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The Language of Demand/Withdraw: Verbal and Vocal Expression in Dyadic Interactions

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Abstract

Associations between vocally expressed emotional arousal, influence tactics, and demand/withdraw behavior were examined in a treatment-seeking sample of 130 seriously and stably distressed, married, heterosexual couples and in a community sample ($n=38$) of 18 married heterosexual and 20 dating heterosexual couples. Fundamental frequency was used to measure emotional arousal, and computational linguistics were used to measure influence tactics. Higher levels of demand/withdraw behavior were associated with greater use of manipulative and controlling influence tactics, higher levels of emotional arousal and less frequent use of cooperative and compromising influence tactics. Overall, demanders tended to express more arousal and to use more influence tactics than withdrawers. Both influence tactics and emotional arousal were uniquely associated with demand/withdraw behavior. Implications of results are discussed for refining theories of demand/withdraw interaction.

Keywords

demand/withdraw; encoded arousal; fundamental frequency; influence

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Relative to their non-distressed counterparts, distressed couples engage in higher levels of the demand/withdraw interaction pattern (DWIP), which occurs when one partner makes a complaint or request for a change and the other partner avoids the request or withdraws from the discussion (see Eldridge & Baucom, in press, for a review). This finding has been replicated in numerous studies of intimate relationships using both self-report and observational measures of demand/withdraw behavior. Despite the valuable contributions of these studies, much remains to be learned about the constituent behaviors that comprise the DWIP. Theoretical models of the DWIP and existing empirical evidence suggest that vocally expressed emotional arousal and influence tactics will be linked to this pattern, and the current study employed novel, objective measurement techniques to robustly test those links.

Demand/Withdraw Behavior

Studies of the DWIP have focused primarily on the overall level of demand/withdraw behavior in which the couple engages and the behavioral roles of demander and withdrawer. This first line of research has emphasized associations between demand/withdraw behavior and relationship satisfaction. Higher levels of demand/withdraw behavior have been linked to lower levels of relationship satisfaction in heterosexual couples from the US (e.g., Christensen & Heavey, 1990), Brazil, Italy, and Taiwan, (Christensen, Eldridge, Catta-Preta, Lim, & Santagata, 2006), and in lesbian and gay male couples (e.g., Baucom, McFarland, & Christensen, 2010).

One significant limitation of this line of research is the confounding of both partners' demanding and withdrawing behaviors into a single, couple-level demand/withdraw variable. Support for combining both partners' behaviors comes from conceptualizing the DWIP as a couple-level phenomenon; each partner's behavior is understood as both an antecedent and a consequence of the other partner's behavior: the more one partner demands, the more the other withdraws and vice versa (Baucom et al., 2010). Although it is reasonable to aggregate both partners' behaviors, doing so makes it impossible to examine correlates of demanding behaviors as separate from correlates of withdrawing behaviors. Moreover, this approach also precludes an examination of sex differences in correlates of demanding and withdrawing behavior. One of the aims of the current study is to employ an alternative analytic strategy, namely Actor Partner Interdependence Models (APIM; Kenny, Kashy, & Cook, 2006), which account for the dependence of demanding and withdrawing behaviors within a couple but also allow sex differences in the correlates of demanding and withdrawing behavior.

The second line of research on the DWIP has examined which individuals in the relationship take on a demanding role and which take on a withdrawing role. Self-report and observational studies, including cross-cultural studies (Christensen et al., 2006), have found that: a) women demand significantly more than men do, b) men withdraw significantly more than women do (e.g., Heavey, Christensen, & Layne, 1993), and c) this tendency is amplified during discussions where women have chosen the topic that is being discussed (e.g., Christensen & Heavey, 1990). Additionally, some studies have found that when men choose the topic of discussion, the pattern of woman demand/man withdraw is significantly altered so that men are more demanding and women are more withdrawing (e.g., Klinetob & Smith, 1996), whereas other studies have found that men and women are not significantly different in either demanding or withdrawing during male-selected topics (e.g., Heavey et al., 1993).

Though it has produced a wealth of important findings, both lines of research on the DWIP have relied on global ratings of DWIP either from the participants themselves or by trained

coders. Little effort has been devoted to deconstructing these broad ratings to determine what specific behaviors make up these broad assessments of the DWIP. Additionally, the majority of existing research on the DWIP has focused on distal and static correlates of demand/withdraw behavior; substantially less is known about the dynamic, proximal correlates of demand/withdraw behavior. The primary goal in the current study is to use novel, objective measurements to assess a theoretically interesting, dynamic correlate of demand/withdraw and specific behaviors that may be part of what is typically rated as demand/withdraw behavior.

Emotional Arousal

The escape-conditioning model suggests that demanding and withdrawing behaviors are linked to emotional arousal (Gottman & Levenson, 1988). Early researchers hypothesized and found some evidence that men show stronger physiological reactions to interpersonal stressors than do women (Gottman & Levenson, 1988). If men are more aroused by interpersonal stress, the escape-conditioning model suggests that men may use withdrawal as a strategy for lessening the intensity of that arousal. While there is debate about whether men are more physiologically aroused during conflict than women (Kiecolt-Glaser & Newton, 2001), multiple attempts have been made to link spouses' arousal level to demanding and withdrawing behavior. Though one study linked higher levels of physiological arousal to withdrawal (Denton, Burleson, Hobbs, Von Stein, & Rodriguez, 2001), most studies failed to find that more physiologically aroused spouses are more likely to withdraw (e.g., Kiecolt-Glaser, Bane, Glaser, & Malarkey, 2003).

One possible reason why associations between emotional arousal and demand/withdraw behavior have been elusive is that emotional arousal has most frequently been assessed using physiological measures, such as cortisol and heart rate. Though physiological measurement of emotional arousal is well accepted, it is limited for studying demand/withdraw behavior. Physiological measurements are influenced by factors other than emotional arousal, such as caffeine consumption (Cacioppo, Berntson, Larsen, Poehlmann, & Ito, 2000), and most physiological measurements are based on processes or responses that are not observable to spouses during interaction. As noted above, the DWIP is a transactional process where partners are responding to each other's *observable* behaviors; unobservable events can only be indirectly involved. As Baucom (2010) has argued elsewhere, an ideal measure of emotional arousal in the DWIP would be reflective of internal experience but observable to partners during interaction.

Fundamental frequency (f_0), also referred to as encoded arousal, is a measure that meets the criteria of being both observable and reflecting internal experience. F_0 refers to the pattern of vibration created by the vocal folds during phonation and is highly correlated with perceived pitch (Juslin & Scherer, 2005). F_0 has been consistently linked to emotional arousal for both men and women using a number of experimental paradigms, including naturally occurring stressors, portrayals of emotion, and experimentally induced emotions (see Juslin & Scherer, 2005). Numerous studies have found that higher levels of mean f_0 are related to higher levels of emotional arousal and are correlated with physiological arousal, such as blood pressure and cortisol (Baucom, Weusthoff, & Hahlweg, 2010). Importantly, fundamental frequency, unlike blood pressure or heart rate, can be perceived by the listener. This quality of f_0 is particularly desirable for studying the DWIP because in addition to responding to their own level of internal arousal, partners are also likely to respond to behavioral cues of their partner's arousal. Higher levels of conflict-related f_0 have been linked to poorer couple functioning (Baucom, Atkins, Simpson, & Christensen, 2009), but f_0 has yet to be examined with regard to the DWIP.

Influence Tactics

One set of specific behaviors likely to be involved in the broader class of demand/withdraw behavior is verbal influence tactics that partners use to try to get what they want from one another. The social structural model of the DWIP (e.g., Christensen & Heavey, 1990) suggests that the tendency for women to demand more frequently than men and for men to withdraw more frequently than women result from women's greater dissatisfaction with the status quo of relationships (e.g., Heyman, Hunt-Martorano, Malik, & Slep, 2009). Men who are more satisfied with the status quo will engage in behaviors that lead to its preservation (i.e., avoiding discussions about changing it) whereas women who are unhappy with the status quo will engage in behaviors that may change it (i.e., making complaints). Christensen and Heavey (1990) designed an experimental test of this model by comparing two different structural situations: a conversation in which the wife wanted change from the husband and a conversation where the husband wanted change from the wife. Partners were more demanding when they were seeking change in the other and more withdrawing when changes were being sought from them.

The results above as well as the terms “demand/withdraw” suggest that partners in a demand/withdraw interaction are each trying to influence the other. The demander is trying to influence the withdrawer to make some kind of change; the withdrawer is trying to influence the demander to end the unpleasant discussion of the issue. A model of influence tactics proposed by Kipnis (1984) may be helpful for understanding the constituent influence behaviors of the DWIP. This model proposes that influence tactics are reflected in the amount of linguistic control or freedom that partners give one another during interaction (Kipnis, 1984). This level of control is anchored at one end of the spectrum by hard influence tactics and at the other end by soft influence tactics. Hard tactics are controlling and coercive, leaving the target of influence very little freedom of choice in determining how to respond to influence attempts while soft influence tactics are collaborative and less restrictive, leaving the target of influence some latitude in choosing how to respond to influence attempts (Kipnis, 1984). Demanders are likely to use hard influence tactics in pursuing specific behavioral change because hard influence tactics limit response options and keep conversation focused on a particular area, namely the changes they want. Withdrawers, in contrast, may find a wider range of behavioral responses acceptable as long as they preserve the status quo and therefore tend to use more soft tactics.

Study Aims and Hypotheses

This study examines the associations between vocally encoded arousal (i.e., f_0), verbal expressions of influence tactics, and observationally coded demand/withdraw behavior in two samples: a) stably and chronically distressed, treatment seeking, married heterosexual couples ($N = 130$), and b) non-distressed married ($N = 18$) and cohabiting ($N = 20$) heterosexual couples recruited from the community. Including distressed married and non-distressed married and cohabiting couples increases the generalizability of findings that replicate across the two samples. We examine behaviors within and between individuals as well as in combination within the couple in order to comment on individual and couple level phenomena. Additionally, we used APIMs (Kenny et al., 2006) to examine sex differences in these associations.

Based on the theory and research discussed above, we proposed three hypotheses. First, higher levels of own demanding would be associated with lower levels of own arousal, higher levels of own hard influence tactic use and lower levels of own soft influence tactic use, and higher levels of own withdrawing would be associated with higher levels of own arousal, lower levels of own hard influence tactic use and higher levels of own soft influence tactic use. We also explored cross-partner associations in arousal, influence tactics,

demanding, and withdrawing as well as sex differences in both within and between spouse associations; specific hypotheses are not possible given the lack of empirical data. Second, higher levels of couple level demand/withdraw behavior would be associated with higher levels of encoded arousal, higher levels of hard influence tactic use, and lower levels of soft influence tactic use. Third, demanders would show lower levels of emotional arousal, higher levels of hard influence, and lower levels of soft influence than withdrawers.

Methods

Participants

Two different samples of couples are included in the current study. These samples were selected to maximize the generalizability of findings replicated in both samples by including both treatment-seeking distressed couples and community couples with a wide range of relationship satisfaction as well as both cohabiting but unmarried couples and married couples. These two specific samples were selected because of the similarity of procedures used for the two samples as well as similarity in coding systems used to measure demand/withdraw behavior.

Treatment seeking sample—Participants are a sub-sample ($N=130$) of 134 significantly and stably distressed couples who were recruited for participation in a two-site study of marital therapy conducted at the University of California, Los Angeles and the University of Washington; participants completed all measures of interest in the current study. Four couples were excluded due to poor quality recordings of their interactions. All measures are taken from an assessment that occurred prior to therapy. Please see Christensen, Atkins, Berns, Wheeler, Baucom, & Simpson (2004) for a description of recruitment procedures, inclusion criterion and study protocol.

Participants in this sample ranged from 22 to 72 years old, with a median age for men of 43 years ($SD=8.8$) and a median age for women of 42 years ($SD=8.7$). They were, on average, college educated (median level of education for both spouses was 17 years, $SD=3.2$) and earning a median annual income of \$48,000 for men and \$36,000 for women. Couples were married an average of 10.0 years ($SD=7.7$). The sample was largely Caucasian (77%), with 8% African American, 5% Asian or Pacific Islander, 5% Latino/Latina, 1% Native American, and 4% Other.

Community sample—Participants ($N = 38$) are a sample of married ($n = 18$) and cohabiting heterosexual ($n = 20$) couples recruited for participation in a study of communication. Participants in this sample ranged from 18 to 67 years old, with a median age for men of 28 years ($SD=8.83$) and a median age for women of 28 years ($SD=7.20$). They were, on average, college educated (median level of education for both men and women was 16 years, $SD = 2.4, 1.9$ respectively) and earning a median annual income of \$22,000 for men and \$15,000 for women. Married, heterosexual couples had been involved in the current relationship for an average of 6.14 years ($SD = 5.80$), and cohabiting, heterosexual couples for an average of 3.25 years ($SD = 3.07$). The sample was largely Caucasian (65%), with 9% African American, 8% Asian or Pacific Islander, 13% Latino/Latina, and 5% Other. Please see Baucom, McFarland, and Christensen (2010) for a description of recruitment procedures and inclusion criterion. Also, please note that this is a subsample of couples that were included in Baucom et al. (2010) and McGinn, McFarland, and Christensen (2009).

Procedure

Treatment seeking sample—Couples completed a 2 to 3 hour session in a psychology department laboratory. Couples rated the intensity of their dissatisfaction for several partner behaviors, and the most highly rated issue on each respondent's list was chosen by the experimenter for the partners to discuss over the course of two randomized and counter-balanced, 10-minute interactions that were taped by the experimenter. The remainder of the session involved having two more discussions and completing questionnaires.

Community Sample—Couples completed a 2 1/2 to 3 hour session either in a psychology department laboratory or in their home. Couples rated their desired change for several partner behaviors. The most highly rated issue on each respondent's list was chosen by the experimenter for discussion in two randomized and counter-balanced, 12-minute interactions that were taped by the experimenter. The remainder of the session was spent completing questionnaires.

Measures

Demand/withdraw—Demand/withdraw was observationally coded using the Couples Interaction Rating System (CIRS2; Heavey, Gill, & Christensen, 2002) in the treatment seeking sample and the Couples Rating System Short Form (CRSSF; Heavey, 1991) in the community sample. The CIRS2 is a revised and extended version of the CRSSF but both contain the same codes for demand (blame and pressure for change) and withdraw (avoidance, withdraw, and reverse scored discussion). Manuals for both unpublished coding systems are available from the first author. Separate demanding and withdrawing scores were created by averaging the corresponding codes for each partner during each interaction. *Total couple demand/withdraw* was then calculated by summing each partner's demanding and withdrawing behaviors from both interactions to produce one score for the couple. *Demand/withdraw role polarization* (e.g., Christensen & Heavey, 1990) was calculated by subtracting wife demand/husband withdraw from husband demand/wife withdraw separately for each interaction and then averaging across the two interactions to create one score. All interactions were coded by teams of three or four undergraduates. Interobserver Cronbach alpha's for demand/withdraw were calculated across partners and ranged from .84-.91 for demand and .82-.85 for withdraw across both samples. Higher scores on total couple demand/withdraw indicates a higher level of demand/withdraw behavior by the couple. Positive scores on the demand/withdraw role polarization score indicate the husband to be in the demanding role while negative scores indicate the wife to be in the demanding role.

Encoded arousal—Mean f_0 was separately measured for each partner during each interaction using Praat, version 4.3.27 (Boersma & Weenink, 2005) to analyze audio recordings of each spouse's speech (see Baucom (2010) for a detailed discussion of methods for generating f_0 from audio recordings of couple conflict). Raw mean f_0 values were re-centered around sex-specific means to control for physiologically determined sex differences in f_0 and then separately averaged across both interactions. Couple-level f_0 was created by averaging both partners' scores across both interactions. Higher individual- and couple-level scores indicate greater emotional arousal. Relative f_0 was created by subtracting the male partner's f_0 from the female partner's f_0 . Positive scores indicate that the female partner was more aroused than the male partner.

Influence tactics—There are an almost limitless number of specific words and phrases that spouses can use to influence one another in hard and soft ways, but all of these words and phrases are likely to share the same underlying meaning. This latent quality of hard and soft influence tactics makes them well fitting candidates for measurement using Latent Semantic Analysis (LSA; Landauer, Foltz, & Laham, 1998). Given samples of hard and soft

influence tactic language, LSA determines how similar each spouse's language is to the hard and soft influence tactic samples. LSA accomplishes this task by using a “semantic space”, which is a large compilation of text, to determine the meanings of words. A semantic space is reduced into factors that are analogous to the subscales of a self-report measure. It is possible to get a score on each factor, or subscale, for the passages of interest with higher scores indicating greater presence of that factor in the text passage. The LSA software uses these factors to compare two samples of text by calculating the dot product of the text samples' factor scores. The dot product for similar samples of text is higher than the dot product for dissimilar samples of text. In the current study, problem-solving interactions were compared to “hard” and “soft” test passages using the literature semantic space with unlimited factors. The hard and soft test passages used in the current study were based on previous investigations of influence tactics and are available from the first author. Separate scores were created for each partner for each interaction and were averaged across both interactions to produce one hard and one soft score for each partner. Couple-level influence tactic scores were created by analyzing both partners' language in both interactions at the same time using LSA. Higher scores represent use of language that is more similar to the respective test passages. Relative influence tactics were created by subtracting the male partner's influence tactic score from the female partner's influence tactic score. Positive scores indicate that the female partner used more of that kind of influence than the male partner.

Relationship satisfaction—Relationship satisfaction was assessed using the total scale score on the 32-item Dyadic Adjustment Scale (Spanier, 1976) in both samples. Higher scores reflect greater marital satisfaction. Cronbach's alpha ranged from .84 to .89 across samples.

Analyses

Regression analyses with demand/withdraw behavior and role as outcomes were the primary analytic methods for testing our hypotheses. All predictors were centered prior to the creation of interaction terms and to being entered in analyses. In approaching the data analyses, we considered two general options: 1) running analyses separately for the two samples or 2) running the two samples conjointly, as there are notable similarities and differences across samples. We present models analyzing the two samples conjointly with relationship satisfaction and interactions between all predictors and relationship satisfaction included as covariates. In order to test the validity of our choice to combine the two samples into a single model, we also ran models for Hypotheses 2 and 3 separately for each sample and obtained results nearly identical to those presented in the text in both samples. Results from both individual sample and conjoint analyses are presented in Tables 3 and 4. Hypothesis 1 was not separately tested in each sample because of sample size restrictions in the community sample.

Models using the combined sample were also run with demographic variables (age, marital status, income, relationship duration, minority vs. majority ethnicity, and recording environment [home vs. psychology department]) that differed between the two samples included for all hypotheses. None of the main effects or interactions involving these demographic variables emerged as significant. Results of these analyses are available from the first author.

Results

Means and standard deviations for all indices as well as correlations between them are presented in Table 1 separately for each sample. Descriptive associations show that

demanding was associated with mean f_0 ($r = 0.33, p < .05$; $r = 0.40, p < .001$) in both community and treatment seeking samples respectively and that withdrawing is associated with both hard ($r = -0.42, p < .01$) and soft influence tactics ($r = -0.34, p < .05$) in the community sample. Total couple demand/withdraw was associated with f_0 ($r = 0.36, p < .00$) in the treatment seeking sample. Demand/withdraw role was associated with relative hard influence tactics ($r = -0.46, p < .001$; $r = -0.45, p < .001$) and soft influence tactics ($r = -0.62, p < .001$; $r = -0.35, p < .001$) in both samples. Additionally, demand/withdraw role was associated with relative f_0 ($r = -0.18, p < .05$) in the treatment seeking but not the community sample ($r = -0.14, p < .10$).

Individual Demanding and Withdrawing Behaviors

Associations between individual demanding and withdrawing behaviors, encoded arousal, and influence tactics were tested using Actor Partner Interdependence Models (APIM; Kenny et al., 2006) run using the Hierarchical Linear Modeling program, version 6.03 (HLM; Raudenbush, Bryk, & Congdon, 2006), with results presented in Table 2. Two level models were specified separately with demanding and withdrawing behaviors as the outcome variables; the following equation illustrates the model for demanding behaviors using the composite equation (as opposed to system of equations) format:

$$\text{Demand}_{ij} = B_0 + B_1 * \text{Sex} + B_2 * (F_0 \text{ actor}) + B_3 * (F_0 \text{ partner}) + B_4 * (\text{Hard actor}) + B_5 * (\text{Hard partner}) + B_6 * (\text{Soft actor}) + B_7 * (\text{Soft partner}) + B_8 * (\text{Withdraw actor}) + B_9 * (\text{Withdraw partner}) + B_{10} * (F_0 \text{ actor} \times \text{sex}) + B_{11} * (F_0 \text{ partner} \times \text{sex}) + B_{12} * (\text{Hard actor} \times \text{sex}) + B_{13} * (\text{Hard partner} \times \text{sex}) + B_{14} * (\text{Soft actor} \times \text{sex}) + B_{15} * (\text{Soft partner} \times \text{sex}) + B_{16} * (\text{Withdraw actor} \times \text{sex}) + B_{17} * (\text{Withdraw partner} \times \text{sex}) + B_{18} * (\text{Sample}) + U_{0j} + e_{ij}$$

where i indexes individuals and j indexes couples. For each predictor, there is both an actor effect (i.e., the individual's own value of the predictor in association with their own outcome) and partner effect (i.e., the partner's value of the predictor in association with their own outcome). In addition, there are sex interactions to detect gender differences in effects. Interactions between relationship satisfaction and other effects were examined; none of these interactions were significant (as reported below). Finally, the first error term controls for the nesting of individuals in couples and the second is the typical residual error term.

Demanding behavior was significantly associated with relationship satisfaction ($B = -0.04, p < .001$), sex ($B = -0.64, p < .001$), f_0 actor ($B = 0.02, p < .001$), actor hard influence tactics ($B = 0.41, p < .01$), and partner withdrawing ($B = 0.48, p < .002$). The significant effect of sex indicates that women were more demanding than men. No significant interactions emerged.

In a second HLM using withdraw as the outcome, withdraw was significantly associated with sex ($B = 0.29, p < .01$), actor soft influence tactics ($B = -0.23, p < .001$), partner soft influence tactics ($B = 0.15, p < .03$) and partner demanding ($B = 0.07, p < .02$). The significant effect of sex indicates that men were more withdrawing than women. No significant interactions emerged.

Total Couple Demand/Withdraw

To examine the second hypothesis, total couple demand/withdraw was regressed onto couple-level encoded arousal, couple-level hard influence tactic use, couple-level soft influence tactics, relationship satisfaction and the interactions between each predictor and relationship satisfaction, with results presented in Table 3. Mean f_0 , soft influence tactics, and relationship satisfaction were significantly associated with total demand/withdraw ($\beta = 0.22, p < .001$; $\beta = -0.21, p < .02$; $\beta = -0.42, p < .001$). Hard influence tactics were not significantly associated with total couple demand/withdraw ($p < .29$). These results indicate

that higher levels of arousal and lower levels of soft influence tactics are associated with higher levels of demand/withdraw behavior. No significant effects were found for the interactions.

Demand/Withdraw Role Polarization

Demand/withdraw role polarization was regressed onto relative encoded arousal, relative hard influence tactic use, relative soft influence tactics, relationship satisfaction, and the interactions between each predictor and relationship satisfaction with results presented in Table 4. Relative mean f_0 , relative hard influence tactics, and relative soft influence tactics were significantly associated with demand/withdraw role polarization ($\beta=-0.21, p<.01$; $\beta=-0.32, p<.01$; $\beta=-0.20, p<.02$). These results indicate that greater likelihood of wife demand/husband withdraw is associated with higher levels of wife arousal, wife hard influence tactic use, and wife soft influence tactics use relative to husband. No significant effects were found for relationship satisfaction or for interactions.

Discussion

This study sought to build on existing literature by examining associations between encoded arousal, influence tactics and demand/withdraw behavior. The results show that both encoded arousal and influence tactics were significantly associated with individual demanding and withdrawing behaviors, the overall occurrence of the DWIP, and the assumption of behavioral roles in the DWIP. Demanding behavior was strongly associated with emotional arousal: the more partners were demanding, the greater their arousal, and demanders were more aroused than withdrawers. In addition, the more partners were demanding, the more they used hard influence tactics. In contrast, the more partners withdrew, the less they used soft influence tactics, particularly when their partners were demanding. Somewhat surprisingly, demanders used more hard and more soft influence tactics than withdrawers. Finally, the overall amount of demand/withdraw behavior exhibited by the couple was strongly related to both arousal and influence tactics. The more couples engaged in the DWIP, the higher their arousal and the less they used soft influence tactics. In sum, encoded arousal and influence tactics were associated with demand/withdraw behavior whether the DWIP was examined in terms of individual behaviors, total demand/withdraw behavior, or the assumption of demand/withdraw roles. Let us consider in turn the ways that encoded arousal and influence tactics may be linked to DWIP.

Encoded Arousal and Demand/Withdraw

Our hypothesis that encoded arousal would be linked with couple engagement in the DWIP was confirmed. This association between higher levels of encoded arousal and higher levels of overall demand/withdraw behavior is consistent with a large body of empirical evidence that has linked conflictual interaction behaviors to arousal (see Kiecolt-Glaser & Newton, 2001). Though there have been numerous studies demonstrating an association between conflict behaviors and arousal, this is the first study that we are aware of that has demonstrated an association between arousal level of the couple and overall demand/withdraw behavior.

Based on the escape conditioning model, we hypothesized that higher levels of encoded arousal would be associated with lower levels of own demanding, higher levels of own withdrawing, and being in the withdrawing role. Our findings not only disconfirm this model, they are opposite to the predictions of the model. Higher levels of own arousal were not associated with own withdrawal for either spouse. Rather, higher levels of own arousal were associated with greater demanding for both women and men. These findings suggest that the arousal associated with the DWIP is driven more by its association with demanding

behavior than by its association with withdrawing behavior. One possible explanation for this pattern of findings is that pursuing need gratification from a resistant partner is more frustrating, an emotional state associated with arousal, than receiving such pressure from a partner.

Another possible explanation for these findings is that emotional arousal contributes to demand/withdraw behavior in a more complicated manner than has been previously hypothesized. The notion that withdrawers would be more aroused than demanders pays no attention to the specific emotions with which arousal is associated. Demanders and withdrawers are engaging in different behaviors that are likely stemming from fundamentally different emotional experiences. In contrast to the frustration that demanders are likely to experience, withdrawers are likely to feel annoyed by and anxious about the frequent requests they are denying. While individual emotions were not assessed in the current study, Heavey et al. (1993) found links between higher levels of withdrawing behavior and higher levels of self-reported anxiety for husbands. Future research is needed to explore the specific emotions partners are experiencing when engaging in demanding and withdrawing roles.

Influence Tactics and Demand/Withdraw

Higher levels of hard influence tactics were hypothesized to be associated with higher levels of own demanding, lower levels of own withdrawing, higher overall engagement in the DWIP by the couple, and being in the demanding role; in contrast, higher levels of soft influence tactics were hypothesized to be associated with lower levels of own demanding, higher levels of own withdrawing, lower overall engagement in the DWIP by the couple, and being in the withdrawing role. Significant associations were largely in the hypothesized directions. Consistent with hypotheses, lower levels of couple level soft influence tactic use were linked to higher levels of couple level demand/withdraw behavior. Additionally, higher levels of own withdrawing were linked to lower levels of own soft influence tactics and higher levels of partner soft tactics, and higher levels of own demanding were associated with higher levels of own hard influence tactic use. This study is the first that we are aware of to link one spouse's influence tactics to the other spouse's demanding behaviors. These findings suggest that part of the cyclical nature of the DWIP is that both partners use more controlling and coercive and fewer collaborative and cooperative influence tactics that may make issue resolution difficult and continued conflict likely. Having little freedom to respond to an influence attempt requires that a partner make or resist the requested change, and does not encourage discussion of why the change was requested (and therefore does not promote greater understanding). Partners may be willing to make requested changes by altering aspects of the relationship other than the focus of the request or to consider alternative methods for meeting their requests but these possibilities cannot be explored when low levels of soft influence tactics are used.

Results regarding demand/withdraw roles suggest that the relative use of hard and soft influence tactics between partners may also contribute to the intractable nature of the DWIP. Demanders use more hard and soft influence than withdrawers, suggesting that when demanders ask for a change from their partners, they do so using a mixture of strategies. The hypothesis that demanders would use more hard and less soft influence was based on the assumption that demanders would try to control their partners to create specific change. However, this hypothesis may have been based on an incorrect extension of the social structural hypothesis. The current findings suggest that demanders may use any strategies that they can think of to get their needs met within the relationship at times collaborating with and at times warring against their partners. This pattern of influence tactic usage is likely to be confusing and frustrating for both partners and may contribute to the higher levels of arousal exhibited by couples who engage in higher levels of the DWIP. Indirect

support for this possibility is seen in the significant correlation between relative hard influence tactic use and couple level encoded arousal in the treatment seeking sample reported in Table 1 ($r = 0.22, p < .05$; a correlation of similar direction and magnitude was found for the community sample but was not significant, $r = 0.20, p < .22$). However, frustration associated with a mixed pattern of influence tactic usage by demanders was not directly explored in the current study and is in need of investigation in future research.

The findings of the current study replicate and extend the recent work of Vogel et al (2009) who examined associations between power processes (which are closely related to influence tactics) and the DWIP. Vogel et al. (2009) found that spouses who exhibited more dominant behaviors, such as interrupting, also showed more demanding behaviors than their partners in a sample of married, heterosexual couples. This finding is parallel to the finding in the current study that demanders use more hard influence tactics than withdrawers.

The hard/soft model of influence tactics used in the current study is a closely related but importantly distinct alternative to the one used by Vogel and colleagues. Vogel and colleagues used the Family Relational Communication Control Coding System (FRCCCS; Heatherington & Friedlander, 1987) to measure behaviors that limit a partner's options for responding. The conceptual focus of such behaviors and the actual behaviors coded, including closed questions, closed answers, instructions, and orders, are very similar to hard influence tactics. The major difference between the two models is that Vogel and colleagues did not include behaviors similar to soft influence tactics that measure shared control, cooperation, and collaboration.

One benefit of including both hard and soft influence tactics is the broader applicability of the model to the full range of influence behaviors. The hard/soft model focuses on how one partner's behavior shapes, controls, or manipulates the other's response. In contrast, dominant behaviors such as talking over another family member or interrupting are more focused on controlling an interaction by limiting another family member's options for responding or preventing response all together. Given that the DWIP encompasses a wide range of withdrawing behaviors including both non-response and behaviors which avoid discussing the requested change, it is possible that the hard/soft model allows for more robust associations across a wider range of withdrawing behavior. This difference may explain why withdrawers were found to use less of both hard and soft influence tactics than demanders in the current study. In other words, the current study suggests that not only do withdrawers use fewer controlling and coercive tactics than demanders, they use fewer influence tactics of any kind that would engage the demander in a discussion of the requested change.

Clinical applications

These results have several potential clinical applications. First, f_0 provides a readily available source of information for clinicians about the internal emotional state of clients. Given the wide variability of individual differences in emotional awareness, feedback about partners' f_0 could be used as a way to increase emotional awareness and help partners discover connections between emotional states and demanding behaviors. Second, the mixed pattern of hard and soft influence tactic usage during conflict is likely to be a verbal manifestation of the "mutual trap" (Jacobson & Christensen, 1998) in which distressed couples engage. Demanders invite their partners to participate in a collaborative discussion of change but also use language that limits their partners' options for responding to requests during the same interaction. Withdrawers, on the other hand, appear to withdraw to a greater extent as their demanding partners use more soft influence tactics. What is missing is a way for partners to make requests of one another that allow both partners to engage in a collaborative discussion of change. Though there are many possible ways that partners could

successfully frame requests, the work of Mitnick et al. (2009) suggests that requests that are specific, that involve both members of the couple and that request increases in desired behavior are least likely to be associated with high levels of behavioral reactance, or doing the opposite of what was requested, as is typical in the DWIP. Another possibility is the non-coercive, contingency shaped change strategies of Integrative Behavioral Couple Therapy (Jacobson & Christensen, 1998). These strategies suggest that change requests that include vulnerability and that changes that are naturally reinforcing for agents of change are much more likely to occur and to endure.

Limitations

There are several limitations to bear in mind when considering the results of the current study. One, all study variables were aggregated across topics. No study hypotheses predicted a difference in wife's topic compared to husband's topic so such differences were not explored. It is possible that there are topic effects on the associations reported in the current study. Two, the measure of arousal used in the current study, f_0 , is open to a degree of conscious control. However, there is no reason to believe that subjects were motivated to alter the f_0 of their voices. Three, the analysis used to test Hypothesis 1 contained a large number of predictors relative to the number of data points available and may have resulted in Type II errors. The substantive impact of these possible Type II errors is mitigated by the consistency of findings across hypotheses which suggest highly similar associations between demand/withdraw behavior, encoded arousal, and influence tactics regardless of how demand/withdraw behavior is analyzed and whether samples were analyzed separately or in a combined fashion. Four, it is possible that withdrawing behavior is more strongly linked to internal arousal than to externally visible indices of arousal. F_0 's association with internal measures of arousal such as blood pressure and cortisol (Baucom et al., 2010) minimizes the impact of this possibility on the findings of the current study. Finally, the current study only contains cross-sectional data and is therefore not able to address longitudinal covariation in these variables.

Summary and Future Directions

The findings of the current study link demand/withdraw behavior to both emotional arousal and influence tactics in distressed and non-distressed couples. This study is the first that we are aware of that has shown higher levels of encoded arousal in demanders relative to withdrawers. Emotional arousal likely contributes to demand/withdraw behavior in complex ways that could be the subject of future research; for example, demanders may have different emotional experiences, such as anger, than withdrawers, who may be more likely to experience anxiety. Future research on the DWIP involving f_0 would likely benefit from including measures of internal arousal (both physiological and self-report). Associations between influence tactics and demand/withdraw behavior in the treatment seeking sample suggest that particular linguistic ways of trying to create influence may be good candidates for clinical intervention. Replication of these findings is required before they can be confidently applied in a clinical setting. However, despite this caveat, the current study elucidates particular verbal and vocal behaviors that are important aspects of conflict in intimate relationships.

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Angeles, which was briefly described in Baucom (2010). The participants in the community sample are a subsample of couples that were included in Baucom, McFarland, and Christensen (2010) and McGinn, McFarland, and Christensen (2009).

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Table 1
Means, standard deviations, and correlations for individual demand, withdraw, influence tactics and encoded arousal scores

Mean, S.D.			Correlations													
	Samples		1	2	3	4	5	6	7	8	9	10	11	12	13	14
	Tx	Comm.														
1	4.25, 1.28	3.37, .88		.19	-.00	-.19	.33*	.87***	.03	-.18	.35*	-.27	-.26	-.05	.25	-.61***
2	2.19, .49	2.32, .56	.18*		-.42**	-.34*	-.10	.64***	-.45**	-.31	-.01	-.39*	.13	.15	-.38*	-.33*
3	-.01, .64	.02, .59	.10	-.11		.66***	.17	-.21	.96***	.67***	.09	.12	-.24	-.24	.19	.06
4	-.05, .57	-.01, .51	-.10	-.14	.67***		.15	-.31	.67***	.94***	-.10	.30	-.32*	-.43**	-.02	.07
5	-.45, 17.03	-.47, 15.63	.40***	.00	.07	.01		.21	.22	.07	.75***	-.03	-.18	-.22	.25	.02
6	12.85, 2.90	11.37, 2.25	.94***	.48***	.05	-.14	.34***		-.20	-.29	.27	-.41**	-.14	.04	.01	-.64***
7	.19, .03	.19, .03	.05	-.10	.97***	.65***	.01	.01		.72***	.08	.20	-.32*	-.34*	.25	.03
8	.25, .02	.25, .02	-.14	-.12	.67***	.92***	-.08	-.16	.71***		-.11	.26	-.27	-.40*	.00	.07
9	-.24, 19.36	-.52, 17.41	.40***	.02	.05	-.01	.91***	.36***	-.01	-.09		-.46***	.20	.26	.26	.02
10	-.99, 2.42	-1.17, 1.74	-.08	-.20*	-.02	.13	-.11	-.13	-.03	.12	-.28**		-.37*	-.62***	-.14	.16
11	-.10, .87	.13, .84	.09	.04	-.06	-.03	-.03	.10	-.07	-.08	.22**	-.45***		.68***	-.22	.23
12	-.01, .81	.08, .84	.12	.06	-.00	.03	-.02	.12	-.03	-.02	.16	-.35***	.66***		-.24	.06
13	-.00, 28.99	4.50, 23.36	.24**	-.04	.11	-.03	.41***	.22*	.13	-.03	.46***	-.18*	-.05	-.07		.02
14	85.81, 12.10	101.46, 11.66	-.38***	-.20*	-.12	.04	-.23**	-.40***	-.13	.01	-.23***	.07	.05	-.08	-.19*	

Note: 1 = demand, 2 = withdraw, 3 = hard influence tactics, 4 = soft influence tactics, 5 = mean f0, 6 = total demand/withdraw, 7 = couple hard influence tactics, 8 = couple soft influence tactics, 9 = couple mean f0, 10 = demand/withdraw role polarization, 11 = relative hard influence tactics, 12 = relative soft influence tactics, 13 = relative mean f0, 14 = relationship satisfaction

Note: Correlations in the treatment seeking sample are presented below the diagonal; correlations in the community sample are presented above the diagonal.

Note:

* p<.05,

** p<.01,

*** p<.001

Table 2
Regression table for individual demand & withdraw APIM's

Variable	B	SE B	B	SE B
	Demand		Withdraw	
Intercept	4.14***	0.12	2.18***	0.05
Satisfaction	-0.04***	0.24	0.00	0.00
Sex	-0.64***	0.18	0.29**	0.08
Satisfaction	0.01	0.36	0.00	0.01
Mean f_0 , actor	0.02***	0.01	0.00	0.00
Satisfaction	0.00	0.01	0.00	0.00
Mean f_0 , partner	0.00	0.01	0.00	0.00
Satisfaction	0.00	0.01	0.00	0.00
Hard influence tactics, actor	0.41**	0.17	-0.13	0.07
Satisfaction	-0.01	0.34	0.00	0.00
Hard influence tactics, partner	-0.05	0.17	0.05	0.07
Satisfaction	0.01	0.34	0.00	0.00
Soft influence tactics, actor	-0.19	0.21	-0.23**	0.07
Satisfaction	-0.01	0.43	0.00	0.01
Soft influence tactics, partner	-0.19	0.21	0.15*	0.07
Satisfaction	-0.01	0.43	0.00	0.01
Withdraw or demand, actor	-0.03	0.19	-0.02	0.03
Satisfaction	0.00	0.39	0.00	0.00
Withdraw or demand, partner	0.48***	0.19	0.07*	0.03
Satisfaction	0.00	0.39	0.00	0.00
Mean f_0 , actor, X sex	0.00	0.01	0.01	0.00
Satisfaction	0.00	0.02	0.00	0.00
Mean f_0 , partner, X sex	0.00	0.01	0.00	0.00
Satisfaction	0.01	0.02	0.00	0.00
Hard influence tactics, actor, X sex	-0.45	0.37	0.05	0.14
Satisfaction	0.03	0.75	0.00	0.01
Hard influence tactics, partner, X sex	0.08	0.37	0.05	0.14
Satisfaction	-0.03	0.75	0.00	0.01
Soft influence tactics, actor, X sex	-0.03	0.47	-0.09	0.15
Satisfaction	-0.02	0.94	-0.01	0.01
Soft influence tactics, partner, X sex	0.60	0.47	-0.04	0.15
Satisfaction	0.00	0.94	-0.01	0.01
Withdraw or demand, actor, X sex	-0.33	0.41	-0.07	0.06
Satisfaction	-0.01	0.82	-0.01	0.00
Withdraw or demand, partner, X sex	0.54	0.41	0.02	0.06
Satisfaction	-0.04	0.82	0.01	0.00

Note:

*
p<.05,

**
p<.01,

p<.001

Table 3
Regression table for total couple demand/withdraw

Variable	B	SE B	β
Combined sample			
Intercept	12.52	.186	
Satisfaction	-0.00	0.01	-0.42***
Mean f_0	0.03	0.01	0.22***
Hard influence tactics	9.50	8.93	0.10
Soft influence tactics	-26.54	11.82	-0.21*
Mean f_0 X satisfaction	0.00	0.00	-0.10
Hard influence X satisfaction	0.06	0.61	0.01
Soft influence X satisfaction	-0.72	0.97	-0.07
Treatment seeking sample			
Intercept	17.64	2.56	
Mean f_0	0.05	0.01	0.34***
Hard influence tactics	19.91	11.00	0.21
Soft influence tactics	-35.00	14.49	-0.28*
Community sample			
Intercept	21.24	3.65	
Mean f_0	0.04	0.01	0.36***
Hard influence tactics	4.38	13.67	0.05
Soft influence tactics	-41.89	20.19	-0.31*

Note:

*
 $p < .05$,

**
 $p < .01$,

 $p < .001$

Table 4
Regression table for demand/withdraw role

Variable	B	SE B	β
Combined sample			
Intercept	-1.06	0.16	
Relationship satisfaction	0.01	0.01	0.08
Relative mean f_0	-0.02	0.01	-0.21**
Relative hard influence tactics	-0.84	0.24	-0.32**
Relative soft influence tactics	-0.56	0.26	-0.20*
Relative mean f_0 X satisfaction	0.00	0.00	0.01
Relative hard influence tactics X satisfaction	0.02	0.02	0.10
Relative soft influence tactics X satisfaction	-0.01	0.02	-0.04
Treatment seeking sample			
Intercept	-1.10	0.19	
Relative mean f_0	-0.02	0.01	-0.20**
Relative hard influence tactics	-1.09	0.28	-0.39***
Relative soft influence tactics	-0.32	0.31	-0.11
Community sample			
Intercept	-0.78	0.18	
Relative mean f_0	-0.02	0.01	-0.22**
Relative hard influence tactics	-0.71	0.26	-0.34**
Relative soft influence tactics	-0.88	0.32	-0.35**

Note:

*
 $p < .05$,

**
 $p < .01$,

 $p < .001$