EXAMINING EFFECTS OF SEX, FAMILIARITY, AND CONFLICT ON PATTERNS OF DOMINANCE AND WARMTH

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ABSTRACT

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Many important psychological phenomena occur in social interactions, which can be influenced by factors related to the individual interactants, the dyad, or aspects of the situation. The current study seeks to investigate the effects of specific person, relationship, and situation factors on patterns of interpersonal behavior that occur during a social interaction. Four samples were examined: 1) unacquainted undergraduates, 2) undergraduates with a confederate, 3) husbands and wives, and 4) mothers and children. Analyses tested the impact of individual sex, dyadic familiarity, and situational conflict on momentary warmth and dominance, interpersonal complementarity, and changes in warmth and dominance over the course of the interaction. Results indicated a limited effect of sex. Unfamiliar dyads were significantly more submissive, warmer, less complementary on dominance, more complementary on warmth, and warmer over time than familiar dyads. Individuals in conflict tasks were significantly more dominant, colder, more complementary on dominance, less complementary on warmth, less dominant over time, and less warm over time than individuals in non-conflict tasks. The findings within the current study offer unique implications related to the factors that may influence the patterns and outcomes of social interactions.

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Introduction

Interpersonal interactions are the medium through which first impressions are formed, romantic relationships are deepened or dissolved, and parenting enhances or inhibits a child's development. The Continuous Assessment of Interpersonal Dynamics (CAID) is a recently developed observational method that provides relatively continuous data about social patterns that occur during these kinds of interactions. CAID data can also be used to examine factors that influence interpersonal dynamics. The present study seeks to utilize CAID to examine the impacts of three important factors that could be hypothesized to affect interpersonal exchanges: the sex of the individual interactants, the familiarity of the dyad, and the conflict within the interaction.

Interpersonal Foundations

Researchers studying social processes often focus on variance along the two orthogonal dimensions of the Interpersonal Circumplex (IPC; Figure 1), agency (dominance to submissiveness) and communion (warmth to coldness; Kiesler, 1996; Leary, 1957; Sullivan, 1953). Individual behaviors can be construed as blends of these two dimensions (Anchin & Kiesler, 1982; Carson, 1969; Foa & Foa, 1974; Pincus, 2005; Wiggins, 1982). Specifically, any given behavior can be understood in terms of two attributes. First, the distance from the center of the circle connotes its intensity. Second, the angular projection from the circle indicates its quality or style (e.g., dominant, warm-dominant, etc.). The IPC can also be used as a framework for measuring dynamic aspects of interpersonal transactions as they unfold over time or across situations (Gurtman, 1992; Pincus et al., 2014). Interpersonal patterns have been studied using IPC-based tools in samples that include adult peers (e.g., Sadler, Ethier, Gunn, Duong, & Woody, 2009), parents and children (e.g., Markey, Markey, & Tinsley, 2005) patients and therapists (e.g.,

Anchin & Pincus, 2010; Thomas, Hopwood, Woody, Ethier, & Sadler, 2014), romantic partners (e.g., Cundiff, Smith, Butner, Critchfield, & Nealey-Moore, 2014), and teachers and students (e.g., Pennings et al., 2014).

Approaches to Measuring Interpersonal Behavior with the IPC

The IPC is not a single measurement tool, but rather a flexible system around which a number of different assessment approaches have been organized. These methods have included self, informant, and observer ratings that may sample behavior across multiple time scales. A major feature of the current study involves focusing on observational codes of interpersonal dynamics that occur during a single interaction. However, IPC assessments can also be used to measure single behaviors or traits in cross-sectional designs (e.g., Gurtman, 1992), individual attributes across multiple points in time independent of situational context (e.g., Thomas et al., 2014a), or social interactions as assessed by ambulatory methods that compare interpersonal patterns across situations (e.g., Moskowitz, Ho, & Turcotte-Tremblay, 2007). A significant body of research using IPC measures has focused on more molar time-scales relative to CAID (e.g., Wright, Pincus, & Lenzenweger, 2012). Although this research does not directly speak to how specific interactions are likely to play out, it does provide information that assists in the development and framing of hypotheses about individual interactions.

IPC research focusing on single interactions also varies on the timing and resolution of assessments (Pincus et al., 2014). Some research has focused on the average behavior of each interactant in an interpersonal situation in terms of the overall level of dominance and warmth (e.g., Sadler & Woody, 2003). Other research has assessed changes that occur during the interaction. Some of these studies focus on particular moments, such as speaking turns (Benjamin, Rothweiler, & Critchfield, 2006), whereas the CAID system (Sadler et al., 2009)

assesses warmth and dominance as a continuous stream of behavior across the entire interaction (Lizdek, Sadler, Woody, Ethier, & Malet, 2012).

Continuous Assessment of Interpersonal Dynamics (CAID)

There are several advantages to assessing warmth and dominance as a continuous stream when studying social interactions. First, the overall level or average of these behaviors can be assessed in a manner that is less prone to primacy or recency effects (Stone & Shiffman, 1994). Second, continuous time-series make possible a range of analytic approaches that would be limited by chunked data, such as data yielded from ratings of individual speaking turns (e.g., Thomas, Hopwood, Woody, Ethier, & Sadler, 2014b). Furthermore, continuous data provides for the possibility that a speaker might shift in their interpersonal position during their speaking turn. Continuous data also does not make the assumption that any particular moment is more important than others, although these data can be mined after they are collected in order to focus on key aspects of the interaction (Thomas et al., 2014b).

CAID has been implemented with several different types of dyads, including unacquainted undergraduates (Markey, Lowmaster, & Eichler, 2010; Sadler et al., 2009), therapists and patients (Altenstein, Krieger, & Grosse Holtforth, 2013) mothers and children (Ansell, Thomas, Hopwood, & Chaplin, 2012; Klahr, Thomas, Hopwood, Klump, & Burt, 2013), and married couples (Thomas, 2014). This research provides insights into the dynamics that occur in these kinds of samples. However, research has not yet used CAID to address how these samples might differ from one another in terms of CAID parameters. That is the general goal of the present study.

CAID uses a joystick apparatus to plot an interaction on the IPC as it unfolds in real time (Lizdek et al., 2012; Sadler et al., 2009). In the typical design, trained coders move the joystick

in response to dominant and warm behaviors during an interpersonal interaction. The joystick allows for simultaneous vertical and horizontal movement along the axes of dominance and warmth, respectively. Coders observe an interaction twice, coding each interactant one at a time. Multiple coders typically rate the behaviors that unfold within an interaction and these ratings are aggregated to enhance reliability. Several variables can be extracted from the resulting time series in order to characterize interpersonal exchanges.

Level. One interesting variable is the average level of warmth and dominance across the interaction. Level could be used to answer a question such as whether or not women tend to be warmer than men, in general. Previous researchers have found that averaging continuous ratings, as opposed to rating an entire interaction based on global impressions, captures the nature of an interpersonal transaction with greater reliability and validity (Klahr et al., 2013; Pincus et al., 2014; Sadler et al., 2009; Tracey, 2004).

Complementarity. CAID also allows for the examination of various time series, or ratings of dominance and warmth as they track together over time. For instance, the degree to which changes in one participant's dominance are associated with changes in the other participant's dominance might be of interest and could be calculated using CAID data. The interpersonal principle of complementarity (Carson, 1969; Horowitz et al., 2006; Kiesler, 1996; Sadler et al., 2009) provides a prediction for how interaction partners' time series are likely to relate. Complementarity interactions occur when there is a negative correlation between dominance values and a positive correlation between warm values between interaction partners. This pattern would suggest that dominant and submissive behaviors may invite, elicit, or evoke the opposite, whereas warmth may lead to warmth and coldness to coldness. Computing this

variable would allow for testing hypotheses such as whether greater levels of complementarity occur among unfamiliar relative to familiar interaction partners.

While level dominance and warmth can be conceptualized as individual and dyadic variables, complementarity is exclusively a dyadic variable. In CAID analyses, complementarity could be considered as the degree to which interactants' time series correlate with one another in terms of dominance and warmth within a dyad. While level dominance and warmth could yield three values (for Person A, Person B, and Dyad AB), complementarity yields one correlation for Dyad AB.

Linear trends. CAID also allows for investigations of how levels of individuals' dominance and warmth change during the course of an interaction, independent of any momentary dynamics. Slopes can be calculated from overall time series that depict how dominance and warmth may "trend" during an interpersonal exchange. Previous CAID investigations have determined that these linear trends are related to interdependent shifts in directions that are consistent with complementarity (Sadler, Ethier, & Woody, 2011; Sadler et al., 2009). That is, as one person becomes more dominant over time, the other will become more submissive over time. Likewise, as one person becomes warmer over time, the other person will also become warmer.

Linear trends can be computed for single individuals within an interaction, as well as dyads. For instance, it is possible that in conflictual interactions, both people will tend to get colder as the interaction unfolds, whereas in more positive interactions, both people will tend to get warmer. In this case, the interaction (or dyad) becomes colder or warmer together over time. Linear trends can be calculated by correlating time with momentary dominance/warmth, with the

resulting correlation representing the overall increase or decrease in dominance/warmth as the interaction unfolds that takes into account all of the data points collected during that interaction.

Influential Factors in Interpersonal Exchanges

The present study will use four different samples to assess three parameters in CAID data: level of interpersonal behavior during the interaction, complementarity, and linear trends. I will examine the influence of individual, dyadic, and situational factors can affect interpersonal exchanges factors on these parameters.

Individual Factor: Sex. A variety of individual-level factors might be expected to impact interpersonal exchanges. Theory and research suggest that sex might be one important factor. Sex refers to the biological properties of individuals (e.g., chromosomal composition, reproductive organs, primary and secondary sex characteristics) that indicate degrees of male or female designation (Archer & Lloyd, 2002; Deaux, 1985; Unger, 1979). Sex has been shown to be significantly related to manifestations of gender (i.e., masculinity is correlated with male biological sex, and femininity is correlated with female biological sex; Buss, 1995; Doyal, 2001; Stoller, 1994). There is a strong correlation between sex and gender (Burke, 1996; Delphy, 1993).

The connection between sex and gender allows for the examination of both through an interpersonal lens. Research suggests that masculinity maps onto dominance and femininity onto communion (Gurtman & Lee, 2009; Wiggins, 1982). These findings suggest that dominance as a masculine behavior may be more strongly associated with male sex, whereas communion as a feminine behavior may be more strongly associated with female sex.

This model can be integrated with other conceptualizations of social behavior. According to social role theory (Eagly, 1995; Eagly & Wood, 1999), sex differences in social behavior are associated with roles that are reinforced and socialized from early childhood. Individuals

generally exhibit behaviors that coincide with specific roles (Koestner & Aube, 1995). For instance, women are therefore more likely to adopt patterns of communal behaviors, such as caregiving, emotional expression, and responsiveness with others, to associate with roles such as homemaker and mother. Men, on the other hand, are more likely to exhibit patterns of agentic behaviors, such as assertiveness, independence, and initiation, to associate with roles such as provider and worker. In accordance with these reinforced roles, men may exhibit more dominant and independent behaviors in social interactions, whereas women may exhibit more socially sensitive and friendly behaviors (Feingold, 1994; Sagrestano, Heavey, & Christensen, 1998).

However, empirical evidence has been mixed, and investigations have largely consisted of designs that do not investigate within-interaction exchanges. Although sex differences in mixed-sex dyads have largely been examined in cross-sectional or ambulatory designs, these results can inform hypotheses with regard to CAID analyses. Cross-sectional research suggests that women tend to be warmer than men, although the results are more ambiguous for dominance (e.g., Gurtman & Lee, 2009; Lambert & Hopwood, 2015). Ambulatory designs have yielded similarly mixed results, with some finding sex differences for both warmth and dominance in certain situations (e.g., Suh, Moskowitz, Fournier, & Zuroff, 2004) and others finding differences only for warmth (Moskowitz, Suh, & Desaulniers, 1994).

Sex differences have yet to be thoroughly evaluated using CAID analyses because of the use of same-sex pairs (Markey et al., 2010), regressing out sex differences (Klahr et al., 2013), or comparisons on the basis of therapist/patient role as opposed to sex (Altenstein et al., 2013; Thomas et al., 2014b). Sadler and colleagues (2009) found that women were significantly warmer than men, although there were no sex differences on the dimension of dominance. Nevertheless, based on the overall body of research associating both gender dimensions with sex,

I hypothesized that, in mixed-sex dyads, men would be more dominant and women would be warmer.

Dyadic Factor: Familiarity. According to Kenny (1994), there may be factors about the relationship (i.e., dyad) that mutually influence the individuals involved within interactions. One such factor is the degree to which the individuals are familiar with one another. For instance, research suggests that strangers tend to be relatively warm with one another (Sadler et al., 2009) and have relatively high levels of dominance and warmth complementarity (Markey, Funder, & Ozer, 2003; Sadler & Woody, 2003).

Social cognition theorists assert that different motivations underlie interactions with familiar and unfamiliar people. Unfamiliar interactions are associated with the *emergence* of social status, whereas familiar interactions are associated the *maintenance* of social status (e.g., Berscheid & Reis, 1998; Coie & Kupersmidt, 1983). In first encounters, social cognition is more strongly driven by warmth (i.e., the intentions of this other person) than dominance (e.g., the person's ability to carry out these intentions; Fiske, Cuddy, & Glick, 2007). Additionally, when portraying oneself to another individual for the first time, there is a strong motivation to connect, cooperate, and appear approachable (Locke, 2014).

Unfamiliar people may therefore interact in a way that is warm and interpersonally responsive, since high warmth and attunement tend to be perceived as positive social characteristics that elicit positive emotions and behavioral responses, such as admiration and association (Hatcher & Rogers, 2009; Locke, 2003). Therefore, unfamiliar relationships are more contingent upon displays of warm behaviors than familiar relationships (Cuddy, Glick, & Beninger, 2011). Additionally, because unfamiliar people may have a stronger investment in appearing agreeable and avoiding ruptures, they may be more willing to share power within an

interaction. Previous investigations suggest that people who are perceived as dominant and confident tend to evoke cooperative submission (Cuddy et al., 2011). For instance, if one interactant speaks, the other is more likely to listen politely and less likely to interrupt. Behaviors that validate both interactants are likely to be followed by reciprocations of these behaviors. Therefore, it is expected that unfamiliar dyads will reciprocate dominance behaviors in a complementary manner to a stronger degree than familiar dyads.

Alternatively, people who are familiar with one another may be relatively less concerned about being warm, cordial, and responsive. They might presume that their attachment will survive minor ruptures. Familiar interactants may also expect that, given previous exposures to the other, they are less likely to be perceived a certain way (e.g., because of attribution errors or correspondence biases; Gilbert & Jones, 1986; Ross, 1977). Thus, familiar interactants may have fewer reservations about behaving coldly or not reciprocating dominance-related behaviors in a socially normative manner. Familiar interactants are likely to have fewer qualms about voicing controversial opinions, debating with one another, interrupting, or even refusing to communicate or cooperate in a tense interaction. In fact, evidence suggests that individuals are more likely to express aggression and coldness toward the people they interact with more frequently, such as family members or significant others (Richardson, 2014). Because of this, I predict that familiar interactants will be colder overall and show less dominance complementarity.

Situational Factor: Conflict. Interpersonal theorists have posited that social interactions are also influenced by situational factors (Horowitz et al., 2006; Kiesler, 1996; Moskowitz, 2009; Snyder & Ickes, 1985). One such factor is the degree to which the situation and/or task evokes or elicits conflict. Relationship researchers have a particular interest in conflict, as it has implications for personal wellbeing and relationship stability (Bradbury & Fincham, 1990;

Brehm, Miller, Perlman, & Campbell, 2002; Canary & Cupach, 1988; Carrere & Gottman, 1999; Heyman, 2001). Interpersonal research suggests that warmth and complementarity within certain interactions differ depending on whether the task is collaborative or competitive (Markey et al., 2003; Nowicki, Fost, & Naik, 1997). In collaborative environments, interactants are likely to be more cordial and warm with one another, and this dynamic is likely to remain stable throughout the interaction. Additionally, interactants are more likely to share power with one another (i.e., alternate between dominant and submissive behaviors). It is therefore reasonable to expect that collaborative interactions would be characterized by higher warmth and stronger dominance complementarity.

Conversely, interactions that are more conflictual will likely be characterized by more coldness (e.g., Ansell et al., 2012). Additionally, because of heightened frustrations associated with the cold behavior, interactants may be less willing to share power and thus less likely to reciprocate a dominant behavior with a submissive behavior. Orford (1986) argued that, in conflictual interactions, cold-dominance is likely to evoke cold-dominance, and cold-submission is likely to evoke warm-dominance. For this reason, interactants who engage in interactions characterized by conflict are likely to exhibit less dominance complementarity than relaxed interactions. Additionally, as the interaction goes on, this coldness may compound. As two interactants discuss a contentious topic, cordialness may give way to feelings of anxiety and frustration, which may manifest in the form of colder behaviors. It might be predicted that interactants in conflict tasks will not only be colder, but will also become colder over time.

The Present Study

In the present study level dominance and warmth, complementarity, and linear trends in dominance and warmth are examined across four samples: unacquainted undergraduate students

interacting in a collaborative task, undergraduate students with a male confederate, husbands and wives in tasks that varied in terms of conflict, and mothers and children in a conflict task. These samples allowed for tests of the following factors which may impact interpersonal parameters: sex of the interactants, familiarity between the interactants, and conflict within the task. With respect to sex differences, I hypothesize that, in mixed-sex dyads, women will be warmer than men and men will be more dominant than women. With respect to familiarity, I hypothesize that unfamiliar acquaintances will be warmer overall and show more dominance complementarity than family members. With respect to conflict, I hypothesize that interactants in conflict tasks will be colder overall, show less dominance complementarity, and become colder over time relative to interactants in collaborative tasks.

Methods

Participants

Data from four samples will be used in this study. The samples are outlined in detail below. For a condensed summary of the four samples, see Table 1.

Sample 1: undergraduate-undergraduate dyads. For this sample, 366 students were recruited from psychology courses (50% men). Mean age of participants was 19.21 years (*SD* = 2.45). Overall, 78% of the participants identified as White; 11% identified as Hispanic; 4% identified as African American; 4% identified as Asian, and 3% identified as other ethnicities. The original purpose of this study was to test whether borderline personality features affect interpersonal complementarity (Hopwood, 2008). Each dyad worked together on a collaborative task for twenty minutes.

Sample 2: undergraduate-confederate dyads. For this sample, 63 undergraduate students were recruited from psychology courses. Overall, 60% participants identified as women. The participants largely identified as White (95%). Mean age was 19.77 years (*SD* = 1.52). The original purpose of the study was to examine how deviations from interpersonal complementarity were associated with anxiety (Schade, 2013). Participants were asked to interact with a male confederate who moved behaviorally around the four quadrants of the IPC in relatively equal amounts. Interactions between the confederate and participants lasted for 15 minutes.

Sample 3: husband-wife dyads. For this sample, 134 married heterosexual couples (268 total participants) were recruited from the community. Overall, 76% of both men and women identified as White; 11% of the men and 10% of the women identified as Hispanic/Latino; 9% of both men and women identified as African-American/Black; 4% of the men and 5% of the women identified as other ethnicities. Mean age of the women was 36.91 years (*SD* = 5.17); mean age of the men was 38.27 years (*SD* = 5.79). The purpose of this study was to evaluate

processes related to marital satisfaction and personality traits (Thomas, 2014). Participants were asked to discuss four topics: planning a vacation (*Sample 3a*), best things in their relationship (*Sample 3b*), the husbands' relationship conflicts (*Sample 3c*), and the wives' relationship conflicts (*Sample 3d*). The first two topics are considered relaxed and collaborative, while the second two topics were designed to elicit tense conversation. The discussions for Samples 3a and 3b lasted approximately 5 minutes, while the discussions for Samples 3c and 3d lasted approximately 8 minutes. .

Sample 4: mother-child dyads. For this sample, 99 pairs of mothers and their children were recruited from the community. 56% of the adolescents identified as male. 67% of the participants identified as White, and 33% identified as other ethnicities. Mean age of the adolescents was 13 years (*SD* = 2.02). The original purpose of the study was to examine interpersonal mechanisms that lead to maladaptive stress responses in parent-child dynamics (Ansell et al., 2012). Participants were asked to discuss a conflict issue and mutually come up with a solution. These discussions lasted for 10 minutes. All of the discussions were coded to determine dominance and warmth as it unfolded across the interactions.

Procedure

Videos of the dyadic interactions were coded per a coding manual based on the protocol summarized in Sadler et al. (2009). Coders used a computer joystick to continuously plot interactants' dominance and warmth using software that displays a Cartesian plane, wherein the x-axis represents warmth and the y-axis represents dominance. The scales of these axes range from 1000 to -1000, so that 1000 on each axis represents the most extreme warmth and dominance, and -1000 represents the most extreme coldness or submissiveness. The zeroes of each score range represent neither warm nor cold and neither dominant nor submissive. A dot on the Cartesian plane represents how an interactant is behaving at any given time in terms of

dominance and warmth. By using the joystick to move this dot, coders indicate various shifts in behaviors. Moving the joystick upward indicates a behavioral increase in dominance, whereas moving it to the right indicates a behavioral increase in warmth, and so on. Ratings of dominance and warmth are plotted every .5 seconds.

Ratings for each interaction were provided by multiple coders. Each coder received at least 8 hours of individual CAID training, which consisted of coding several training videos until the coders achieved alphas that reflected satisfactory inter-rater reliability (consistently above .40; Sadler et al., 2009). Coders were trained to administer ratings that were behaviorally anchored. This involved taking the following aspects of behavior into account within the context of the interaction: vocal tone, vocal volume, hand position, head gaze, facial expression, torso position, and so on. Dominant behaviors, therefore, may include louder volume, an assertive tone, an upright posture, confident gesticulations, etc. Submissive behaviors, on the other hand, may entail softer vocal tones, lowered gaze, hunched posture, etc. Warm behaviors may include leaning forward, smiling, gentle tone of voice, etc. Cold behaviors, on the other hand, may include harsher tones, looking away, frowning, etc. Coders' inter-rater reliabilities (Cronbach's alpha computed across observers) were evaluated using the benchmarks outlined by Sadler and colleagues (i.e., roughly .60 for warmth and .67 for dominance). Per our coding manual, if coders yielded inter-rater reliabilities less than .40, they received additional instruction. Once coders showed adequate inter-reliability using CAID methods, they could begin rating interactions. Coders' abilities were assessed on a weekly basis, and feedback was provided continually to ensure coders maintained satisfactory ratings.

Using the joystick, trained coders continuously rated each interactant's behavior in terms of dominance and warmth. The videos were watched and coded twice by each coder so that both

interactants could be rated separately. After ratings were administered, the first five seconds of the time series were truncated to allow coders adequate time to move their joysticks away from the neutral position and orient to the interaction (Sadler et al., 2009). Inter-reliability was then examined for each coder; if an individual coder brought the time series' alpha below .40, those ratings were omitted. Ratings across reliable coders were then aggregated to create an overall time series for each member of each dyad. All following analyses used these aggregated time series.

Data Analysis

The aim of the present study is to compare the effects of certain predictors of level dominance and warmth, complementarity, and trend within dyadic interactions. The data from two interaction partners are likely to be correlated by virtue of being in the same interaction (e.g., Kashy & Kenny, 2000). This non-independence, if ignored, can result in biased significance tests (Kenny, 1996) and therefore must be taken into consideration.

To model non-independence, individual and dyadic levels can be treated as hierarchical levels of Multilevel Models (MLM; Kashy & Kenny, 2000; Kreft, Kreft, & de Leeuw, 1998) in which outcome variables are regressed on individuals (level-1) nested in dyads (level-2). MLM takes non-independence into account by estimating dyadic correlations between residuals on dependent variables. After accounting for dependence, MLM allows for the effects of these different levels to be examined.

Predictors. The three factors of sex, familiarity, and conflict can be classified in terms of level-1 and level-2 variables. Sex would be considered a level-1 predictor because it varies within dyad. Familiarity and conflict, on the other hand, are treated as level-2 predictors because

they vary from dyad to dyad but not within dyad. Specific samples in each comparison are outlined below:

Individual sex. In general, men and women were compared to one another when they were of equal ranking (e.g., men and women in Sample 1, men and women participants in Sample 2, husbands and wives in Sample 3, and boys and girls in Sample 4). Additionally, in Sample 2, the confederate's behavior with men was compared to his behavior with women. Finally, in Sample 4, the mothers' behavior with boys was compared to their behavior with girls.

***Dyadic familiarity*.** Dyads from unfamiliar samples (Samples 1 and 2) were compared with dyads from familiar samples (Samples 3 and 4).

Situational conflict. Dyads in three non-conflict tasks (Samples 1, 3a, and 3b) were compared with dyads in three conflict tasks (Samples 3c, 3d, and 4). Because Sample 2 did not entail specific instructions that provoked collaboration or conflict, it is excluded from these comparisons.

Outcomes. The three parameters of level dominance/warmth, complementarity, and trend can also be classified in terms of multiple levels. Level dominance/warmth is a mixed variable because it can vary both from within dyads (level-1; how dominant/warm is a person) and between dyads (level-2; how dominant/warm was the interaction) basis. The same is true of trend, which is the correlation between time and level dominance/warmth. Complementarity, however, as conceptualized in these investigations, is exclusively a level-2 variable because it varies between (but not within) dyads. Analytic details are outlined below:

Level dominance and warmth. Ratings of dominance/warmth were computed from averaged momentary ratings. The averages of these time series became the composite momentary dominance/warmth ratings of each individual in the samples.

***Complementarity*.** Complementarity is calculated by correlating each individual's ratings of dominance/warmth at time one, time two, time three, and so on, yielding an overall correlation. As noted in previous CAID investigations, changes in complementarity may be influenced by linear changes in time (Sadler et al., 2009). In order to account for this, linear trends were first removed from each individual's time series before calculating complementarity correlations (Sadler et al., 2009). To detrend the time series, a time sequence variable was created. In this sequence, time one was represented as .05, time two as 1.0, time three as 1.5, and so on. This variable, representing the linear trend of time, was then regressed out of the time series for each interactant. Next, correlations were computed between each interactants' residual dominance and warmth ratings at time one, time two, time three, and so on. These correlations were then standardized using Fisher's *z* transformation (see Silver & Dunlap, 1987).

Linear trends. To calculate the relationship between dominance/warmth and time, each time series was correlated with the time sequence variable described above. These correlations were each standardized using Fisher's *z* transformation.

Estimating and testing differences. In the present study, I utilized MLM with restricted maximum likelihood (REML) to estimate intercepts for the level-1 outcomes of level dominance and warmth and trends in dominance and warmth over time. REML uses Weighted Least Squares to estimate unbiased fixed effects (intercepts), and it also adjusts for unequal sample sizes (Kashy & Kenny, 2000). MLM was also utilized to generate t-statistics that were used to compare groups and evaluate differences on the basis of individual sex, dyadic familiarity, and situational conflict.

Different analyses were utilized to estimate and test differences for the level-2 outcomes of dominance and warmth complementarity. Because MLM is only used when the outcome is

measured at level-1, differences in complementarity were estimated and tested using independent samples t-tests.

Results

Multilevel modeling with restricted maximum likelihood was used estimate level dominance and warmth, dominance and warmth complementarity, and trends in dominance and warmth as a function of individual sex, dyadic familiarity, and situational conflict. Empirical models for all analyses are listed in Table 2. Random effects (i.e., non-independence) for all samples are listed in Table 3.

Level Dominance and Warmth

Table 4 depicts the means and standard deviations for level dominance and warmth across the four samples. Overall, the undergraduate dyads were relatively submissive, the undergraduate-confederate and husband-wife dyads were relatively dominant, and the mothers and children were moderately dominant, on average. With regard to warmth, all dyads tended to be relatively warm, although to varying degrees. While the undergraduate and undergraduate-confederate dyads were moderately warm, the mother-children dyads were only slightly warm. Husband-wife dyads were considerably warmer in dyads that did not involve conflict topics.

Complementarity

Table 5 depicts dominance and warmth complementarity across the four samples. In general, even after accounting for dependence within dyads, the data still indicated considerable relationships between dominance and warmth across participants, as predicted by the principle of complementarity. Specifically, across all subsets, as one participant was dominant, the other tended to be submissive. On the other hand, when one participant was warm, the other also tended to be warm.

Dominance complementarity was particularly strong in the undergraduate-confederate sample, indicating that as one participant dominated the interaction, the other was more

submissive. On the other hand, dominance complementarity was weaker in the undergraduate-undergraduate sample, indicating that they engaged in power-sharing to a lesser degree.

Warmth complementarity was strongest in the undergraduate-undergraduate sample, indicating that as one interactant behaved warmly, the other followed suit. On the other hand, warmth complementarity was weaker in the confederate-undergraduate and mother-child samples.

Linear Trends

Table 6 depicts the changes in dominance and warmth over time across the four samples. In general, trends in dominance and warmth over time were relatively weak, with a few exceptions. For instance, when talking about the best things in their relationships, husbands and wives became moderately warmer over time. On the other hand, husbands and wives became moderately more submissive over time while discussing their personal points of conflict. Husbands and wives both became moderately colder over time when discussing conflicts. Finally, children became moderately colder over the course of interacting with their mothers.

Effects of Individual Sex Differences

Level dominance and warmth. Table 4 depicts differences in dominance and warmth as a function of sex. I hypothesized that, in mixed-sex dyads, men would be more dominant than women, while women would be warmer than men.

In the undergraduate-undergraduate sample, there were no significant sex differences in dominance. However, women were significantly warmer than men. In the undergraduate-confederate sample, with regard to participants, men were not significantly more dominant than women, and women were not significantly warmer than men. Similarly, there were no significant

differences in the male confederate's dominance with female or male participants, nor in the male confederate's warmth with participants.

In the husband-wife sample, after collapsing the four topics, the husbands were not significantly more dominant than the wives. However, the wives were marginally warmer than the husbands. There were no significant differences within topics, with one exception: the wives were significantly warmer than the husbands when discussing vacations. Contrary to hypotheses, the wives were marginally more dominant than the husbands when discussing wife conflicts.

Finally, in the mother-children sample, contrary to hypotheses, the girls were significantly more dominant than the boys. However, the girls were not significantly warmer than the boys. Contrary to hypotheses, mothers were more dominant with their sons than with their daughters. There were, however, no significant differences in the mother's warmth between daughters or sons.

Effects of Dyadic Familiarity

Level dominance and warmth. Table 7 depicts levels of dominance and warmth in unfamiliar and familiar dyads. As hypothesized, unfamiliar dyads were significantly more submissive and warmer than familiar dyads.

Complementarity. Table 8 depicts dominance and warmth complementarity in unfamiliar and familiar dyads. Contrary to hypotheses, familiar dyads exhibited significantly higher dominance complementarity than unfamiliar dyads.

Effects of Situational Conflicts

Level dominance and warmth. Table 10 depicts levels of dominance and warmth for interactants in non-conflict and conflict tasks. As hypothesized, interactants in non-conflict tasks were significantly warmer than interactants in conflict tasks.

Complementarity. Table 11 depicts dominance and warmth complementarity in non-conflict and conflict tasks. Contrary to hypotheses, dyads in non-conflict tasks did not exhibit significantly higher dominance complementarity than dyads in conflict tasks.

Linear trends. Table 12 depicts linear trends in dominance and warmth in conflict and non-conflict tasks. While correlations with time were weak overall, there were significant differences between collaborative and conflict tasks. As hypothesized, interactants in non-conflict tasks became slightly warmer over time, whereas interactants in conflict tasks became significantly colder over time.

Supplemental Results

Additional analyses were conducted to test for effects that were not hypothesized.

Level dominance and warmth. Although I did not hypothesize any differences in level dominance, results indicated that interactants in conflict tasks were significantly more dominant than interactants in non-conflict tasks (see Table 10).

Complementarity. Analyses were conducted to test for sex effects in complementarity. Mixed-sex dyads and same-sex dyads did not differ significantly in terms of dominance and warmth complementarity (see Table 5). Unfamiliar dyads exhibited significantly higher warmth complementarity than familiar dyads (see Table 8). Additionally, dyads in non-conflict tasks had significantly higher warmth complementarity than dyads in conflict tasks (see Table 11).

Linear trend. Analyses were conducted to test for sex effects in linear trends. Men and women did not differ significantly in terms of change over time (see Table 6). Familiar and unfamiliar dyads did not differ significantly in terms of linear trend in dominance, but there was a significant effect for linear trend in warmth as a function of familiarity (see Table 9). Unfamiliar dyads became significantly warmer over time, whereas familiar dyads became colder

over time. Finally, results indicated significant differences between linear trends in conflict and non-conflict tasks (see Table 12). While interactants in both non-conflict and conflict tasks became more submissive over time, interactants in the conflict tasks became significantly more submissive.

Discussion

The goal of the present study was to examine the impacts of sex, familiarity, and conflict on level of dominance and warmth, complementarity, and linear trends in dominance and warmth in four independent samples. In the following sections, discussion and implications for the findings of each of the analyses are explored.

Impacts of Sex Differences

There were three samples that featured significant sex differences. In Sample 1, women were significantly warmer than men, which aligned with my hypotheses. One might suppose from this information that women are warmer than men in unfamiliar interactions; however, in Sample 2 men and women were equally warm with the confederate. According to social role theory, it may be that collaborative and unfamiliar interactions elicit warmth from women more strongly than other types of interactions. Women may want to present themselves in a way that aligns with a responsive and caregiving role, and this may be particularly relevant when instructed to work collaboratively with a partner.

In Sample 3b, women were significantly warmer when discussing a potential vacation than men were. One might suppose from this information that women are warmer than men when discussing positive or affiliative topics; however, there were no significant differences between men and women in terms of warmth in Sample 3a, which involved discussing the best things about each couple's relationship. It may be that the intimacy of mutually reflecting on the best aspects of a relationship elicits warmth in both men and women, whereas positive but less intimate topics may elicit more warmth from women but not necessarily from men. When discussing positive and emotionally neutral topics, women are more likely to smile and laugh more than men (Hall, 1984) and express more agreement with what others have said (Carli,

1989). This coincides with social-role interpretation of women as more communal than men, particularly when the topic is positive but not necessarily relationally reflective.

Sample 4 was the third sample that exhibited significant differences based on individual sex. In Sample 4, boys were significantly more submissive than girls, contrary to hypotheses. Additionally, mothers were found to be significantly more dominant with their sons than they were with their daughters. From a dominance complementarity lens, these two findings may be related, as dominance in one interactant is typically met with submission from the other. One possible explanation for this phenomenon in the mother-child sample is that the girls spoke more than the boys. A large body of developmental literature suggests that, in general, girls are more talkative than boys (see Leaper & Smith, 2004). Dominance ratings are likely to be influenced by speaking, since all things being equal the person speaking is more dominant than otherwise.

In every other situation, however, there was a null effect for individual sex. With regard to dominance, this implies that dominance may be less associated with sex and more associated with other factors, such as role (e.g., confederate or parent). When roles were equal, however, men were not significantly more dominant than women. With regard to warmth, women were only significantly warmer than men when 1) roles were equal, and 2) situations were moderately positive and collaborative (e.g., working together on a task in Sample 1, planning a vacation in Sample 3a) but not related to mutual positive evaluation (e.g., discussing the best aspects of their relationship in Sample 3b). It may be that, holding role and conflict constant, women have a more consistent motivation to appear warm.

Impacts of Dyadic Familiarity

Results indicated that unfamiliar dyads were warmer than familiar dyads, consistent with my hypothesis. Contrary to my hypothesis, however, familiar dyads exhibited stronger

dominance complementarity than unfamiliar dyads. I hypothesized that unfamiliar dyads would be more complementary than familiar dyads because it may be expected that unfamiliar people would be more concerned about impression management, and thus more willing to share power with a stranger for the sake of maintaining harmony during a first encounter.

The weaker dominance complementarity in unfamiliar dyads may be due to multiple factors. For one thing, although there were no hypotheses with regard to the relationship between dominance and dyadic familiarity, unfamiliar dyads were also found to be significantly more submissive than familiar dyads. This could indicate that unfamiliar interactants were less likely to be too dominant, perhaps because being too assertive in first encounters could be viewed as an interpersonal risk. Assertiveness in first encounters may be conflated with over-confidence and arrogance, and individuals may strive to appear more cooperative and more easy-going (Fiske et al., 2007). Therefore, unfamiliar people may tend to be shyer and more submissive with one another. Additionally, unfamiliar people may show less variability in their initial behaviors. Less variability is associated with greater predictability, which may be part of a prosocial endeavor to connect with and be understood by others (Locke, 2014). Less variability may lead to weaker dominance complementarity, as gestures of submission may not necessarily be reciprocated with strong gestures of dominance. While unfamiliar people are more likely respond to submission with reciprocated submission, familiar people may have fewer reservations about responding to their partners' submission with dominance.

Additionally, the nature of the tasks in the unfamiliar dyads may have influenced how patterns of dominance and warmth played out. For instance, Sample 1 involved a collaborative task between unfamiliar dyads. Generally, as one interactant took the lead, the other would sit back and follow. However, there were several instances where both interactants would engage

and disengage at the same time in a rhythmic way (e.g., they would discuss the task together, then grow silent to contemplate then next steps, then re-engage by sharing ideas). Additionally, the task required interactants to read materials and write down answers, so there were times when both participants were simultaneously disengaged from one another. For these reasons, the specific nature of the task may have attenuated dominance complementarity in this sample.

In Sample 2, the confederate was instructed to move equally through the four quadrants of the IPC with the undergraduate participants to test whether different kinds of behavior would be associated with anxiety. One principle of complementarity is that both individuals mutually influence one another during an interaction. The confederate's prescribed behavior may have come across as somewhat unnatural. Sadler & Woody (2003) cautioned that using a confederate may dampen complementarity because the confederate does not respond in as fluid a manner as s/he might in a true interaction. While the confederate's actions were more dynamic than those of a scripted confederate, the task may have nevertheless prevented the confederate from reacting and responding to interactants in a fully natural way, which may have in turn influenced participant behavior.

Other interesting phenomena emerged in addition to hypothesized effects. For instance, unfamiliar dyads had significantly higher warmth complementarity than familiar dyads. I had previously hypothesized that there would be no differences in warmth complementarity, as the research has revealed that warmth complementarity is more evident than dominance complementarity across different kinds of relationships. Additionally, results indicated that unfamiliar dyads became significantly warmer over time, whereas familiar dyads became slightly colder over time, on average. Higher warmth complementary and linear trends in warmth for unfamiliar dyads are likely related. It may be that, at first, unacquainted partners are hesitant to

be too assertive in any direction. Perhaps they start out tentatively warm as a way of being cordial and testing the unfamiliar waters of a new relationship. As the interaction unfolds, the partners may respond to one another's warmth, becoming warmer both in response to one another and over time. Previous researchers found that warmth complementarity predicted dyadic liking in unacquainted partners, whereas dominance complementarity was unrelated to liking (Markey et al., 2010). It may be that a primary goal in unfamiliar relationships is to appear warm, responsive, and likeable to one's partner.

Impacts of Situational Conflict

Results indicated that interactants in conflict tasks were colder overall and grew colder during the course of interactions, supporting the study's hypotheses. Although interactants in conflict tasks were still modestly warm, they were much colder compared to interactants who were engaging in collaborative tasks. It can be presumed that conflict tasks will tend to elicit feelings of anxiety and frustration (e.g., Nowicki et al., 1997), which may take the form of colder behaviors that increase as the interaction continued.

Contrary to hypotheses, however, interactants in non-conflict tasks did not exhibit stronger dominance complementarity than those in non-conflict tasks. It seems that interactants are equally responsive to one another in terms of dominance, regardless of whether they are participating in a collaborative or a conflictual task. Additionally, although I did not make any hypotheses with regard to level dominance in conflict situations, interactants in conflict tasks were significantly more dominant than interactants in non-conflict tasks. While it may be that conflict tasks elicit dominant behavior, it is also notable that the conflict dyads include the mothers, who had the highest dominance ratings across the four samples. It may be that the mothers' dominance is driven largely by their role as opposed to the situation.

Although I did not make any hypotheses with regard to warmth complementarity in conflict situations, it is noteworthy that interactants in non-conflict tasks had significantly stronger warmth complementarity than interactants in conflict tasks. This seems to imply that, although warmth complementarity is evident in both collaborative and conflictual tasks, warmth behaviors were associated with warm behaviors in the non-conflict tasks more consistently than cold behaviors were associated with cold behaviors in the conflict tasks. One possible explanation is that the conflict tasks involve one interactant criticizing or demanding something from the other (e.g., husbands and wives each discussing points of conflict in their relationships, mothers and children disagreeing with one another). This may elicit a "demand-withdraw" pattern, in which "increased demands lead to increased avoidance, which in turn leads to increased demands for engagement" (Bradbury, Fincham, & Beach, 2000, p. 967). This pattern may be stronger in conflictual tasks, where demands are met with disengagement. The non-conflict tasks, however, were more relaxed and less demanding in nature. Following the demand-withdraw pattern, it may be that once one interactant withdraws during a conflict task, the bids for re-engagement are executed in a warm way (e.g., a cold-submissive husband is warmly encouraged by his wife). Additionally, these bids might not be met with complementary responses (e.g., a withdrawn child continues to stay withdrawn after her mother gives a friendly suggestion). This may attenuate warmth complementarity in conflict tasks.

Utility of CAID

The purpose of the present study was to evaluate the effects of certain predictors of level dominance and warmth, complementarity, and trend within dyadic interactions. CAID was specifically advantageous for these hypotheses for several reasons. Firstly, CAID methods allow for the more accurate and reliable computation of dominance and warmth ratings that were based

on codes administered every .5 seconds. This method also facilitated complementarity computations based on hundreds of ratings, rather than the correlations between two overall ratings of dominance and warmth. Finally, collecting several ratings over the course of an interaction allows for detrending and analysis of effects of time on behaviors. In general, results from this study highlight the value of using CAID as a way to measure single interpersonal interactions as they unfold in real-time. The rich, continuous data yielded from CAID techniques allows for the comparison of different interpersonal parameters (namely, levels of dominance and warmth, complementarity, and linear trends) across various types of interactions.

Another advantage of the CAID coding system is its potential for integration with other coding methods. Hopwood and Bornstein (2014) contend that multimethod behavioral assessment (e.g., self-report, other-report, behavioral ratings) allows for a more comprehensive understanding of social phenomena. CAID codes could be incorporated with other interpersonally-based coding methods, such as SASB ratings (Benjamin et al., 2006) to obtain behavioral evidence from multiple modalities. Continuities and/or discrepancies between self-report and observer ratings can lead to more nuanced understanding of complex behaviors that would be difficult to obtain from one assessment method alone (Bornstein, 1998).

CAID could also be combined with other coding systems to understand relationships between the multifaceted aspects of single interactions. Relationship researchers have utilized a variety of observational coding procedures to study phenomena in dyadic interactions (see Heyman, 2001), such as affect (Specific Affect Coding System; Gottman, 1996). Other coding systems are geared toward measuring specific types of dyads, such as romantic partners (Kategorien system fur Partnerschlaftliche Interaktion; Hahlweg et al., 1984) and married couples (Rapid Marital Interaction Coding System; Heyman & Vivian, 1993). These various

coding systems rely on different categorizations of social exchanges. For instance, the Specific Affect Coding System (SPAFF) categorizes nonverbal and verbal behaviors on the basis of specific emotional content and affects. Codes are given in accordance with "action units" that occur though facial expression (e.g., furrowing eyebrows, curling lips) and verbal communication (e.g., commands, complements; Coan & Gottman, 2007). These action units are organized into categories of positive and negative affect. Similarly, the Rapid Marital Interaction Coding System (RMICS) codes speaking turns according to four categories yielded from 37 microbehavioral codes: hostility, constructive problem discussion, humor, and responsibility discussion (Heyman, Vivian, Weiss, Hubbard, & Ayerle, 1993). Finally, the Kategorien system fur Partnerschlaftliche Interaktion (KPI) categorizes specific verbal and nonverbal behaviors on the basis of conveying positive, neutral, or negative communication styles that are treated as total scores (Hahlweg, Kaiser, Christensen, Fehm-Wolfsdorf, & Groth, 2000).

These behaviorally anchored multi-item inventories are somewhat different than CAID analyses. The former treats ratings as several discrete behaviors, while the latter treats ratings as a continuous stream. Additionally, turn-taking systems assign a particular significance or classification to certain events, while CAID treats every half-second equally. While these two types of systems differ in purpose, they can be integrated to understand how specific types of behaviors and events may be related to patterns of dominance and warmth. For instance, Ross and colleagues (in press) employed interpersonal theory to examine associations between SPAFF codes and CAID ratings. This underscores opportunities for future researchers to combine coding systems and use multi-method approaches to yield a more nuanced understanding of interpersonal behavior.

Limitations

While findings in this study provide an important stepping stone to further research on interpersonal processes, they must be understood within the context of their limitations. Firstly, as these data were collected in laboratory settings, research in natural settings is needed to further test these results. Relationship researchers have found that laboratory environments may influence how dynamics between dyads play out (e.g., Gottman, 1979).

Additionally, as previously noted, using a confederate places limits on generalizability. For one thing, patterns of complementarity did not unfold naturally between the confederate and participants. Even though the confederate was instructed to fluctuate equally in the dimensions of dominance and warmth, findings show that he was generally cold and dominant, indicating his behavior was not equally distributed along the dimensions. One of the goals of the original study was to evaluate whether coldness or dominance complementarity impacted anxiety. While participant responses to non-complementary behavior are an interesting empirical question, the study design places limitations on understanding overall patterns as they unfold naturally. Future investigations may utilize confederate designs in which particular parameters (e.g., complementarity) can be isolated with greater fidelity.

Another limitation is the restricted contexts and combinations of factors examined. For instance, familiarity was only examined in two contexts: completely unfamiliar and intimately familiar. Treating familiarity as a spectrum may provide meaningful information about how patterns of dominance and warmth play out in different kinds of relationships. Future studies could use "fairly familiar" dyads (e.g., friends, roommates) to further understand the moderation effects of familiarity. Additionally, there were no situations where unfamiliar dyads were instructed to engage in a conflict task. Researchers could incorporate both familiar and

unfamiliar dyads in collaborative and conflictual tasks to evaluate whether there are interaction effects.

Implications and Future Directions

Despite these limitations, the present study made contributions to a growing body of literature related to interpersonal processes and how they unfold from one moment to the next. The present study has unique implications related to the process of assessing and interpreting patterns of dominance and warmth during social interactions. Findings demonstrate that using CAID and MLM provides a way to understand the processes that underlie interpersonal exchanges. These methods have revealed more information about how strangers navigate first impressions, how partners respond during conflicts, and how mothers and children handle disagreements. Each of these interactions are associated with different patterns of dominance and warmth, two key interpersonal dimensions. The sex of the interactants, the familiarity between the interactants, and the situational context have all been shown to influence how patterns of dominance and warmth play out. By understanding more about the interplay between these factors and patterns, it may be possible to make predictions about an interaction based its features. The present study not only adds to a growing body of literature associated with moment-by-moment interpersonal processes, but it also underscores promising avenues for future investigations of differences within and between several kinds of relationships that are an important and meaningful part of the human experience.

In summary, I sought to examine the impacts of sex, familiarity, and conflict on levels of dominance and warmth, complementarity, and trends in dominance and warmth over time. The effects of individual sex differences were relatively limited, whereas dyadic familiarity and situational conflict were associated with significant impacts on patterns of dominance and warmth. Unfamiliar dyads were significantly more submissive, warmer, less complementary on

dominance, more complementary on warmth, and warmer over time than familiar dyads. Interactants in conflict tasks were significantly more dominant, colder, less complementary on warmth, less dominant over time, and less warm over time than interactants in non-conflict tasks.

APPENDIX

Table 1 Descriptions of Samples in the Present Study

	Dyads	Interaction Length	Sex	Familiarity	Conflict
Samples					
Undergraduate-Undergraduate	183	20 minutes	Mixed	-	-
Confederate-Undergraduate	63	15 minutes	Mixed/Same	-	N/A
Husband-Wife	134	4 interactions 8 minutes each	Mixed	+	+/-
Mother-Child	99	10 minutes	Mixed/Same	+	+

Table 2 Intercept Models by Sex, Familiarity, and Conflict

Sex: coded as women = 0, men = 1
Level
Undergraduate-Undergraduate
DOM: -35.25 + 26.84(sex)
WRM: 175.48 – 25.89(sex)
Undergraduate-Confederate
DOM: -24.61 – 20.06(sex) + 120.63(role) + 33.71 (sex)*(role)
WRM: 157.83 + 5.55(sex) – 88.57(role) – 6.41 (sex)*(role)
Husband-Wife
DOM: 41.75 – 5.95(sex)
WRM: 116.36 – 13.35(sex)
Mother-Child
DOM: -50.1 – 83.60(sex) + 344.40(role) + 136.58(sex)*(role)
WRM: -32.50 + 36.02(sex)+ 57.39(role) – 43.48(sex)*(role)
Familiarity: coded as unfamiliar = 0, familiar = 1
Level
DOM: -7.69 + 57.17(familiarity)
WRM: 149.92 – 57.55(familiarity)
Complementarity
DOM: -.55 - .12(familiarity)
WRM: .54 - .07(familiarity)
Trend
DOM: -.02 - .03(familiarity)
WRM: .03 - .09(familiarity)
Conflict: coded as collaborative = 0, conflict =1
Level
DOM: 10.78 + 50.93(conflict)
WRM: 160.02 – 113.40(conflict)
Complementarity
DOM: -.60 - .03(conflict)

Table 2 (cont'd)

WRM: .54 - .12(conflict)

Trend

DOM: -.02 - .06(conflict)

WRM: .05 - .21(conflict)

Table 3 Random Effects (Non-Independence) across Four Samples

	Dominance	Warmth
Undergraduates	-.28	.74
Undergraduates and Confederate	-.70	.22
Husbands and Wives		
Best Things	-.41	.70
Vacation	-.65	.50
Husband Conflict	-.63	.69
Wife Conflict	-.44	.71
Mothers and Children	-.55	.71

Note: Random effects are reported above as the correlations of the unexplained variance between outcome variables of individuals within a dyad. Correlations reported are the CHS rho statistics yielded from MLM.

Table 4 Individual Differences in Dominance and Warmth across Four Samples

	Dominance		Warmth	
	M	*SD*	*M*	*SD*
Undergraduates				
Dyad	-22.89	146.18	166.54	84.99
Interactants				
Men	-8.41	152.87	149.59	81.16
Women	-35.25	138.28	175.48	86.96
$t(d)_{182}$	1.56(.18)		-6.23(-.30)**	
Undergraduates and Confederate				
Dyad	39.68	135.79	123.15	74.81
Interactants				
Undergraduates	-34.64	125.67	160.60	54.82
Confederate	102.85	110.72	68.82	63.72
$t(d)_{61}$	-6.52(-1.16)**		8.67(1.54)**	
Male participants	-44.67	126.86	163.38	54.88
Female participants	-24.61	125.94	157.82	55.40
$t(d)_{61}$	-.62(-.16)		.39(.10)	
Confederate w/ men	109.67	129.35	68.39	57.42
Confederate w/ women	96.02	98.04	69.25	68.30
$t(d)_{61}$	.61(.12)		-.33(-.01)	
Married Couples				
Overall				
Dyad	38.77	162.88	109.68	140.58
Interactants				
Husbands	35.80	165.63	103.01	142.47
Wives	41.75	160.22	116.36	138.49
$t(d)_{139}$	0.21(.04)		-1.88†(-.10)	

Table 4 (cont'd)

Best Things					
Dyad		0.41	154.21	157.31	116.46
Interactants					
	Husbands	2.94	155.97	155.24	109.09
	Wives	-2.06	152.98	162.28	123.72
	$t(d)_{139}$	.21(.03)		-.88(-.06)	
Vacation					
Dyad		65.27	167.16	163.53	126.40
Interactants					
	Husbands	65.23	167.69	145.71	137.73
	Wives	65.22	167.26	171.27	112.68
	$t(d)_{139}$	.00(.00)		-2.35(-.20)**	
Husband Conflict					
Dyad		42.07	177.68	61.59	155.22
Interactants					
	Husbands	51.50	179.62	56.08	157.03
	Wives	32.33	176.15	66.36	153.88
	$t(d)_{139}$	.68(.11)		-.97(-.07)	
Wife Conflict					
Dyad		47.84	144.40	63.66	127.34
Interactants					
	Husbands	25.94	152.40	58.01	129.71
	Wives	66.05	133.49	68.08	125.20
	$t(d)_{139}$	-1.92†(-.28)		-1.19(-.08)	
Mothers and Children					
Dyad		196.72	282.31	15.58	200.69
Interactants					
	Mothers	320.75	144.68	21.16	179.16
	Children	-91.90	227.65	-14.50	219.68

Table 4 (cont'd)

$t(d)_{97}$	12.78(2.16)**		.66(.18)	
Boys	-133.69	31.19	3.51	192.15
Girls	-50.11	32.81	-32.50	247.35
$t(d)_{97}$	-4.29(-2.61)**		.81(.16)	
Mothers w/ daughters	294.29	133.22	24.89	173.24
Mothers w/ sons	347.21	151.20	17.42	185.96
$t(d)_{97}$	-2.50(-.37)*		1.42(.04)	

Note: T-statistics and effect sizes refer to within-group differences. †p<.10. *p<.05. **p<.01.

Table 5 Average Dominance and Warmth Complementarity across Four Samples

	Dominance		Warmth	
	M	*SD*	*M*	*SD*
Undergraduates	-.41	.37	.53	.36
Undergraduates and Confederate	-.70	.23	.35	.23
Confederate and Men	-.88	.17	.39	.21
Confederate and Women	-.87	.27	.35	.24
Husbands and Wives				
Best Things	-.71	.46	.46	.36
Vacation	-.50	.37	.48	.32
Husband Conflict	-.62	.43	.45	.35
Wife Conflict	-.55	.44	.44	.33
Mothers and Children	-.45	.32	.29	.24
Mothers and Boys	-.50	.35	.28	.23
Mothers and Girls	-.46	.32	.33	.25

Note: Means represent the averages Pearson correlations between interactants across all dyads within a sample. These correlations were Fischer-transformed prior to averaging, and reverse-transformed for presentation in the table.

Table 6 Linear Trends in Dominance and Warmth across Four Samples

	Dominance		Warmth	
	M	*SD*	*M*	*SD*
Undergraduates				
Men	-.09	.42	-.02	.51
Women	.01	.41	.05	.47
Dyads	-.04	.42	.01	.49
Undergraduates and Confederate				
Undergraduates	-.02	.24	.08	.29
Confederate	.07	.20	.05	.29
Dyads	.03	.22	.05	.29
Husbands and Wives				
Best Things				
Husbands	.00	.60	.15	.60
Wives	-.07	.57	.19	.61
Dyads	-.03	.59	.17	.60
Vacation				
Husbands	-.02	.54	-.02	.53
Wives	.04	.54	-.02	.53
Dyads	.01	.54	-.02	.53
Husband Conflict				
Husbands	-.21	.43	-.19	.57
Wives	.01	.45	-.20	.58
Dyads	-.10	.45	-.20	.58
Wife Conflict				
Husbands	-.03	.49	-.13	.54
Wives	-.18	.41	-.17	.55
Dyads	-.11	.45	-.15	.54

Table 6 (cont'd)

Mothers and Children

Mothers	-.01	.38	-.04	.45
Children	-.08	.39	-.22	.50
Dyads	-.05	.39	-.12	.48

Note: Means represent the averages Pearson correlations with time across all dyads within a sample. These correlations were Fischer-transformed prior to averaging, and reverse-transformed for presentation in the table.

Table 7 Levels of Dominance and Warmth in Unfamiliar and Familiar Dyads

	Dominance		Warmth	
	M	*SD*	*M*	*SD*
Unfamiliar Dyads	-7.69	145.55	149.92	85.06
Familiar Dyads	49.48	188.66	92.56	156.37
t_{873}	-8.44**		5.93**	
d_{873}	-.34		.46	

Note: †p<.10. *p<.05. **p<.01.

Table 8 Complementarity in Unfamiliar and Familiar Dyads

	Dominance		Warmth	
	M	*SD*	*M*	*SD*
Unfamiliar Dyads	-.55	.41	.54	.36
Familiar Dyads	-.66	.46	.46	.35
t_{873}	3.52**		2.77**	
d_{873}	.25		.23	

Note: †p<.10. *p<.05. **p<.01.

Table 9 Linear Trends in Dominance and Warmth for Unfamiliar and Familiar Dyads

	Dominance		Warmth	
	M	*SD*	*M*	*SD*
Unfamiliar Dyads	-.03	.38	.03	.45
Familiar Dyads	-.06	.47	-.06	.56
t_{873}	1.50		2.18*	
d_{873}	.07		.18	

Note: †p<.10. *p<.05. **p<.01.

Table 10 Levels of Dominance and Warmth in Non-Conflict and Conflict Tasks

	Dominance		Warmth	
	M	SD	M	SD
Non-conflict Tasks	10.18	159.17	160.03	107.95
Conflict Tasks	61.70	203.67	46.62	161.81
t_{873}	-7.78**		13.04**	
d_{873}	-.28		.82	

Note: †p<.10. *p<.05. **p<.01.

Table 11 Complementarity in Non-Conflict and Conflict Tasks

	Dominance		Warmth	
	M	SD	M	SD
Non-conflict Tasks	-.60	.46	.54	.37
Conflict Tasks	-.63	.44	.43	.34
t_{810}	.82		4.61**	
d_{810}	.07		.31	

Note: †p<.10. *p<.05. **p<.01.

Table 12 Linear Trends in Dominance and Warmth for Non-Conflict and Conflict Tasks

	Dominance		Warmth	
	M	SD	M	SD
Non-conflict Tasks	-.03	.48	.05	.54
Conflict Tasks	-.10	.41	-.16	.59
t_{873}	3.14**		5.39**	
d_{873}	.16		.37	

Note: †p<.10. *p<.05. **p<.01.

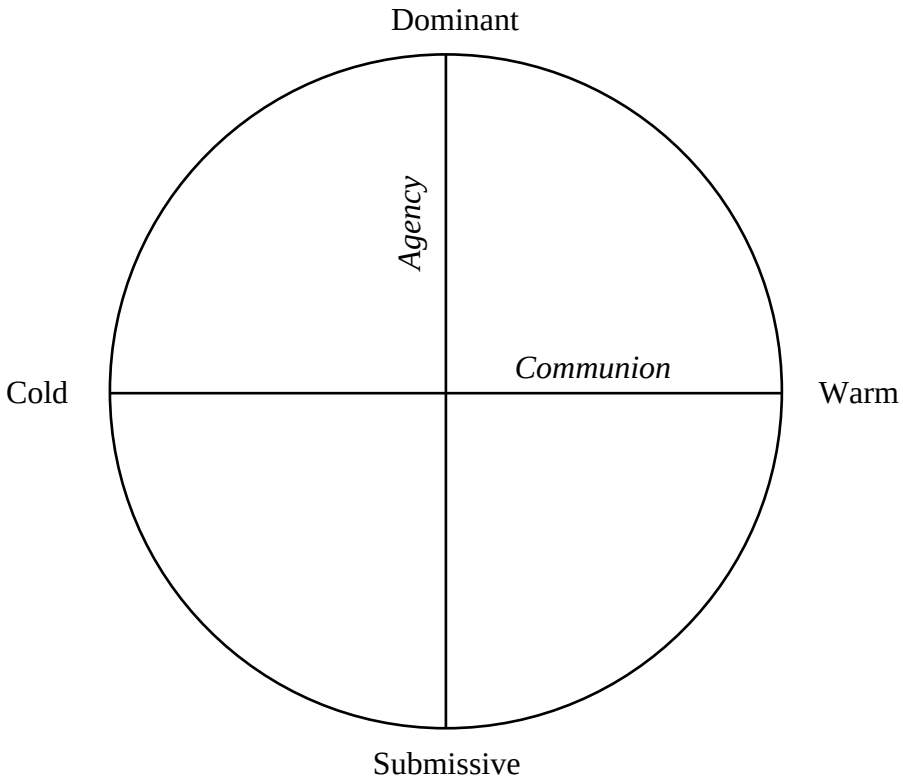

Figure 1 The Interpersonal Circumplex

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