related to these negative emotions depending on how it interacted with their day-to-day lives. We-talk may not be positive for personal functioning when one's partner is not able to reciprocate support and relationship maintenance.

As with mental health, physical health has often positively related to we-talk because of the positivity generated between interdependent partners (Levenson & Gottman, 1983). We-talk has predicted a wide variety of positive physical health outcomes such as autonomic measurements and perception of physical function. In one study, couples engaged in conversations about marital conflict to examine the relationship between we-talk and physiological indicators of health (i.e., cardiac, skin conductance, temperature, and somatic activity measures; Seider, Hirschberger, Nelson, & Levenson, 2009). Results revealed that we-talk was associated with decreased autonomic activity, indicating that we-talk was associated with less stress during the conflict discussion. Further, one's partner's, rather than one's own, we-talk was more strongly related to physiology, possibly because it aided emotion regulation or enabled more positive conflict discussion.

On the other hand, we-talk has also been negatively related to markers of physical health. Although we-talk, as a reflection of interdependence, has been hypothesized to help regulate emotion, it may also encourage maladaptive regulatory behaviors that influence physical health. One study found that we-talk was related to higher body mass index, particularly among partners of women who ate to regulate emotion (Skoyen, Randall, Mehl, & Butler, 2014). Partners' we-talk potentially enabled symptom-system fit; where unhealthy behaviors help maintain a couple's relationship (Rohrbaugh, Shoham, & Racioppo, 2002). Interdependence between partners, and thus we-talk, may indicate prioritization of the relationship over physical health in some cases, leading to positive relationship outcomes but negative physical health outcomes.

The majority of studies focusing on health behaviors, actions that influence one's health (e.g., physical activity, alcohol consumption), have found positive relationships with we-talk. Researchers have explored whether increasing interdependence can serve as a health behavior intervention, by facilitating couples' joint efforts to engage in health-promoting behaviors. For example, Rohrbaugh and colleagues (2012) measured we-talk from recordings of family therapy that aimed to induce interdependent coping processes for smoking cessation. Both patients' and spouses' we-talk during the intervention predicted abstinence for the patient over 12 months after the intervention. This supported the idea that we-talk reflects interdependence between partners, which can facilitate communal, rather than individual, coping with problematic health behaviors.

Potential Moderators

Though most studies find a positive association between we-talk and relationship and personal functioning, the evidence reviewed reveals some mixed findings. Thus, it is important to explore how key factors moderate these associations.

Gender. Gender is an important moderator to examine because of the numerous documented differences in how men and women behave in romantic relationships. Interdependence is internalized and expressed differently among men and women. For example, women are socialized to care more about close others and incorporate the other as a part of the self (Gabriel & Gardner, 1999) and tend to feel less connected in times of stress, relative to men (Kwang, Crockett, Sanchez, & Swann Jr., 2013). These differences may lead to stronger associations between we-talk and functioning among women compared to men.

Actor versus Partner Effects. Partner effects—the association between one’s partner’s use of we-talk and one’s own outcomes—may be stronger than actor effects—the association between one’s own use of we-talk and outcomes. Partner effects of we-talk on relationship and personal functioning tend to be stronger than actor effects while discussing a conflict (Williams-Baucom et al., 2010), and when one partner is helping the other in a time of need (e.g., Rohrbaugh et al., 2010). This suggests that we-talk may signal to one’s partner interdependence and desire to solve problems together, which may be more important for relationship and personal functioning than one’s own levels of interdependence. To date, however, conversational role (actor or partner) has not been systematically analyzed as a moderator of the relationship between we-talk and relationship or personal functioning within romantic relationships.

Patient versus Spouse We-Talk. In studies where there was an identified patient and spouse, spouses’ we-talk was generally more predictive of relationship and personal functioning than patients’ we-talk. This pattern of findings has been demonstrated among people coping with heart failure, where spouses’ we-talk predicted better prognosis over six months (Rohrbaugh, Mehl, Shoham, Reilly, & Ewy, 2008), among couples coping with breast cancer (Robbins et al., 2013), and among people trying to quit smoking (Rohrbaugh et al., 2012), or abstain from

alcohol consumption (e.g., Rentscher, Rohrbaugh, Shoham, & Mehl, 2013). Similar to partner effects, spouses' we-talk may indicate that they are willing to work together with the patient, setting aside their self-interest to overcome the health problem. Therefore, it is important to understand not only how partner effects may relate in comparison to actor effects, but there is also a need to further distinguish how we-talk may differ depending on medical role (i.e., patient vs. spouse). This includes examining whether spouses' we-talk predicting patients' functioning is the strongest effect (combining conversational and medical role as moderators).

Aims and Hypotheses

Although there has been a general pattern of positive findings in the literature, numerous nonsignificant and near-zero or negative findings warrant an examination of the strength of the association between we-talk and relationship and personal functioning, and under what conditions it exists. Further, it is unknown how unpublished studies may support or weaken the general pattern of findings. No study has yet combined these effects to systematically examine the general association between we-talk and functioning, and how it differs among contexts, samples, and types of outcomes. This meta-analysis aims to bring clarity to these issues and advance the understanding of how we-talk relates to interdependence, an integral component of romantic relationships.

Aim 1a. Examine the overall positive relationship between we-talk and relationship and personal functioning as theorized by Interdependence Theory. Although there are mixed findings, there is strong evidence for we-talk, as it reflects interdependence, to relate positively to relationship and personal functioning.

Aim 1b. Examine the positive relationship between we-talk and each individual subset of outcomes (i.e., relationship outcomes, relationship behaviors, mental health, physical health, and

health behaviors). We expected we-talk to be positively associated with each indicator, but because we-talk reflects interdependence, it should more strongly relate to inherently interdependent constructs, such as those that comprise relationship functioning (e.g., relationship outcomes and behaviors; Agnew et al., 1998) compared to more individual constructs, such as those that comprise personal functioning (e.g., mental health, physical health, and health behaviors).

Aim 2. Assess moderator effects based on common distinguishing factors that may affect the association between we-talk and relationship and personal functioning. Past studies of we-talk have examined differences between males and females, actor and partner effects, as well as patients and spouses. According to previous research, partner effects, specifically for patients (i.e., spouses' we-talk predicting patients' outcomes), should be stronger than partner effects for non-patient spouses and all actor effects (e.g., Rohrbaugh et al., 2008). According to Interdependence Theory, if the partner, especially the spouse of a patient, has an interdependent orientation, they will more likely positively and cooperatively interact with their partner, perhaps leading to better relationship and personal functioning. Because research rarely has focused on spouses' actor effects in clinical samples, no a priori hypotheses were made regarding the magnitude of this effect in relation to patients' actor effects. We also predicted greater associations between we-talk and relationship and personal functioning for females, due to evidence that they are more interdependent than males (Rottman et al., 2015). We-talk may support females' interdependent cognition, leading to a greater association between we-talk and relationship and personal functioning.

Method

Search Strategy and Study Selection

First, a main search for peer-reviewed work on PsycInfo, PsychArticles, and Pubmed including the search terms couple, dyad, couple therapy, couple/couples, couples therapy, couple stress, relationship, relationship satisfaction, relationship quality, marital satisfaction, adjustment, communal coping, partner, we, we-talk, we language, we-ness, weness, pronoun, conflict, problem, stress, talk, linguistic, Text Analysis and Word Count (TAWC), Linguistic Inquiry and Word Count (LIWC), and Oedipus was performed. An asterisk was placed at the end of each term to retrieve all possible suffixes for each word (e.g., couple* = couple, couples, and coupled). Additionally, because of its relevance to this line of work, Society for Personality and Social Psychology (SPSP) conference programs were searched from 2003, when the first convention program was made available online, to 2016. If the abstracts contained any of the following terms, LIWC, pronoun, we-talk, interdependence, communal coping, or communal behavior, the abstract was read and inspected for fit. Afterward, authors were contacted to retrieve posters, paper-talks or any analyses pertinent to these presentations. SPSP also allows members to communicate with other society members through SPSP Connect! to uncover any possible unpublished works such as dissertations or poster and paper-talks from other conventions. Analogous methods were implemented to reach out to members of related psychological societies: International Association for Relationship Research, Society for Behavioral Medicine and American Psychosomatic Society.

Following these search techniques, all usable articles were further examined to determine which articles cited them. Each newly found article was put through the same procedure to see which articles cited them until no new articles were found. Additionally, all reference sections of each article were examined to ensure no articles were unintentionally missed; no new articles

were found via this method. The final search was completed at the end of August 2016 and no studies after that date were included.

Inclusion and Exclusion Criteria

Studies were included if they 1) were written in the English language; 2) studied romantic couples (e.g., married, engaged, long-term relationships, or short-term relationships); 3) included a measure of we-talk; and 4) included at least one measure of relationship or personal functioning. Authors were contacted if any of the information was unclear or if additional information was required to calculate effect sizes (e.g., standard deviation).

Studies were not excluded based on word proportion calculation methods. LIWC (Pennebaker, Boyd, Jordan, & Blackburn, 2015) is the primary method that has been used to detect word use and classify it into specific categories, such as first-person plural pronouns (e.g., we, us, our; “we-talk”). LIWC creates a proportion of the use of this category by dividing it by the total number of words used. Although other methods are available (e.g., manual coding, Oedipus [Levenson, 1992], TAWC [Kramer, Fussell, & Setlock, 2004]), the lists of words that comprise we-talk do not markedly differ among methods of measurement. Because of the similarity in measurement across methods, we used any proportion of we-talk, regardless of calculation method used.

The first search yielded 251 studies from PsycINFO, while PsychArticles and Pubmed did not reveal any unique, additional studies. Many studies were excluded for not including a measure of we-talk or for not being empirical (e.g., book chapters, biographies, and magazines; $k = 228$), or for not including data from people in romantic relationships ($k = 17$). The rest of the articles fit the inclusion criteria ($k = 6$). SPSP conference listings revealed 10 possible abstracts. However, only two sets of analyses were retrieved after requesting usable information. Three

calls for unpublished studies were made via SPSP Connect! yielding eight more usable studies that did not overlap with any of the previous studies. The remainder of the articles ($k = 14$) were found through examining articles that cited any of the previously found articles.

From the search results, some overlap in samples was uncovered. One set of analyses (Karan, Wright, & Robbins, 2016) was combined with a dissertation that previously used this same dataset (Robbins, 2012). These two studies were combined because of the full overlap in participants. There was only a partial overlap between three published articles. Rentscher and colleagues (2013) combined data from (Rohrbaugh, Mehl, Shoham, Reilly, & Ewy, 2008) and Rohrbaugh and colleagues (2012) in their analysis of we-talk and outcomes. Out of 158 couples in the Rentscher and colleagues (2013) study, 65 couples came from an original study examining problematic drinking behaviors, 58 came from Rohrbaugh and colleagues (2008) and 24 couples came from Rohrbaugh and colleagues (2012). Because of the inclusion of roughly 50% more participants with a different patient demographic, the three studies remained separate for the current meta-analysis. To be certain that this did not unduly influence our results, we also conducted analyses with these three studies combined, and it did not significantly alter our results or the conclusions drawn from them.

A total of 30 studies ($k = 30$ actor effects, $k = 15$ partner effects) met all the inclusion criteria with a combined pool of 5288 participants (2930 female; 55% from studies that reported sex). The mean age of all participants was 39.41 years old ($SD = 12.64$; range of mean ages: 19.04 to 66.30; 2 studies did not report mean age). Of those who reported ethnicity (8 studies did not report any specific ethnic breakdowns) 72.42% were Caucasian, 9.58% were Hispanic, 7.72% were Asian, and 7.53% were African-American. About half of the sample, 2824 individuals, were married. All studies but one were conducted in the United States, and

participants were primarily English-speaking. Relevant demographics by study are presented in Table 1.

Measures

Three independent raters—doctoral graduate students in social/personality psychology—categorized the dependent variables from each study (80 distinct outcome variables) into five mutually exclusive categories: relationship outcomes, relationship behaviors, mental health, physical health, and health behaviors. All outcomes were categorized based on at least two out of three raters' agreement. Further, conceptual similarities between categories warranted two general functioning categories; relationship outcomes and behaviors were combined into relationship functioning, while mental and physical health and health behaviors were combined into personal functioning. The overall effect was a combination of all outcome measures.

Relationship outcomes. This was comprised of measures of romantic relationship characteristics and evaluations (e.g., marital satisfaction, commitment, and attachment). Other more distantly related outcome measures, such as the length of a relationship, were included because of their relevance to romantic relationships, and were reliably coded as a relationship outcome ($\kappa = .88$).

Relationship behaviors. Relationship behaviors were observed behaviors partners enacted with each other. This included positive (e.g., constructive solutions and compromises), and negative (e.g., criticism and judgment) behaviors, and was reliably coded ($\kappa = .84$).

Mental health outcomes. Mental health encompassed participants' feelings—including perceived stress and positive and negative affect. Mental health outcomes were also reliably coded ($\kappa = .85$).

Physical health outcomes. Physical health outcomes were either physiological measures or self-reports of health. This included both autonomic measures of physiology and general health status measures, such as participants' perception of their health. There was no disagreement between coders for this measure ($\kappa = 1.00$).

Health behaviors. Health behaviors were abstinence from alcohol use and smoking, and self-care while coping with diabetes or cancer. There were no disagreements among coders for this measure ($\kappa = 1.00$).

We-talk. All measures of we-talk were quantified as the proportion of first-person plural pronouns divided by the total number of words, regardless of the calculation method used.

Publication status. Publication status was dummy coded as "0" if they were not published and "1" if they were published or in preparation to be published.

Meta-Analytic Method and Data Analytic Plan

The same meta-analytic process was conducted on each of these five outcomes and two separate functioning outcomes for both the actor and the partner effects. All analyses were conducted at both the fixed and random effects levels to allow an examination of the generalizability of the results and avoid the limitations of solely analyzing at the fixed effect levels (Hunter & Schmidt, 2000). First, all relevant significance tests within each study were transformed into a standardized metric (Z_p) to use in combining p -values within and between studies. All results were changed to be in the positive direction such that more we-talk was related to positive rather than negative functioning. For example, if more we-talk was related to lower scores on a measure of depression, that was considered a positive relationship although the sign of the correlation was negative. If precise p -values were reported, the associated one-tailed Z_p was calculated. For studies that reported t -values, their associated p -values were transformed

into their corresponding Z_p . β coefficients were tested for significance using t by dividing the coefficient by the standard error within the study. When no standard error was calculable or available, authors were contacted to retrieve the appropriate statistics necessary to find Z_p . If a Pearson product-moment correlation was reported, it was tested for significance using $t(df) = \frac{r*\sqrt{df}}{\sqrt{1-r^2}}$ from which we found Z_p . Once all studies were standardized, they were combined within studies to indicate the average Z_p per study, and then were combined at the fixed effect level, $Z = \frac{\sum Z_p}{\sqrt{k}}$, with k studies.

Correlational effect sizes, r , were computed through a few steps. First, a single estimate,

d , was calculated $d = \frac{\frac{\sum \lambda t}{\sqrt{\frac{n-1}{2}}}}{\sqrt{\rho(\sum \lambda)^2 + (1-\rho)\sum \lambda^2}}$, where λ was the weighting for each individual

dependent variable within a study, t was the associated value for each outcome variable, n was the number of participants, and ρ was the average intercorrelation between dependent variables within each study separately (Rosenthal & Rubin, 1986). The resulting d effect sizes were

transformed to r using this equation, $r = \frac{d}{\sqrt{d^2+4}}$ (Rosenthal & Rubin, 1986). Further, a random

effects approach was also undertaken to evaluate the degree to which these effects were

generalizable to studies of a similar nature, $t(k-1) = \frac{\bar{r}}{\sqrt{\frac{1}{k} * s^2}}$. Both unweighted and weighted—

by sample size of each individual study—means and medians were calculated to measure central tendency of effect sizes. All combined effects are presented as weighted means after determining that there were substantial similarities across weighted and unweighted means and medians.

Fixed effects confidence intervals were calculated around the effect sizes for every study and

every indicator of, as well as the overall, relationship and personal functioning, $Zr \pm \left(\frac{1.96}{\sqrt{n-3}}\right)$, and

then converted back to an r . All reported p -values from these analyses are one-tailed. To estimate

the overall tolerance for future null results, we calculated the number of studies with an average p -value of .50 it would take to bring our overall effect size to barely significant, $p = .05$, using the equation, $x = \frac{(\sum Zp)^2}{2.706} - k$ (Rosenthal, 1991).

After calculating effect sizes for each indicator and overall relationship and personal functioning, effects were subtracted from one another to determine differences in magnitudes. Because both actor and partner effects were analyzed, there was partial-to-full overlap between studies and effects for the different indicators (e.g., all partner effects for relationship outcomes also had complementary actor effects for relationship outcomes). For this reason, traditional parametric tests of significance were not conducted as they would artificially inflate the significance values obtained due to the nonindependence between studies and the varying sample sizes for these effects. Instead, bootstrapped differences, $Z_{difference}$, were calculated to generate a distribution to use for significance testing. Bootstrapping allowed us to calculate an appropriate standard deviation, facilitating more accurate significance tests (Kreiss & Paparoditis, 2011). Bootstrapped 95% confidence intervals were then calculated from this normalized distribution. We analyzed three moderators: conversational role, gender, and medical role. We also examined combinations of these moderators, such as male actor effects compared to female actor effects, or patient partner effects compared to spouse partner effects. However, some comparisons could not be made because of too few studies ($k \leq 3$) including the relevant moderator variables. Too few studies in an analysis results in a lack of reliable effect size coefficients (Baglioni et al., 2016) and therefore we excluded them from this procedure. All moderator analyses were conducted using this procedure because of the overlap in samples and the nonindependence between studies (Tables 1, 2, and 3). For example, the average Z associated with the effect of patients' use of we-talk on own outcomes was subtracted from the average Z associated with the effect of spouses'

use of we-talk on own outcomes. To quantify the effect size of the difference, $Z_{\text{difference}}$ was converted to a p , then to a t -value, and subsequently into a d using the formula, $\frac{2t}{\sqrt{N-2}}$, where N is the number of analyses comprising each effect (Rosenthal & Rubin, 2003).

Results

We found no significant correlation between publication status and effect size, $r = -.12$, $p = .52$. As such, publication status was not used as a moderator in subsequent analyses. All mean effect sizes and significance tests for the overall effect, relationship and personal functioning and the five separate outcomes are in Table 2.

Out of 30 studies, 26 (87%) found a positive relationship between actor we-talk and the overall effect, $Z = 4.02$, $p = .00003$ (Figure 1). In general, actor we-talk significantly related to all of the outcomes, $Z = 3.80$, $p = .00007$, $r = .075$, 95% CI: [.039, .11]. This fixed effect indicated a modest overall relationship which held at the random effects level— $t(29) = 4.55$, $p = .00004$, $r = .65$, 95% CI: [.37, .82]. This effect would need 130 studies with an average null effect to bring our current effect to the $p = .05$ threshold for statistical significance (Rosenthal, 1991).

Out of 15 studies including partner effects, 14 or 93% found an overall positive effect, $Z = 3.36$, $p = .0004$ (Figure 2). The overall partner effect was also positive and statistically significant, $Z = 3.61$, $p = .0002$, $r = .10$, 95% CI: [.049, .16]. The random effects supported the fixed effects analysis, $t(14) = 3.81$, $p = .001$, $r = .71$, 95% CI: [.32, .90]. Only 15 studies included partner effects, yet it would take at least 42 studies with an average null effect to bring our current finding to $p = .05$.

Next, tests of heterogeneity were conducted to assess the amount of variation in findings from study to study to understand how similar findings are across studies. Neither the actor,

$\chi^2(29) = 14.04$, $p = .99$, $s = 0.80$, nor the partner, $\chi^2(14) = 20.23$, $p = .12$, $s = 1.88$, effects were significantly heterogeneous, meaning the studies had similar effect sizes. Although the overall amount of variation between effects was nonsignificant, outcomes were reliably distinguishable and could conceptually be combined into groups: relationship and personal functioning, as well as five separate indicators of functioning. Further, homogeneous effect sizes do not preclude the possibility of differences across outcomes (Hall & Rosenthal, 1991). For example, the within-study variation may still be large and signify reliable differences such as the difference between patients and spouses within any given study. Therefore, we proceeded with analyses to examine the strength of the association between we-talk and relationship and personal functioning, and each individual outcome and potential moderators (i.e., actor/partner, patient/spouse, male/female).

We-Talk and Relationship Functioning

There was a significant, positive association between we-talk and relationship functioning ($k = 26$) at the fixed effect level, $Z = 4.34$, $p = .000007$, $r = .075$, 95% CI: [.037, .11]. This relationship held at the random effect level, $t(25) = 4.82$, $p = .00006$, $r = .69$, 95% CI: [.42, .85]. Our analyses further revealed a significant, positive association between partner we-talk and relationship functioning ($k = 26$), at the fixed effect level, $Z = 3.28$, $p = .0005$, $r = .087$, 95% CI: [.03, .15], and random effect level, $t(11) = 6.62$, $p = .00004$, $r = .89$, 95% CI: [.66, .97]. It would take 155 studies with an average null effect to bring the actor, and 77 studies to bring partner effects to a significance level of $p = .05$.

Relationship outcomes. As expected, relationship outcomes ($k = 25$), one component of relationship functioning, were positively related to we-talk at both the fixed, $Z = 3.56$, $p = .0002$, $r = .07$, 95% CI: [.03, .11], and random, $t(24) = 4.28$, $p = .0001$, $r = .66$, 95% CI: [.35, .83],

levels. Because of the wide variety of outcome measures included in this variable, we also conducted this analysis while excluding outcomes that seemed qualitatively different (i.e., length of relationship, couple identity, relationship stability/break-up, or break-up thoughts) than the vast majority of outcomes, such as relationship quality. Results remained virtually the same for the fixed, $Z = 3.59, p = .0002, r = .07, 95\% \text{ CI } [.03, .11]$, and random, $t(24) = 4.39, p = .0001, r = .67, 95\% \text{ CI: } [.37, .84]$, effects. A similar relationship was revealed among the 12 partner effects, $Z = 2.89, p = .002, r = .09, 95\% \text{ CI: } [.03, .15]$, and $t(11) = 6.52, p = .00002, r = .89, 95\% \text{ CI: } [.65, .97]$.

Relationship behaviors. We-talk was also positively associated with relationship behaviors ($k = 6$). As is often the case, the fixed and random effects analyses showed quite different effect sizes, $Z = 3.76, p = .00009, r = .14, 95\% \text{ CI: } [.07, .22]$, and, $t(5) = 2.83, p = .02, r = .78, 95\% \text{ CI: } [.07, .98]$. Only one partner effect was reported for relationship behaviors, therefore no random effects analyses could be conducted. This partner effect was nearly statistically significant at the fixed effect level, $Z = 1.62, p = .05, r = .14, 95\% \text{ CI: } [-.03, .31]$.

We-Talk and Personal Functioning

There was a significant association between one's own we-talk and personal functioning ($k = 16$) at both the fixed, $Z = 2.09, p = .02, r = .08, 95\% \text{ CI: } [.03, .12]$, and random, $t(15) = 2.34, p = .02, r = .52, 95\% \text{ CI: } [.03, .81]$, effect levels.

For the 9 studies containing partner effects, partner's we-talk also positively significantly related to own personal functioning at the fixed effect level, $Z = 3.45, p = .0003, r = .12, 95\% \text{ CI: } [.05, .19]$. Moreover, the random effects were significant, $t(8) = 2.38, p = .02, r = .64, 95\% \text{ CI: } [.07, .92]$. Additionally, it would take 9 studies with an average null effect for actor, and 30 studies for partner, effects to be brought to a significance level of $p = .05$.

Mental health outcomes. Mental health ($k = 13$) positively related to we-talk at both the fixed, $Z = 2.18, p = .015, r = .05, 95\% \text{ CI: } [.005, .10]$, and random, $t(12) = 2.80, p = .008, r = .63, 95\% \text{ CI: } [.12, .88]$ effects levels. Similarly, partner use of we-talk positively related to one's own mental health. However, from four studies, neither the fixed, $Z = 0.94, p = .28, r = .05, 95\% \text{ CI: } [-.05, .14]$, nor random effects, $t(3) = -0.14, p = .90, r = -.08, 95\% \text{ CI: } [-.97, .95]$, were statistically significant.

Physical health outcomes. The relationship between physical health and we-talk ($k = 4$) was not significant for either the fixed, $Z = 0.75, p = .23, r = .035, 95\% \text{ CI: } [-.06, .13]$, or random effects analyses, $t(3) = 0.22, p = .42, r = .13, 95\% \text{ CI: } [-.95, .97]$. A nonsignificant association emerged between partners' we-talk and own physical health outcome for the fixed, $Z = 0.80, p = .21, r = .08, 95\% \text{ CI: } [-.11, .27]$ and random effects, $t(1) = 0.57, p = .36, r = .49$, not enough degrees of freedom for the 95% CI.

Health behaviors. Random effects analyses revealed a significant, positive association, $t(3) = 2.39, p = .05, r = .81, 95\% \text{ CI: } [.76, .85]$ for health behaviors ($k = 4$). However, the fixed effect was not statistically significant, $Z = 0.85, p = .20$, though the effect was positive, $r = .05, 95\% \text{ CI: } [-.06, .16]$.

The same pattern of results was observed for partner effects of we-talk at the fixed, $Z = 3.58, p = .0002, r = .21, 95\% \text{ CI: } [.09, .32]$, and random level, $t(3) = 3.67, p = .02, r = .90, 95\% \text{ CI: } [.88, .92]$. Though the effect is comprised of a small number of studies, each individual study also reported small to moderate effect sizes (r ranges from .13 to .42).

Moderator Analyses

Three separate types of moderator analyses—actor compared to partner effects, men compared to women, and patients compared to spouses—were conducted to examine the

conditions under which we-talk is associated with relationship and personal functioning and the five separate outcomes. First, half of the effect sizes did differ significantly from each other when subtracting partner effects from actor effects (Table 2). Three partner effects were significantly stronger than actor effects: relationship functioning, $Z_{\text{difference}} = -0.32$, 95% CI: [-0.62, -0.04], $d = -.040$, relationship outcomes, $Z_{\text{difference}} = -0.37$, 95% CI [-0.67, -0.07], $d = -0.05$ and health behaviors, $Z_{\text{difference}} = -0.87$, 95% CI: [-1.36, -0.22], $d = -0.32$. Contrary to this trend, mental health had the only actor effect that was stronger than the partner effect, $Z_{\text{difference}} = 0.95$, 95% CI: [0.12, 2.01], $d = 0.26$. With one exception, partner effects were stronger than actor effects, demonstrating a moderation by conversational role.

Next, the effect sizes for we-talk and five personal and relationship functioning outcomes were compared between males and females (Table 3). Five significant differences out of 14 tests of moderation emerged between male and female use of we-talk. Female use of we-talk more strongly related to male overall functioning outcomes, $Z_{\text{difference}} = -0.44$, 95% CI: [-0.87, -0.09], $d = -0.10$, and health behaviors, $Z_{\text{difference}} = -1.68$, 95% CI: [-1.92, -1.34], $d = -2.20$, compared to male use of we-talk. Male use of we-talk more strongly related to female relationship outcomes than females' own use of we-talk, $Z_{\text{difference}} = -0.51$, 95% CI [-0.99, -0.03], $d = -0.11$. This pattern continued for physical health, $Z_{\text{difference}} = -0.59$, 95% CI: [-0.96, -0.35], $d = -1.19$. The actor effect of male we-talk on relationship behaviors was stronger compared to the actor effect for females, $Z_{\text{difference}} = 1.19$, 95% CI: [0.50, 2.25], $d = 1.08$. Despite these several differences, almost two-thirds of the results were not significant, indicating few differences between males and females.

Patient samples ($k = 11$) comprised more than one third of the 30 studies in the current meta-analysis. Sixteen significant differences out of 19 tests of moderation were uncovered

between actor and partner effects for patients and spouses, typically with larger effects for spouses' we-talk compared to patients' we-talk (Table 4).

Spouses' use of we-talk predicted patient overall functioning more strongly than patients' own use of we-talk, $Z_{\text{difference}} = -0.64$, 95% CI: [-1.04, -0.24], $d = -0.13$. This partner effect was also stronger than patients' use of we-talk on spouses' overall functioning, $Z_{\text{difference}} = -0.93$, 95% CI: [-1.66, -0.05], $d = -0.25$. Further, patients' use of we-talk did not relate as strongly as spouses' we-talk to spouses' overall functioning, $Z_{\text{difference}} = -0.78$, 95% CI: [-1.50, -0.04], $d = -0.25$. The patients' partner effect on spouses' overall functioning was weaker than the spouses' actor effect. In general, spouses' use of we-talk more strongly related to outcomes for patients and spouses, relative to patients' we-talk. The partner effect of spouses' use of we-talk on patients' relationship outcomes was stronger than patients' actor effect for relationship functioning, $Z_{\text{difference}} = -0.80$, 95% CI: [-1.42, -0.19], $d = -0.26$, and seemed to be driven by the same difference in relationship outcomes, $Z_{\text{difference}} = -1.06$, 95% CI: [-1.85, -0.32], $d = -0.39$. Additionally, spouses' use of we-talk related more to their own, rather than patients', relationship behaviors, $Z_{\text{difference}} = 1.44$, 95% CI: [0.03, 1.97], $d = 1.35$. The actor effect for patients' use of we-talk on their own relationship behaviors was stronger than both partner effects: patient we-talk and spouse relationship behaviors, $Z_{\text{difference}} = 1.04$, 95% CI: [0.13, 1.71], $d = 1.04$, and spouse we-talk and patient relationship behaviors, $Z_{\text{difference}} = 1.53$, 95% CI: [0.60, 3.25], $d = 1.64$. Notably, this was the only difference where patients' we-talk more strongly related to an outcome compared to spouses' we-talk relationship to an outcome. For relationship behaviors, actor effects were stronger than partner effects, overall. This pattern held for non-relationship outcomes and behaviors.

Spouses' we-talk was most often the strongest predictor of personal functioning. Both

patients' and spouses' we-talk related to their own personal functioning more strongly than patients' we-talk related to spouses' personal functioning, $Z_{\text{difference}} = 2.09$, 95% CI: [1.59, 2.56], $d = 0.80$ and $Z_{\text{difference}} = 2.37$, 95% CI: [1.88, 2.92], $d = 1.22$, respectively. Moreover, spouses' we-talk more strongly related to patients' personal functioning than patients' own we-talk, $Z_{\text{difference}} = -0.50$, 95% CI: [-0.94, -.03], $d = -0.16$, and was also stronger than the relationship between patients' we-talk and spouses' personal functioning, $Z_{\text{difference}} = -2.59$, 95% CI: [-2.97, -2.15], $d = 1.20$.

For mental and physical health, actor effects were generally stronger than partner effects, with spouses' we-talk emerging as the strongest predictor. Actor effects (spouses' we-talk) were stronger than partner effects (patients' we-talk) for spouses' mental health, $Z_{\text{difference}} = 1.54$, 95% CI: [0.16, 3.00], $d = 1.55$. The spouse actor effect for physical health was stronger than the actor effect for patients, $Z_{\text{difference}} = -0.78$, 95% CI: [-1.44, 0.00], $d = -1.74$. Further, patients' use of we-talk more strongly related to their own, rather than spouses', physical health, $Z_{\text{difference}} = 1.12$, 95% CI: [0.34, 1.68], $d = 3.23$. Lastly, spouses' we-talk related more strongly to patients' health behaviors than patients' own we-talk related to their own health behaviors, $Z_{\text{difference}} = -0.87$, 95% CI [-1.35, -0.24], $d = -0.32$.

Discussion

This study meta-analytically examined the association between we-talk and relationship and personal functioning in romantic couples. Across 30 published and unpublished studies, correlational effect sizes revealed a positive association with relationship and personal functioning, and each individual component of both types of functioning (i.e., relationship outcomes and behaviors, mental and physical health and health behaviors). In general, our results revealed that we-talk was most strongly associated with relationship functioning, and that partner

effects tended to be stronger than actor effects. Both patterns of meta-analytic findings support the notion that we-talk reflects interdependence between romantic partners.

Consistent with our predictions derived from Interdependence Theory (Kelley & Thibaut, 1978; Thibaut & Kelley, 1959), we-talk positively related to relationship and personal functioning. Interdependence Theory posits that partners influence each other's thoughts, feelings, and emotions which can also result in expanding one's identity to include the partner (Aron & Aron, 1996). This often entails partners feeling understood and supported, yielding more positive interactions and better relationship quality and health. Accordingly, our overall meta-analytic finding is consistent with a large body of research linking interdependence, high-quality romantic relationships, and mental health (e.g., Agnew et al., 1998; Proulx, Helms, & Buehler, 2007).

Analyses of more specific outcomes, as well as moderator analyses, revealed a pattern of findings that supported the notion that we-talk reflects interdependence, which likely drives the associations between we-talk and functioning. We-talk reflects a pivotal shift in individuals' perceptions when in romantic relationships—changing from self- to relationship-oriented motivations (Rusbult & Buunk, 1993). In romantic relationships, those who have relationship-oriented, rather than self-oriented, motivations tend to have more satisfying relationships. Our results highlight this orientation, as we-talk was generally more strongly related to relationship than personal functioning, and partner effects tended to be stronger than actor effects. The more romantic partners used we-talk, the better their relationship functioning tended to be. Further, partner effects emerging as stronger than actor effects indicates that partners were perhaps perceiving each other's relationship-orientation (interdependence) as a signal that their partner is

willing to constructively engage in positive relationship behaviors (e.g., resolve conflict, communally cope).

Partner effects were particularly strong predictors of relationship outcomes and health behaviors. These results may be partly due to the nature of the tasks completed in lab. Couples were usually instructed to discuss a conflict in the relationship, or a problem while dealing with a particular health problem. We-talk in these contexts may signal support to partners, thus facilitating more positive interactions and yielding positive outcomes. Taken together, this meta-analysis yielded consistent evidence that we-talk is an indicator of interdependence, which primarily relates to positive, interdependent outcomes.

Despite the interdependent nature of we-talk, it did also predict the more individual outcomes that comprised personal functioning. We-talk was particularly related to health behaviors, and partner effects tended to be stronger than actor effects. This points to an interdependent route by which we-talk might lead to more engagement in health behaviors. We-talk may signal a partner's support while increasing healthy or decreasing unhealthy behaviors—much like communal coping among clinical samples with an identified patient (e.g., Lyons et al., 1998; Rohrbaugh et al., 2008, 2012).

Patients versus spouses. Spouses' we-talk was more strongly associated with personal and relationship functioning than patients' we-talk. In fact, the largest association in this meta-analysis was between spouses' we-talk and patients' health behaviors. This is in-line with the idea that we-talk reflects interdependence and, specifically in a coping context, communal coping (Lyons et al., 1998; Rohrbaugh et al., 2008). We-talk may reflect partners' joint efforts to communally, rather than individually, cope, which in-turn may lead to more efficacy in handling health behaviors. This is supported by research demonstrating that spouses who ask a partner to

make healthy change together, rather than alone, has a significant impact on helping partners engage in healthier behaviors (Craddock et al., 2015; Lewis & Butterfield, 2007). That these were the largest effects in this meta-analysis also highlights the idea that partner interdependence is particularly relevant in times of adversity. Coping with an illness or making a difficult health behavior change can be stressful, and our findings support the notion that we-talk may signal to patients that they do not have to manage it alone.

Our meta-analytic findings are consistent with conclusions drawn in previous studies that revealed differences between actor and partner effects among patient-spouse samples. Patients adapting to lifestyle changes such as coping with heart failure (Rohrbaugh et al., 2008) or attempting to quit smoking (Rohrbaugh et al., 2012) may value the interdependence with their spouses, indexed by we-talk, as a form of social support. Patients may need more support than spouses to manage their condition and consequent needed changes. We-talk in this context may indicate that spouses acknowledge that their partner's health problem is shared among interdependent partners. A meta-analysis of dyadic coping (similar to communal coping) with cancer supports this idea, finding that partners' distress tends to be moderately linked (Hagedoorn et al., 2008). However, an alternative, or perhaps complementary, to that interpretation is that we-talk may also be associated with spouses' engagement in more supportive behaviors while their partner has a health problem. Future research should further explore these associations and their potential mechanisms to better understand why we-talk is particularly associated with better functioning in the face of distressing, rather than more mundane, situations.

One potential caveat to these conclusions is that three of the four patient samples included in this study participated in an intervention to increase we-talk. Because of external

variables, such as the presence of a clinician, the effect on health behaviors may be inflated compared to non-intervention studies. In comparison, the non-intervention study was the only one with a near-zero effect size for health behaviors. This meta-analytic effect may be strongest because it is the only category that included an intervention to help increase we-talk in partners, whereas other studies captured “unprompted” we-talk. We believe this is unlikely because these data were also analyzed with mental and physical health outcomes, as part of the personal functioning category; however, we cannot rule out this possibility. Future studies should further examine how naturally-occurring we-talk relates to health behaviors.

Males versus females. Most differences between males and females were null despite the literature denoting differences between males and females in regards to interdependence. Previous literature has focused on the internalization and intrapersonal processes of interdependence (e.g., interdependent self-construal; Gabriel & Gardner, 1999), whereas we focused on the externalization and interpersonal process of interdependence (we-talk). It is possible that males and females feel different levels of interdependence but verbally express it via we-talk at different rates. Multimethod approaches that include measures of people’s perceived interdependence in addition to measures of we-talk might clarify how similar or different men and women are in terms of how interdependence and we-talk relate to personal and relationship functioning.

Exceptions

There were two contexts where we-talk did not significantly relate to outcomes: the physical health domain and naturalistic studies. First, a near-zero association between we-talk and physical health emerged. It is possible that certain facets of physical health are positively related to we-talk while others are negatively related. However, we did not have the power to

examine each of these types of measures separately because this outcome was comprised of a small number of studies ($k = 4$).

A near-zero-to-negative effect also emerged for the naturalistic studies ($ps > .26$). Though we only located three naturalistic studies of we-talk (two of which we combined due to using the same dataset; Karan, Wright, & Robbins, 2016; Robbins, 2012; Slatcher et al., 2008), it is important to point out potential reasons why effects from unprompted conversations differed from in-lab studies with prompted conversations. In naturalistic settings, partners communicate about any topic that comes up, which may or may not include discussions about their relationship, conflict, or conflict resolution—the primary topics prompted in lab studies. It is possible that we-talk is only predictive of functioning constructs when couples discuss their relationship or a problem that may affect them. Further, the Slatcher and colleagues (2008) study analyzed instant messages where participants may exclude pronouns or speak in shorthand, leading to a smaller proportion of we-talk. It is important to conduct more naturalistic observation studies to fully understand how, and under what conditions, we-talk is associated with relationship and personal functioning in everyday conversation.

Limitations

Though this meta-analysis revealed several consistent conclusions regarding we-talk and relationship and personal functioning, there were some limitations. First, there were few studies for some of the indicators of functioning. We have attempted to include as many studies as possible to give a representative view of the existing body of work. Consequently, this limitation can be viewed as a strength, in that this meta-analysis brought to light areas of we-talk research that need more attention (i.e., mental health, physical health and relationship behaviors). As more studies are conducted, the precision of these effect sizes will increase by adding them to this

meta-analysis to obtain a continuously cumulating effect size (Braver, Thoemmes, & Rosenthal, 2014).

The current work is also limited by the small number of studies. Though the effect could potentially be reduced if other studies are revealed, it would take more than double the number of studies included here, with an average null effect, to bring our main finding to just-barely significant (Rosenthal, 1991). Therefore, these meta-analytic findings can be interpreted with a fair degree of confidence.

The lack of variation in methodology for relationship and health behaviors qualifies our findings as well. Relationship behaviors were all observed from video-recorded interactions, while the health behavior studies were all self-reported. Therefore, there is a need for studies that collect data on relationship and health behaviors using multiple methods. Studies could examine how and when observed and self-reported behaviors converge, and how they differentially relate to we-talk. This could potentially guide researchers to learn whether to target perceptions of behaviors or their enactment.

Conclusions

This meta-analysis highlights the overall positive relationship between we-talk and relationship and personal functioning. The pattern of findings supported the notion that we-talk reflects interdependence between romantic partners. It also revealed conditions under which the association between we-talk and functioning is near-zero and potentially negative. More studies of we-talk should be experimental and focus on moderators to gain a deeper understanding of these conditions and causal directions. Doing so will aid better understanding of the role of we-talk in romantic couples and how it may be harnessed to promote relationship and personal functioning in relationships.

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Table 1. *Study Outcomes and Demographics*

Authors	Mean Age	Percent Female	Percent Married	Both Partners	Outcomes
Alea, Singer, & Labunko, 2015	47.19	62.92	100.00	No	Marital Sat.
Badr, Milbury, Majeed, Carmack, Ahmad, & Gritz, 2016	55.55	50.00	-	Yes	Pos. Affect, Neg. Affect, Intimacy, Distress, Marital Sat.
Borelli, Rasmussen, Burkhart, & Sbarra, 2014	28.75	65.10	-	No	Marital Sat., Dyadic Adjustment, Anxious Attachment, Avoidant Attachment, Pos. Affect, Neg. Affect
Borelli, Sbarra, Randall, Snavely, St. John, & Ruiz, 2013	30.24	100.00	92.68	No	Rel. Sat., Anxiety Symptoms, Depressive Symptoms, Perceived Stress, Anxious and Avoidant Attachment
Borelli, Sbarra, Snavely, McMakin, Coffey, Wang, & Chung, 2014	30.96	100.00	100.00	No	Anxious Attachment, Avoidant Attachment, Satisfaction With Life, Depressive Symptoms, Dyadic Adjustment
Briskin & Slatcher, 2016, unpublished	34.82	50.00	100.00	Yes	Moral Commitment, Structural Commitment, Love, Marital Sat., Couple Identity
Dorros, 2010, unpublished	-	50.00	100.00	Yes	Depressive Symptoms, Neg. Affect, Pos. Affect, Rel. Sat.
Frost, 2013	34.38	52.67	0.00	No	Depressive Symptoms, Psychological Well-Being, Rel. Sat., IOS, Conflict
Hallgren, & McCrady, 2015	45.00	50.00	85.11	Yes	Distress, Percent of Days Abstaining from Alcohol
Helgeson, Jakubiak, Seltman, Hausmann, & Korykowski, in-prep	55.00	50.71	64.29	Yes	Rel. Qual., Emo. sup., instrumental sup., Overprotective, Avoidance, Controlling Behaviors, Distress, Self-Care Behaviors, IOS

Huynh, Yang, & Grossman, 2016, study 1	19.50	68.89	-	No	Blame partner, Forgiveness, Insight, Pos. Affect, Neg. Affect, Perceive Relationship Will Be Better
Huynh, Yang, & Grossman, 2016, study 2	34.28	56.15	-	No	Blame partner, Forgiveness, Insight, Pos. Affect, Neg. Affect, Perceive Relationship Will Be Better
Jayamaha & Overall 2015, 2016	23.12	50.00	12.069	Yes	Rel. Qual.
Krieger, unpublished	-	65.08	-	No	Intensity of Love
Lin, Chen, & Li, 2015	35.10	50.00	100.00	Yes	Marital Qual.
Niehuis, Reifman, Ireland, & Oldham, in-prep	24.7	50.00	72.45	Yes	Neg. Conflict Res., Pos. Conflict Res., Avoidance Conflict Res., Passion, Stressful events, Similarity, Ambivalence, Conflict Discrepancy, Love Discrepancy, Pos. Emo. Words, Marital Sat., Disillusionment
Rentscher, Rohrbaugh, Shoham, & Mehl, 2013	52.80	50.00	0.00	Yes	Demand-Withdraw
Rentscher, Soriano, Rohrbaugh, Shoham, & Mehl, in-prep	39.20	145.45	175.76	Yes	Overcoming Problematic Drinking
Robbins, 2012/Karan, Wright, & Robbins, 2016	57.94	56.73	67.31	Yes	Dyadic Adjustment, Depressive Symptoms, Physical Health
Robbins, Mehl, Smith, & Weihs, 2013	50.10	50.00	-	Yes	Depressive Symptoms, Dyadic Adjustment, Cohesion, Conflict
Rohrbaugh, Mehl, Shoham, Reilly, & Ewy, 2008	66.30	50.00	100.00	Yes	Marital Qual., Health Status, Heart Failure Symptoms
Rohrbaugh, Shoham, Skoyen, Jensen, & Mehl, 2012	55.00	52.50	90.00	Yes	Smoking Abstinence
Sanford, 2007, unpublished	-	54.23	100.00	Yes	Dyadic Adjustment, Marital Qual.
Seider, Hirschberger, Nelson, & Levenson, 2009	53.38	50.00	100.00	Yes	Marital Sat., Pos. Affect, Neg. Affect, Skin Conductance, Temperature, Cardiac and Somatic Activity

Simmons, Gordon, & Chambless, 2005	37.00	52.78	100.00	Yes	Neg. Interactions, Pos. Problem Solving, Marital Sat.
Skoyen, Randall, Mehl, & Butler, 2014	32.20	50.00	46.51	Yes	Body Mass Index
Slatcher, Vazire, & Pennebaker, 2008	19.04	50.00	0.00	Yes	Rel. Sat., Rel. Stability
Williams & Acitelli, 2007	35.10	50.00	100.00	No	Couple Identity, IOS, Rel. Sat., Rel. Thinking, Depressive Symptoms, Commitment
Williams-Baucom, Atkins, Sevier, Eldridge, & Christensen, 2010	41.73	50.00	100.00	Yes	Rel. Sat., Neg. Behaviors, Pos. Behaviors
Wood, 2012, unpublished	25.70	50.00	23.60	Yes	Love, Conflict, Rel. Success, Length of Relationship

Note. IOS = Inclusion of Other in the Self, Neg. = Negative, Pos. = Positive, Qual. = Quality, Rel. = Relationship, Sat. = Satisfaction. A LIWC proportion score for we-talk was used in all studies except for three studies that calculated proportions using Oedipus (Seider, Hirschberger, Nelson, & Levenson, 2009), R (Hallgren, & McCrady, 2015), or hand-counting (Williams & Acitelli, 2007).

Table 2. *Descriptive Information and Effect Sizes*

Outcomes	k	N analyses	Overall r	95% Confident Interval	
				Lower	Upper
<i>Actor Effects</i>					
Overall Effect	30	271	.08**	.04	.11
Relationship Functioning ¹	26	191	.08**	.04	.11
Relationship Outcomes ¹	25	162	.06**	.02	.10
Relationship Behaviors	6	29	.13**	.05	.20
Personal Functioning	16	69	.08**	.03	.12
Mental Health ¹	13	40	.07*	.02	.12
Physical Health	4	10	.06	-.06	.13
Health Behaviors ¹	4	19	.10	.05	.14
<i>Partner Effects</i>					
Overall Effect	15	111	.11**	.05	.16
Relationship Functioning ¹	12	73	.09**	.03	.15
Relationship Outcomes ¹	12	68	.07*	.01	.13
Relationship Behaviors	1	5	.10	-.07	.27
Personal Functioning	9	38	.12**	.05	.19
Mental Health ¹	5	15	.03	-.07	.12
Physical Health	2	4	.05	-.14	.24
Health Behaviors ¹	4	19	.17**	.13	.22

Note. k = Number of studies; N analyses = Number of analyses included in the effect sizes. * $p \leq .01$; ** $p \leq .001$. ¹significantly different average fixed effect sizes comparing analogous actor and partner effects.

Table 3. Actor and Partner Means, by Sex and All Outcome Categories

Outcome	Actor				Partner			
	Male	N	Female	N	Male	N	Female	N
Overall Effect	.03 ^a	48	.06 ^{a,b}	82	.13 ^{a,b}	27	.12 ^b	32
Relationship Functioning	.06 ^a	42	.07 ^a	67	.18 ^a	25	.15 ^a	25
Relationship Outcomes	.06 ^a	38	.08 ^{a,b}	65	.18 ^b	25	.15 ^{a,b}	25
Relationship Behaviors	.11 ^a	4	-.49 ^b	2	-	-	-	-
Personal Functioning	-.10 ^a	5	-.17 ^a	6	.39 ^a	3	.07 ^a	4
Mental Health	-	-	.18 ^a	3	-.25 ^a	2	.22 ^a	1
Physical Health	-.37 ^a	2	-.66 ^{a,b}	3	.06 ^b	1	-	-
Health Behaviors	-.49 ^a	3	-	-	-	-	.48 ^a	3

Note. Average r effect size for each indicator of positive functioning by actor and partner effects as well as sex. N = number of analyses comprising effect. Superscripts denote significant differences between effects at $p < .05$. All possible comparisons were made only within each separate indicator. No comparisons were made if there were less than four analyses comprising the effects.

Table 4. Actor and Partner Means, by Medical Role and All Outcome Categories

Outcome	Actor				Partner			
	Patient	N	Spouse	N	Patient	N	Spouse	N
Overall Effect	.10 ^{a,b}	53	.23 ^{a,c}	27	.10 ^b	13	.20 ^c	45
Relationship Functioning	.06 ^a	22	.35 ^{a,c}	12	.41 ^{a,c}	8	.28 ^{b,c}	16
Relationship Outcomes	.01 ^a	19	.21 ^{a,b}	8	.30 ^{a,b}	6	.28 ^b	16
Relationship Behaviors	.55	3	.82	4	-	-	-	-
Personal Functioning	.17 ^a	31	.38 ^{a,b}	7	-.49 ^c	5	.28 ^b	27
Mental Health	.34 ^{a,b}	10	.58 ^{a,c}	6	-.05 ^{b,d}	7	.31 ^{a,b}	8
Physical Health	.16 ^a	3	.84 ^b	1	-	-	.06 ^a	1
Health Behaviors	.23 ^a	18	-	-	-	-	.43 ^b	18

Note. Average r effect size for each indicator of positive functioning by actor and partner effects as well as medical role. N = number of analyses comprising effect. Superscripts denote significant differences between effects. All possible comparisons were made only within each separate indicator. No comparisons were made if there were less than four analyses comprising the effects.

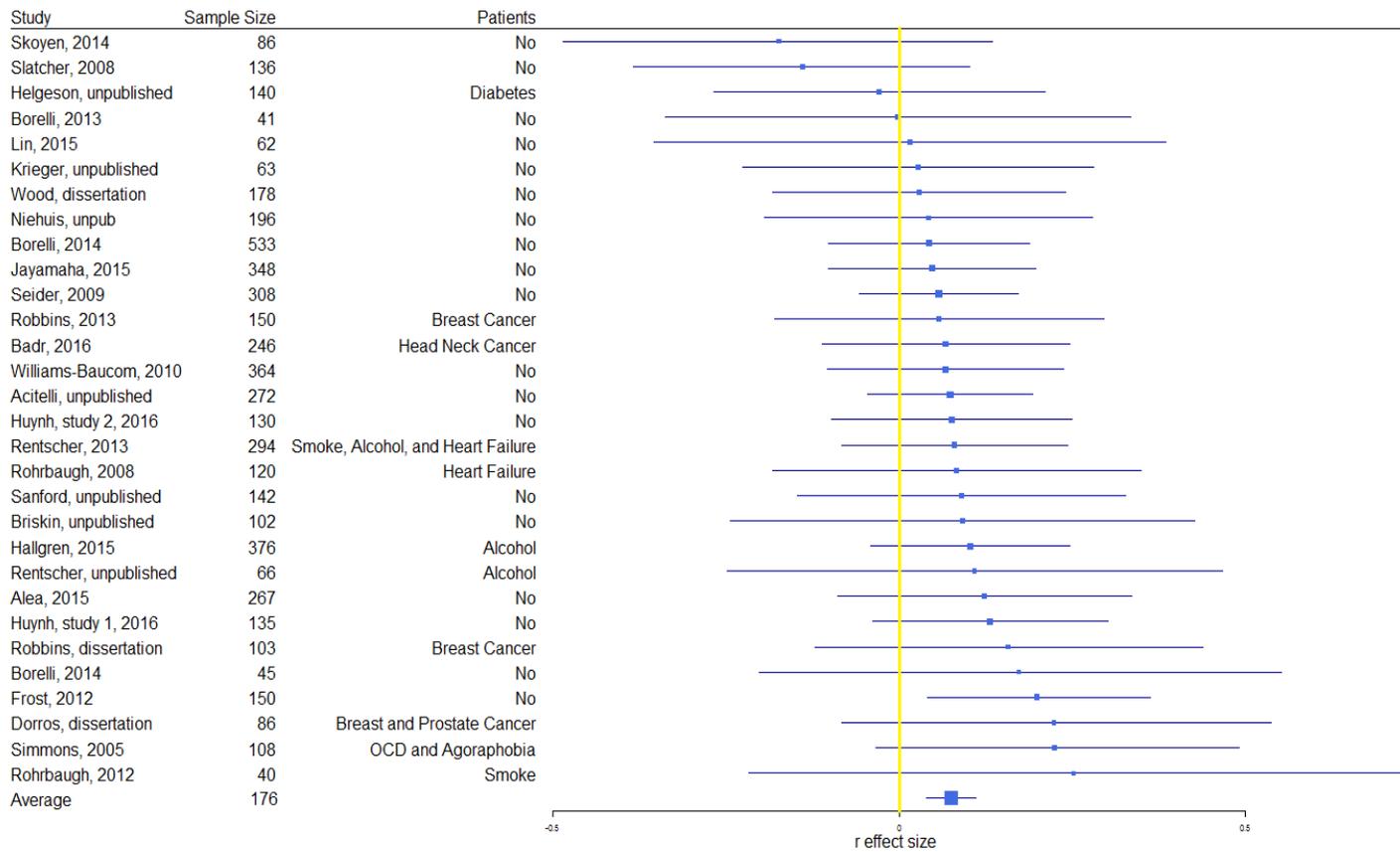


Figure 1. Forest plot of actor effect sizes and 95% confidence intervals for the relationship between we-talk and positive functioning across all 30 studies. The last effect is the average effect size across all studies.

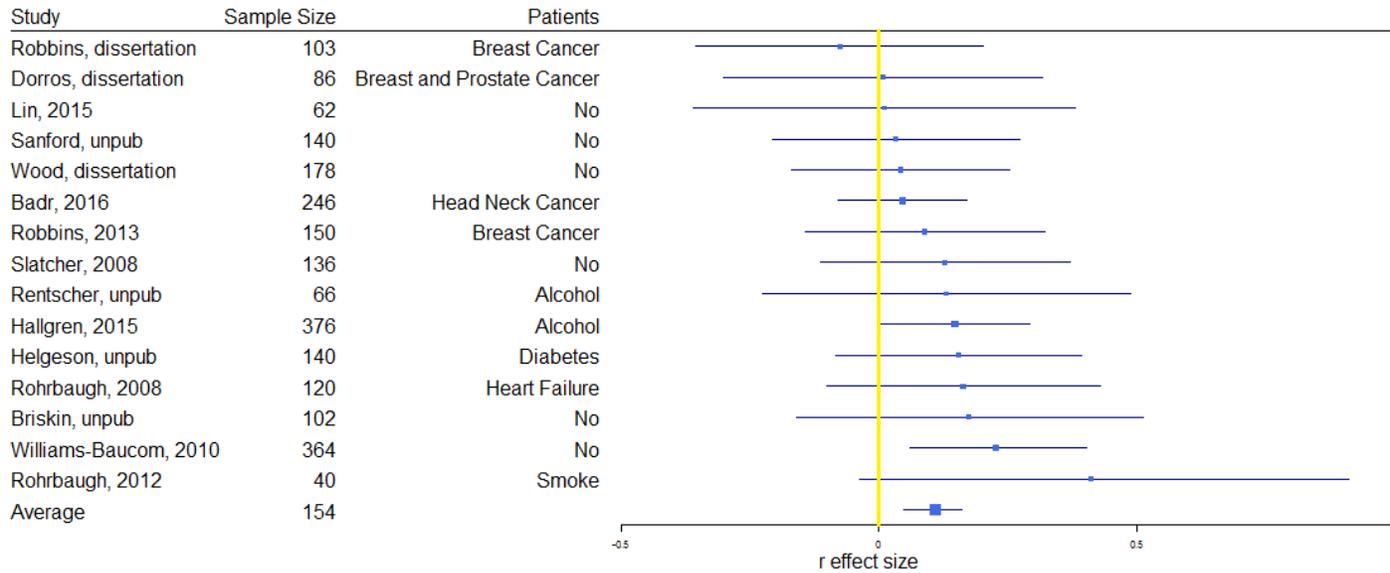


Figure 2. Forest plot of partner effect sizes and 95% confidence intervals for the relationship between we-talk and positive functioning across all 15 studies. The last effect is the average effect size across all studies.