AN INTERPERSONAL APPROACH TO SOCIAL PREFERENCE: EXAMINING PATTERNS AND INFLUENCES OF LIKING AND BEING BOTHERED BY INTERPERSONAL BEHAVIORS OF OTHERS

by

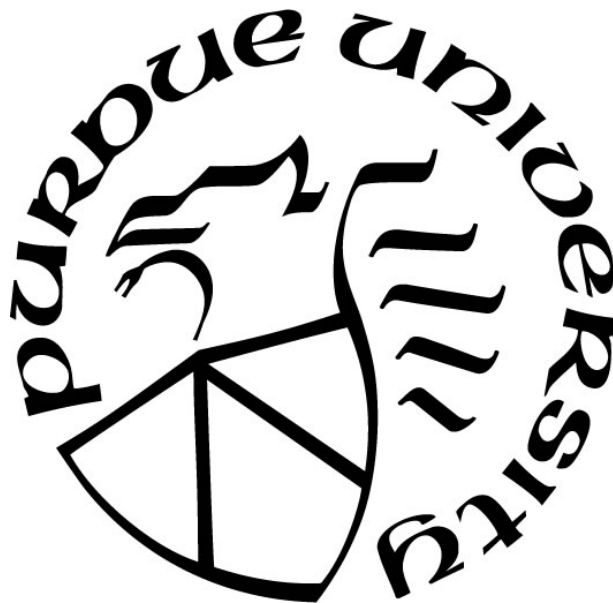**Tianwei V. Du**

A Thesis

Submitted to the Faculty of Purdue University

In Partial Fulfillment of the Requirements for the degree of

Master of Science

Department of Psychological Sciences

West Lafayette, Indiana

May 2019

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ABSTRACT

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Degree Received: May 2019
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　　　Influences of Liking and Being Bothered by Interpersonal Behaviors of Others
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Interpersonal researchers have primarily assessed interpersonal behaviors using self-ratings of one's own behaviors and third-person ratings of dyadic interactions. Only a limited number of researches have studies how individuals perceive others' interpersonal behaviors in social situations. Using a sample of 470 undergraduate students, we examined patterns of liking and being bothered by others' interpersonal behaviors as well as influences of these patterns on individuals' psychological functioning. Our findings showed that people tend to like interpersonal behaviors that are the most similar to their own and get bothered by behaviors that are the least similar to their own. Such pattern is more characteristic on the warmth dimension than the dominance dimension and is consistent across different levels of intimacy between the evaluator and the subject being evaluated. We also found small but significant effect of interpersonal preference on social support, interpersonal problems, negative affect, and detachment, above and beyond effects of individuals' own interpersonal traits. Findings suggest that perception of others' interpersonal behaviors relates specifically to one's own interpersonal traits, and these patterns of interpersonal perception have unique associations with one's own affective and interpersonal experiences. Such findings highlight the importance of including perception of other's in investigating interpersonal dynamics.

INTRODUCTION

Introduction to the Interpersonal Circumplex

Interpersonal relationships have a large impact on personality development and psychological well-being and have long been an interest of personality, clinical, and social psychology researchers (Henry, Schacht & Strupp, 1986; Gurtman, 2009; Locke et al., 2016; Tracy, 1993). Contemporary interpersonal theories are organized around the Interpersonal Circumplex (IPC; Leary, 1957; Wiggins, 1982), which structures interpersonal interactions using two orthogonal dimensions: agency (dominance to submissiveness) and communion (warmth to coldness). The circular structure of the IPC allows researchers to map any interpersonal behavior on the circle using a combination of warmth and dominance (see Figure 1). For example, when listening to someone talk, one might frequently interject to share similar personal experiences (warm-dominance), be quiet and seemingly distant or disinterested (cold-submissiveness), or even be on the phone ignoring the speaker (higher degree of cold-submissiveness). Thus, the orthogonal dimensions of the IPC permit researchers to readily classify the type (degree of warmth and dominance) and the intensity (distance from the center of the circle) of interpersonal behaviors.

Assessing Idiosyncratic Experiences of Perceiving Others' Interpersonal Behaviors

Prior research on the IPC has focused primarily on two assessment methods: the first one is through self-report measures on different domains of interpersonal functioning. For example, the *International Personality Item Pool-Interpersonal Circumplex* (IPIP-IPC; Markey & Markey, 2009) measures interpersonal behaviors that people tend to display in general (i.e. traits), the *Inventory of Interpersonal*

Problems-Short Circumplex (IIP-SC; Soldz et al., 1995) measures interpersonal

behaviors that people often encounter problems with, and the *Circumplex Scales of*

Interpersonal Efficacy (CSIE; Locke & Sadler, 2007) measures interpersonal behaviors

people think they are good at. Researchers often employ these measures to investigate

how different aspects of interpersonal behaviors relate to critical constructs associated

with individuals' day-to-day functioning such as personality, psychopathology, and

relationship satisfaction (Dawood & Pincus, 2016; Pincus & Gurtman, 2003; Wiggins,

2003).

Another more recently developed method of assessing interpersonal behaviors

using IPC focuses on dyadic interactions as a whole and collects information from

interactants moment-to-moment. Using the Continuous Assessment of Interpersonal

Dynamics (CAID; Sadler et al., 2009), individuals' interpersonal behaviors are evaluated

in real-time generating a string of scores across numerous timepoints for both warmth

and dominance using aggregated scorings across multiple raters. This method allows

researchers to record and analyze the dynamic exchanges of interpersonal behaviors in a

controlled environment of interaction, often also under a specified context (e.g.

discussing a conflict topic). Prior research has associated momentary dyadic interpersonal

patterns with multiple relationship and mental health outcomes such as relationship

satisfaction and depressive symptoms (Lizdek, Woody, Sadler & Rehman, 2016; Thomas

et al., 2014).

Although existing methods of assessing IPC-related behaviors yield extensive

findings on both within-person interpersonal behaviors and third-person observations of

dyadic interactions, limited studies or assessment tools have focused on the subjective

experiences of the interpersonal behaviors of other people. In other words, existing methods allow interpersonal researchers to study third-person ratings of interpersonal interactions as well as individuals' own behaviors in interpersonal interactions. However, not many tools allow researchers to study how individuals experience others in interpersonal relationships. One measure was developed to assess an individual's experience of others' interpersonal behaviors within the IPC in addition to assessments targeting an individual's interpersonal behavior/style: The Interpersonal Sensitivity Circumplex (ISC; Hopwood et al., 2011). This measure examines interpersonal behaviors of others that individuals find bothersome. Studies using this measure suggest we might make incorrect assumptions on how interpersonal theories apply to how individuals view others. For example, with respect to dominance, people find behaviors opposite to their own the most aversive, whereas interpersonal theory predicts they would find dominance behaviors opposite their own more preferable. Given that interpersonal interactions constitute major parts of our daily lives, our evaluation of others' interpersonal behaviors may influence our daily experiences. Thus, it would be meaningful to further evaluate individuals' perceptions of other people's interpersonal behaviors, as well as how such experiences may relate to people's psychological functioning in major life domains. More specifically, how do people experience others' behaviors in social interactions? Do certain types of interpersonal behaviors elicit consistent patterns of negative or positive judgements? Are these judgements associated with individuals' mental health? For example, do people who get bothered frequently by others' warmth tend to experience more negative affect?

Patterns of Preferences for Interpersonal Partners From Previous Research

When interacting with others, how do people perceive the interpersonal behaviors of others? Previous IPC literature has explored bothersome behaviors perceived in social interactions and found that people tend to get bothered by their interpersonal opposites using a validated measure (Hopwood et al., 2011), but few studies have systematically explored behaviors that people find likable.

Interpersonal theories suggested that in the IPC framework, each interpersonal style tends to evoke a predictable response from others, and such patterns may inform interpersonal preferences: on the communion dimension, warmth tends to invite warm behaviors and coldness tends to invite cold behaviors; on the agency dimension, dominance tends to prompt submissive responses and submissiveness tends to prompt dominant responses. Such patterns of interactional behaviors in which interactants' warmth mirrors and interactants' dominance reciprocates are known as complementarity. Complementary patterns of interpersonal behaviors have consistently been observed (Carson, 1969; Sadler, Ethier, Gunn, Duong, & Woody, 2009; Tracey, 2004) and are associated with better relationship outcomes (Markey, Funder, & Ozer, 2003; Sadler & Woody, 2003; Tracey, Ryan, & Jaschik-Herman, 2001). As a result, it seems reasonable to think that individuals would find interpersonal behaviors that are the most complementary to their own the most likable.

While interpersonal theories support that complementarity would lead to positive relationship outcomes, a great amount of social psychology literature have supported a similarity effect (Byrne, 1997), which suggests that increased similarity with a target person would lead to increased attraction (i.e. liking) toward the person. A meta-analysis

has suggested large effect sizes of the similarity effect, with interpersonal attraction associated strongly with both actual similarity ($r = .47$) and perceived similarity ($r = .39$) (Montoya, Horton, & Kirchner, 2008), supporting the idea that people tend to evaluate similar attributes positively. At the same time, dissimilar attributes are theorized and found to be evaluated less positively and result in negative evaluations of others (Nangle, Erdley, Zeff, Stanchfield & Gold, 2004). The pattern of liking similar others and disliking dissimilar others were found to emerge as early as infancy (Hamlin, Mahajan, Liberman & Wynn, 2013), and evidence of the effect has been shown across different types of similarities, such as personality traits (Klohnen & Luo, 2003; Wallace, Grotzinger, Howard & Parkhill, 2015), attitudes (Bond, Byrne, & Diamond, 1968; Reid, Davis & Green, 2013) and social values (Launay & Dunbar, 2015; Lewis & Walsh, 1979).

So when we focus specifically on interpersonal patterns and traits, between interpersonal complementarity and the similarity-attraction effect, which effect would be more prominent in people's evaluation of others? The two theories align on the warmth dimension with both suggesting that warm people would like others who are also warm, but what would the pattern be on the dominance dimension? Do dominant people tend to like submissive people because they leave more space to dominate the situation, or do they like other dominant people because they are more similar to themselves?

Prior studies show mixed evidence. Dryer and Horowitz (1997) conducted a study on individuals' satisfaction in dyadic interactions with a stranger, and results of the study showed that individuals tend to be more satisfied when interacting with partners who employ behaviors that are complementary to their own. However, satisfied participants tended to perceive their partners as more similar to them, even if they were behaviorally

dissimilar, suggesting potential discrepancies across methods with respect to whether complementary behaviors are associated with satisfaction. Some studies also suggested the role of similarity goes beyond subjective perception and people tend to find those who are actually similar to themselves the most likable. Tenney, Turkheimer, and Oltmanns (2009) collected data from 844 Air Force recruits who were randomly assigned into peer groups and spent six weeks together, and they used a measure that strongly measure that informs interpersonal patterns strongly (the Multi-source Assessment of Personality Pathology; Oltmanns & Turkheimer, 2006) to assess traits. Results suggested that individuals tended to like those who shared similar traits with them, even after controlling for the social desirability of the traits. In other words, people like those who are similar to them instead of those who are considered likable in general, even if those similarities fall on socially undesirable traits. Overall, while complementarity patterns in dyadic interactions seem to inform better relationship outcomes and more positive experiences in relationships, evidence for the similarity effect is more prominent.

Aims of the Current Project

In the current project, our major aim was to extend current interpersonal research findings on individuals' experiences in perceiving others' behaviors. More specifically, we aimed to examine the relation between one's own interpersonal style and the interpersonal styles one likes and gets bothered by in others. Based on prior research, we hypothesized that people would generally get bothered by behaviors that are opposite of their own and like behaviors that are similar to their own. Given a mixed evidence of complementarity and similarity, we hypothesized that patterns of liking similar behaviors

of one's own would be stronger on the warmth dimension than on the dominance dimension.

We also wanted to explore how people's perception of others' behaviors might change across different levels of relationship closeness. In particular, we aimed to examine whether people evaluate their intimate friends the same way they evaluate general acquaintances. The study of Hopwood and colleagues (2011) on sensitivities to others' interpersonal behaviors tested the interpersonal sensitivities across different relationship context: acquaintances, friends and romantic partners. Findings from this study suggested that overall, people tend to be more bothered by others who are closer to them than acquaintances in face-to-face interactions. The researchers also found that people tend to be highly bothered by acquaintances' affection and romantic partners and friends' remoteness. Overall, the study suggested distinct differentiations in interpersonal sensitivities across relationship contexts lie primarily on whether the relationship is considered intimate. However, few other studies have examined whether people evaluate interpersonal behaviors of their close ones the same way they evaluate acquaintances' behaviors in general. Broader literature outside of the IPC also showed mixed evidence as to whether individuals would perceive familiar ones more positively or more negatively than strangers: some researchers found that people tend to like those with whom they spend more time (Reis et al., 2011), while others found that familiarity may lead to increased contempt (Norton, Frost & Ariely, 2007). In close relationships, it seems possible that the extensive exposure to a close one would highlight what is likable about the person, and also maximize aspects that are annoying or bothersome. In the current study, we explored potential differences between level of intimacy by having participants

evaluate interpersonal behaviors of general acquaintances and intimate friends. We chose friendship as our target intimate relationship in this study because people engage in friendships in a more voluntary manner compared to romantic and family relationships. Instead of being bounded by genetic ties or responsibilities in exclusive relationships, people have more freedom to choose their friends. We aimed to examine whether differences across levels of intimacy observed in interpersonal sensitivities (i.e. patterns of being bothered by others' interpersonal behaviors) would replicate, and whether there will be any differences when individuals rate behaviors that they like in others with different levels of intimacy. More specifically, we aimed to answer two exploratory questions: first, we wanted to explore whether the degree of liking and being bothered by specific behaviors would be stronger in evaluating intimate friends; second, we wanted to explore whether there is any difference in the types of behaviors people report liking and being bothered by when rating intimate friends versus when rating general acquaintances.

Given our primary aim of examining patterns of liking and being bothered by others' behaviors, one question that was brought to our attention is whether patterns of liking and being bothered would be the opposite of each other. To minimize any artificial differences posed by differences in the content of items when assessing liking and being bothered by others' interpersonal behaviors, we utilized the same set of interpersonal adjectives (i.e. IAS-R; Wiggins, Trapnell & Phillips, 1988) across all five assessment contexts (i.e. self-evaluation, liking intimate friends' behaviors, liking general acquaintances' behaviors, being bothered by intimate friends' behaviors, being bothered by general acquaintances' behaviors) to allow for direct comparisons. These parallel interpersonal adjective scales allowed us to explore to what extent do ratings for liking

and being bothered by others' interpersonal behaviors relate, and whether they should be conceptualized as the same construct.

Another aim of this current study was to explore how liking and being bothered by others' behaviors associate with individual's psychological outcomes. Negative interactions in day-to-day life can add more mental health risks. At the same time, positive interactions can serve as protective factors for those vulnerable to stress and psychopathology (King & Terrance, 2006; Nezlek, Imbrie & Shean, 1994; Pittman & Richmond, 2008). As a result, people's experiences in perceiving others' interpersonal behaviors may influence their psychological functioning. For example, liking people who are cold may reflect people's preferred social boundaries as more distant than the norms, and thus these people may have more trouble establishing healthy and supportive relationships than others and have trouble being too cold in social situations. In the current study, we chose stress level, general well-being, perceived social support, personality pathology, and interpersonal problems as our psychological outcome variables. We included interpersonal problems in addition to the other general measurement of psychological outcomes because it measures the difficulties that individuals tend to encounter in social interactions and can serve as powerful predictors of psychopathology. It is important to examine how liking and being bothered by others' interpersonal behaviors associate with the problems people tend to encounter in interactions. We aimed to explore whether liking and being bothered by others' interpersonal behaviors would account for variance in psychological outcomes above and beyond what can be explained by one's own interpersonal styles. Given the effect is likely coming from negative and positive experiences in day-to-day social interactions,

patterns of liking and being bothered by intimate friends' behaviors were theorized to be

more impactful than preferences on general acquaintances' behaviors.

METHOD

Participants

We recruited 607 undergraduate psychology students through Purdue's SONA System, and participants received course credits for their participation. We excluded responses that missed two out of seven attention checks or two out of six infrequency checks in the survey and the final sample consisted of 470 participants, among which 49.4% identified as a woman and 71.9% identified as White. The sample age ranged from 17 to 30 ($M = 18.98$; $SD = 1.24$).

Measures

Evaluation of Interpersonal Behaviors

We measured interpersonal traits using the Revised Interpersonal Adjective Scales (IAS-R; Wiggins, Trapnell & Phillips, 1988). The IAS-R includes 64 adjectives that are used to describe people's personal characteristics (e.g. "Tender", "Cheerful"), and participants were asked to rate how accurate these adjectives describe their characteristics on an 8-point Likert scale ranging from 1 (extremely inaccurate) to 8 (extremely accurate). Cronbach's alpha for the octants ranged from .76 to .93 ($M = .87$)

We measured liking and being bothered by others' interpersonal behaviors using IAS-R to allow parallel comparison with the self-evaluation, and we instructed participants to rate how much they get bothered by or like these characteristics in others. The adjusted IAS-R for both bothersome and likable behaviors were measured on an 8-point Likert scale ranging from 1 (not at all, never bothers me) to 8 (extremely, always bothers me) or 1 (Not at all, I never like it) to 8 (Extremely, I always like it). For being

bothered, Cronbach's alpha for the octants ranged from .68 to .92 ($M = .86$). For liking, Cronbach's alpha for the octants ranged from .63 to .93 ($M = .82$)

Perceived Support

We measured friendship quality with a specific friend using the Multidimensional Scale of Perceived Social Support (Zimet, Dahlem, Zimet & Farley, 1988), a 12-item scale that asks participants to rate level of perceived social support from family, friends, or significant other on an 7-point Likert scale ranging from 1 (Very Strongly Disagree) to 7 (Very Strongly Agree), include items such as "There is a special person who is around when I am in need." Cronbach's alpha for the family, friends, and significant other dimensions were .96, .91, .93, respectively. Family support and friend support ($r = .59$, $p < .001$), family support and significant other support ($r = .48$, $p < .001$), friend support and significant other support ($r = .58$, $p < .001$) all correlated moderately and significantly. We used the sum of scores from all three dimensions to calculate the overall perceived social support.

Psychological Functioning

We measured multiple aspects of psychological functioning including stress level, personality pathology, interpersonal problems, and overall well-being. Stress level was measured using the Perceived Stress Scales (PSS; Cohen, Kamarck & Mermelstein, 1994), a 10-item, 5-point Likert scale ranging from 0 (Never) to 4 (Very Often). The PSS measures how frequent individuals experience stressful feelings or thoughts, includes items such as "In the last month, how often have you felt that you were unable to control the important things in your life?" Cronbach's alpha for this measure was .88.

Personality pathology was measured using the Personality Inventory for DSM-5—Brief Form (PID-5-BF; Krueger et al., 2013), a 25-item, 4-point Likert scale ranging from 0 (Very False or Often False) to 3 (Very True or Often True). The PID-5-BF includes statements that describes pathological thoughts and feelings that are associated with maladaptive personality, such as "I fear being alone in life more than anything else". (negative affect domain). Cronbach's alpha was .77 for negative affect, .69 for detachment, .66 for antagonism, .82 for disinhibition, and .77 for psychoticism.

Interpersonal problems were measured using the Interpersonal Problems-Short Circumplex (IIP-SC; Soldz et al., 1995), a 32-item, 5-point Likert scale ranging from 0 (not at all) to 4 (extremely). The IIP-SC measures interpersonal behaviors that often cause problems to individuals, includes items such as "It is hard for me to confront people with problems that come up." (submissiveness octant). Cronbach's alpha for the octants ranged from .69 to .86 ($M = .79$)

Overall psychological well-being was measured by the Scale of Psychological Well-being (SPWB; Ryff & Keyes, 1995), a 18-item, 6-point Likert scale ranging from 1 (Strongly Disagree) to 6 (Strongly Agree), includes items such as "In general, I feel I am in charge of the situation in which I live." Cronbach's alpha for this measure was .82.

Procedures

Participants were asked to fill out a questionnaire including the above measures using Qualtrics. At the beginning of the survey, participants were introduced to the study via an online script, followed by a consent form. The survey included seven attention checks (e.g. select "very accurate" for this item) and six infrequency items (e.g. I enjoy having fun sometimes) to ensure that participants are paying attention to the items.

Participants who endorsed two or more infrequency items or failed to answer two or more attention check items correctly were excluded from the study.

Participants rated their own interpersonal behaviors, their tendency of being bothered and liking interpersonal behaviors of general acquaintances, and their tendency of being bothered and liking interpersonal behaviors of intimate friends. These three sets of measures were randomly ordered to reduce a priming effect. Participants were presented with circle figures that depict social relationships, where the central circle represents the person filling out the measure and the distances from the center represent different levels of closeness of the relationship. We used arrows pointing to inner part of the circle (representing intimate friends whom participants feel the closest to and interact on a regular basis) or outer part (representing general acquaintances whom participants don't consider particularly close to them) of the circle to direct participants to evaluate interpersonal behaviors of people across different levels of intimacy.

After completing all the measures regarding evaluation of interpersonal behaviors, participants were asked to complete scales that evaluate all the psychological functioning variables. At the end of the survey, participants were asked to fill out basic demographic information.

Analyses

To examine associations between individuals' own interpersonal behaviors and their evaluation of others, we first used bivariate correlations to show general associations between individuals' own interpersonal traits and patterns of liking and being bothered by others' warmth and dominance. Then, we used the structural summary method (SSM; Gurtman, 1992) to generate profiles for the each of the self-rated

interpersonal traits in order to examine specific effects of individuals' own interpersonal

behaviors on their evaluation of others (e.g. does being cold make one find other people

bothersome in general, regardless of the type of behaviors being evaluated), both in

intimate friends and in general acquaintances. The SSM allows us to summarize

correlations between external constructs and the eight octants of the IPC, each

representing a unique combination of agency and communion (see Figure 1). If a

construct carries strong interpersonal qualities, it is expected to show a peak correlation

with one specific octant, and proportionally decreased correlations with other octants as

their angular distance from the peak increase. The SSM generates four parameters from

each circular profile: *Elevation* indicates the overall endorsement of items and reflects the

mean level of the profile (e.g., how much general liking toward other people's

interpersonal behaviors is associated with psychological well-being), and graphically, it

shows distance from the center of the profile to zero. *Amplitude* indicates the extent to

which a profile is well-differentiated versus diffuse in interpersonal content, and thus

reflects specific themes of ratings (e.g., how much does a person like other people's

dominant behaviors relative to other people's behaviors in general). Graphically, it shows

the distance from the center of the profile to the peak. R^2, also known as the goodness-of-

fit statistic, indicates the extent to which a profile fits into a circular structure (i.e. a

cosine curve), and high goodness-of-fit reflects high interpersonal prototypicality of a

profile (e.g. if a construct illustrates a prototypically warm trait profile, it should associate

primarily with the warm octant, moderately with the warm-dominant and warm-

submissive octants, and minimally with the cold octants). Angular *displacement* indicates

the peak area of endorsement, which reflects the primary theme of a profile (e.g. does

liking other people's dominant behaviors peak for people who evaluate themselves as dominant?). Graphically, it shows the location of the peak on the IPC, with 0° and 360° representing the center of the warm octant (see Figure 1). Elevation and amplitude values greater than .15 are considered notably elevated and differentiated, and R^2 values greater than .70-.80 are considered to fit an expected circular structure moderately well (Gurtman & Pincus, 2003; Hopwood, Burt, et al., 2011, Wright et al., 2012). Angular displacement is only interpretable when amplitude and R^2 meet their corresponding thresholds. In the present study, we will also derive confidence intervals of these SSM parameters using a recently developed bootstrapping method (Zimmermann & Wright, 2017).

More specifically, for each of the hypotheses, we conducted the following analyses:

1. To examine general patterns of likings and being bothered, we conducted bivariate correlation and SSM at the group level and generated parameters from each octant of evaluation on others (e.g. how liking others' dominant behaviors associate with one's own interpersonal styles). Estimated SSM results that are consistent with our predictions would resemble the predicted results in Table 1.

2. To compare patterns of liking and being bothered between intimate friendships verses general acquaintances, we computed double entry correlations on the two sets of SSM parameters from ratings of intimate friends and ratings of general acquaintances. In other words, synchronization of the same parameters from the two types of ratings regarding people with different levels of intimacy were assessed. The

double entry correlation allowed us to test whether there are noticeable disparities in the degrees and types of liking and being bothered between evaluating intimate friends and evaluating general acquaintances.

3. We regressed psychological functioning on liking and being bothered separately to test how liking and being bothered associate with the valence of psychological functioning. More specifically, we used hierarchical regressions to evaluate the variance in psychological functioning variables that are accounted for by liking and being bothered by others' interpersonal behaviors beyond what is explainable by one's own interpersonal behaviors. Scores of the eight types of interpersonal behaviors were collapsed into warmth and dominance scores to retain the parsimony of our model. Individual's own warmth and dominance were introduced in the regression at Step 1, liking or being bothered intimate friends' warmth and dominance were entered at Step 2, and liking or general acquaintances' warmth and dominance were entered at Step 3. Given the large number of coefficients examined in the analyses, the criterion for statistical significance was adjusted to .01 to correct for greater likelihood of Type I error.

RESULTS

General Patterns of Liking and Being Bothered By Others' Interpersonal Behaviors

Table 2 shows the correlations between self-rated traits and preference of other people's warmth and dominance. For perceptions of both intimate friends and general acquaintances, ratings of liking and being bothered were aggregated into the two higher-order factors of Dominance and Warmth. Consistent with our hypothesis, for liking, self-rated dominance-related interpersonal traits (i.e., Dom, Cold-Dom, and Warm-Dom) correlate significantly and positively with liking dominance and correlate significantly and negatively with liking submissiveness. Since the IPC model is dimensional, we see the exact opposite pattern for submissiveness-related traits (i.e., Cold-Sub, Sub, and Warm-Sub), which correlate positively with liking submissiveness and correlate negatively with liking dominance. A similar pattern is also found for liking warmth, with warmth-related traits (i.e., Warm-Sub, Warm, and Warm-Dom) associated the most strongly and positively with liking warmth and coldness-related traits (i.e., Cold-Dom, Coldness, and Cold-Sub) associated the most strongly and positively with liking coldness.

For being bothered by others' interpersonal behaviors, we see an opposite pattern of correlations when compared to those observed for liking: self-rated dominance-related interpersonal traits correlate significantly and negatively with being bothered by dominance and correlate significantly and positively with being bothered by submissiveness. Warmth-related traits show the similar pattern of correlating significantly and positively with being bothered by warmth and correlate significantly and positively with being bothered by coldness. Submissiveness-related traits showed the

opposite pattern of dominance-related traits and coldness-related traits showed the opposite pattern of warmth-related traits.

Results from the correlations show that people tend to like behaviors that are similar to their own and get bothered by behaviors that are opposite to their own. These patterns of correlations appear highly similar in evaluating intimate friends and in evaluating general acquaintances. More precise associations between self-rated traits and types of behaviors that people found likable or bothersome will be reported in the SSM results.

Table 3 shows the structural summary parameters and their associated 95% confidence intervals for the eight types of self-rated interpersonal traits across the four different evaluations of others' interpersonal behaviors: behaviors individuals like in intimate friends, behaviors individuals like in general acquaintances, behaviors individual get bothered by in intimate friends, and behaviors that individuals get bothered by in general acquaintances. Amplitude and angular displacement confidence intervals for the self-rated interpersonal traits across different evaluations of others are plotted in the circumplex graphs in Figure 2 to 5 for visual representation of the placements of the self-ratings on the IPC.

Consistent with results from the bivariate correlations, people tend to like interpersonal behaviors that are similar to their own: people who are dominant tend to like slightly antagonistic, but mostly dominant behaviors in others (i.e., angular displacement =116.9° [intimate friends] and 116.6° [general acquaintances]); people who are cold-dominant tend to like others who keep a distance from others (i.e., angular displacement =155.7° [intimate friends] and 164.4° [general acquaintances]); people who

are cold tend to like others who appear distant in social interactions (i.e., angular

displacement =183.9° [intimate friends] and 189.3° [general acquaintances]); people who

are cold-submissive tend to like others who are introverted and slightly indifferent;

people who are submissive tend to like submissiveness in others; people who are warm-

submissive tend to like those who are loving and slightly submissive in social situations;

people who are warm tend to also like others who are warm; people who are warm-

dominant tend to like others who are also gregarious and extraverted . These profiles of

liking other's interpersonal behaviors are more differentiated along the warmth

dimension, indicating that warmth is more influential than dominance on whether people

would like a behavior; that is, the profiles are spread out more along the cold-warm

dimension than they are along the dominance-submission dimension.

As for patterns of being bothered by others' interpersonal behaviors, people tend

to get bothered by behaviors that are the opposite of their own: people who are dominant

tend to get bothered by others who are submissive and agreeable (i.e., angular

displacement =300.7° [intimate friends][1]); people who are cold-dominant tend to get

bothered when others are being agreeable or loving (i.e., angular displacement =339.1°

[intimate friends] and 341.4° [general acquaintances]); people who are cold tend to get

bothered when others are being nurturant and caring (i.e., angular displacement =353.6°

[intimate friends] and 3.7° [general acquaintances]); people who are cold-submissive tend

to get bothered by others who are extraverted and gregarious; people who are submissive

tend to get bothered by others' dominance; people who are warm-submissive tend to get

bothered by others' antagonism; people who are warm tend to get bothered by coldness

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[1]The angular displacement of being bothered by general acquaintances is uninterpretable for dominance because of its low amplitude (See Table 3).

and indifferences in others; people who are warm-dominant tend to get bothered by others who are indifferent or introverted. Interestingly, profiles of being bothered by other's interpersonal behaviors are also more differentiated along the warmth dimension, indicating that how warm others are matters more than how dominant they are for evaluating how bothersome others are in social situations.

Comparisons Between Evaluating Others With Different Levels of Intimacy

Table 4 shows the similarities, calculated as a double-entry correlation, of the SSM parameters from the two types of ratings of people at different levels of intimacy. Overall the two sets of parameters are highly similar: Elevations correlated at .52 for liking and .78 for being bothered, respectively. Amplitudes correlated at .85 for liking and .78 for being bothered, indicating that overall, profiles of liking and being bothered by others are similarly differentiated when rating people from different relationships. In other words, the specificities of liking or being bothered by others' interpersonal behaviors are overall similar for evaluating intimate friends and general acquaintances; angular displacements correlated at 1.00 for both liking and being bothered by others' interpersonal behaviors, indicating that the types of behaviors that people tend to like or get bothered by the same type of behaviors in their intimate friends and in general acquaintances.

Associating Liking and Being Bothered By Other's Interpersonal Behaviors With

Psychological Functioning

Results from the hierarchical regression models are shown in Table 5 and 6. Given the multiple models that we included, we have adjusted our threshold for statistical

significance to .01 and only reported coefficients from analyses in which the change in R^2 is statistically significant.

Overall, the results indicate that for most of the psychological functioning variables, individuals' own warmth and dominance account for the most variance in our outcomes. In general, people who score high on warmth tend to have more social support and better mental wellbeing, report fewer dominance-related interpersonal problems, are more likely to have warmth-related problems, and have less chance of being pathologically detached, antagonistic, disinhibited, or psychotic. People who score high on dominance tend to also experience less stress, have more social support, and report better wellbeing, but the effects are not as strong as those of warmth. People who are highly dominant also tend to encounter interpersonal problems with dominance, and be more likely to develop pathological antagonism, but they are less likely to experience negative emotions or develop pathological detachment and psychoticism.

Liking and being bothered by others' interpersonal behaviors accounted for small but significant additional amounts of variances on some areas of psychological functioning. Liking intimate friends' dominance and warmth together accounted for 2% additional variance ($p < .01$) in social support and 1% additional variance ($p < .01$) in submissive interpersonal problems, with liking friends' dominance and warmth both contributing to higher perceived social support and more problems with being submissive in social situations. Liking intimate friends' dominance and warmth also contributed to 2% additional variance ($p < .01$) in detachment and liking intimate friends' warmth was associated with less chance of having pathologically detached personality problems. Being bothered by intimate friends' dominance and warmth together accounted for 2%

additional variance ($p < .01$) in warmth-related interpersonal problems and being

bothered by intimate friends' dominance was associated with more problems with being

cold in interpersonal situations. Liking and being bothered by general acquaintances'

interpersonal behaviors did not appear to have strong effects beyond what is explainable

by self-rated interpersonal traits and evaluations of intimate friends. However, being

bothered by general acquaintances contributed uniquely to negative affect: Being

bothered by general acquaintances' warmth and dominance contributed an additional 2%

variance in negative affect ($p < .01$), and being bothered by general acquaintances'

submissiveness ($B = -.20$, $p < .01$) was particularly associated with more chance of

experiencing negative emotions.

DISCUSSION

The present study examined how people like or get bothered by interpersonal behaviors of others in social situations in relation to their own interpersonal traits using the interpersonal circumplex frame work. The study also examined whether these patterns differ across levels of intimacy of the relationship, as well as how these patterns influence individuals' psychological functioning. The general patterns of liking and being bothered by others found in this study were consistent with social psychology literature on the similarity effect and interpersonal literature on sensitivities toward others: people tend to like interpersonal behaviors that are the most similar to their own and get bothered by behaviors that are the least similar to their own. Such findings showed that even though individuals tend to reciprocate each other's dominance in social interactions (i.e. dominance invites submissions and submissiveness invites dominance), as suggested by prior theories and studies of interpersonal complementarity, people still prefer others who share the same level of dominance as they do.

Another interesting part of the results is that for both liking and being bothered, perceived warmth in others was more influential than the perceived dominance, indicating that individuals care more about how friendly or how cold is the person that they interact with more than how much the person wants to take the lead or let others take in charge. In other words, people who are cold find cold behaviors particularly likable and warm behaviors particularly bothersome, and those who are warm find warm behaviors in others particularly likable and cold behaviors particularly bothersome. While we also notice that dominant people tend to like others' dominant behaviors and get bothered by people's submissiveness (and vice versa), such pattern is less distinctive than

on the warmth dimension. The differentiation between warmth and dominance dimensions in how people perceive others' behaviors was not shown in the original study for interpersonal sensitivities (Hopwood et al., 2011). Both studies used the IAS to assess participants' interpersonal traits but differed in the assessment of being bothered by others' interpersonal behaviors; the current study used an adapted version of the IAS in order to control for potential contents differences, whereas Hopwood and colleagues (2011) used the ISC. Additionally, whereas we examined sensitivities as a function of traits, Hopwood and colleagues (2011) examined traits as a function of sensitivities. Nonetheless, we believe some comparisons across studies can be made, given that the same constructs were investigated. Similar to our findings, Hopwood and colleagues found that profiles of being bothered by coldness and cold-dominance were the most differentiated profiles and caused the most difficulties for individuals who were warm according to self-ratings. In contrast to the present findings, being bothered by behaviors in the other octants were less differentiated, including being bothered by warmth. It is important to note that the study of Hopwood and colleagues measured interpersonal sensitivities using the descriptions of interpersonal behaviors that are bothersome in nature (e.g. "It bothers me when someone doesn't have a back bone."), but in the current studies we assessed interpersonal sensitivities using adjectives that describe individual's typical patterns (e.g. "It bothers me when someone is shy."). It is possible that when evaluating behaviors that are bothersome in nature, dominant and antagonistic behaviors tend to evoke the strongest aversive responses in warm, loving people. In the current study, the results imply that when deciding how much they like or get bothered by other people's interpersonal traits, people tend to weight warmth more than dominance. For

people to like someone and not find the person bothersome, how similar they are on warmth matters more than how similar they are on dominance.

Findings of the current study also showed that for both being bothered and liking others' interpersonal behaviors, people evaluate their intimate friends the same way they evaluate general acquaintances, indicating that intimacy of the relationship does not influence the types of behaviors that individuals tend to like or get bothered by. In addition, the results also showed that people's general preferences of others' behaviors do not differ across different levels of intimacy either. That is, individuals do not like their intimate friends' traits more than acquaintance's traits overall or get bothered more by general acquaintances than get bothered by intimate friends.

We also found that people's perception of others' behaviors contributes uniquely to individuals' psychological functioning, above and beyond the influence of one's own interpersonal traits, with small but significant effect sizes. Liking dominant and warm behaviors in intimate friends together contribute to better social support but more problems with being submissive. This pattern showed that liking people who tend to take a lead and are caring in social situations is associated with greater social support, but also with interpersonal problems related to being overly submissive and lacking agency in social situations. Liking warmth in friends also contributes to lower detachment problems, implying that people who like and desire their friends to be warm and caring are comfortable with intimacy. The results also showed that being bothered by dominant behaviors in intimate friends contribute to problems with being too cold in interpersonal situations, implying that people who get bothered when their friends take charge tend to have problems distancing themselves from others.

Although perception of intimate friends' behaviors accounts for most variance in psychological functioning beyond individuals' own interpersonal traits, perception of general acquaintances appears to be particularly impactful in negative affect. Being bothered by general acquaintances' submissiveness contributes uniquely to higher levels of negative affect, indicating that people who find it hard to tolerate general acquaintances' submissiveness tend to have more problems with emotional lability, anxiety, and insecurity in relationships.

One limitation of the current study is the reliance on convenience sampling. Although it is reasonable to think that the student sample we recruited in this study experiences interpersonal situations similarly to the general population, it is important to recognize that college students tend to have limited exposure to several major social contexts that people tend to experience, such as marriage and parenthood, and thus the generalizability of our results is limited. Another limitation of our study is its exclusive use of self-report measures. Future studies should incorporate multimethod assessments of interpersonal perceptions. For example, individuals' evaluation of their intimate friends' behaviors may be assessed under a controlled lab setting with specified social tasks to allow for more conclusive findings. Another method of assessing interpersonal perception systematically is to measure individual's perception of confederates' interpersonal behaviors. It would also be helpful to obtain data from people who are being evaluated to examine whether their own ratings align with participants' ratings.

Overall, findings from the current study suggests that individuals' evaluations of others' interpersonal behaviors are closely associated to their own, and these evaluations can influence their experiences in social situations, such as the level of support they

perceive, the interpersonal problems they tend to encounter, and their affective response when building intimate relationships. These effects are small but worth paying attention to, given that people are surrounded by interpersonal behaviors of others in their day-to-day experiences and inevitably encounter behaviors that they like or get bothered by all the time. Future studies may investigate different assessment methods to future explore how people perceive interpersonal behaviors in others. Findings of the current study differentiated from prior work on interpersonal sensitivities, and such inconsistency calls the need for more studies in the area of interpersonal perception with systematic assessment tools. For example, prior work (Hopwood et al., 2011) showed that people perceive others' interpersonal behaviors differently across different levels of intimacy of the relationship, and people tend to be bothered primarily by warmth in acquaintances and coldness in romantic partners. The current study did not find the same pattern, and it is hard to test the explanation of such differences because limited studies have examined social perception under the IPC framework. One explanation for the different findings is the use of different measures in assessing patterns of being bothered by others' interpersonal behaviors, and future researchers may examine the impact of measure differences by including both general descriptors/adjectives for interpersonal traits and specific measures for likable or bothersome behaviors to assess individuals' perception of others' interpersonal behaviors.

LIST OF REFERENCES

Bond, M., Byrne, D., & Diamond, M. J. (1968). Effect of occupational prestige and attitude similarity on attraction as a function of assumed similarity of attitude. *Psychological Reports*, 23, 1167-1172.

Byrne, D. (1971). *The attraction paradigm*. New York, NY: Academic Press.

Wallace, H. M., Grotzinger, A., Howard, T. J., & Parkhill, N. (2015). When people evaluate others, the level of others' narcissism matters less to evaluators who are narcissistic. *Social Psychological and Personality Science*, *6*, 805-813.

Buhrmester, M., Kwang, T., & Gosling, S. D. (2011). Amazon's Mechanical Turk: A new source of inexpensive, yet high-quality, data? *Perspectives on Psychological Science*, *6*, 3-5.

Carson, R. C. (1969). *Interaction concepts of personality*. Chicago, IL: Aldine Publishing Co.

Cohen, S., Kamarck, T., & Mermelstein, R. (1994). Perceived stress scale. In S. Cohen, R. C. Kessler, & L. U. Gordon (Eds.), *Measuring stress: A guide for health and social scientists* (pp. 235-283). New York, NY: Oxford University Press.

Dawood, S., & Pincus, A. L. (2016). Multisurface interpersonal assessment in a cognitive-behavioral therapy context. *Journal of Personality Assessment*, *98*, 449-460.

Diener, E., Suh, E. M., Lucas, R. E., & Smith, H. L. (1999). Subjective well-being: Three decades of progress. *Psychological Bulletin, 125*, 276-302.

Dryer, D. C., & Horowitz, L. M. (1997). When do opposites attract? Interpersonal
complementarity versus similarity. *Journal of Personality and Social Psychology*,
72, 592-603.

Gurtman, M. B. (1992). Construct validity of interpersonal personality measures: The
interpersonal circumplex as a nomological net. *Journal of Personality and Social
Psychology, 63*, 105-118.

Gurtman, M. B. (2009). Exploring personality with the interpersonal circumplex. *Social
and Personality Psychology Compass*, *3*, 601-619.

Gurtman, M. B., & Pincus, A. L. (2003). The circumplex model: Methods and research
applications. In I. B. Weiner (Ed.), *Handbook of psychology* (pp. 407-428).
Hoboken, NJ: John Wiley & Sons, Inc.

Hamlin, J. K., Mahajan, N., Liberman, Z., & Wynn, K. (2013). Not like me = bad: Infants
prefer those who harm dissimilar others. *Psychological Science*, *24*, 589-594.

Henry, W. P., Schacht, T. E., & Strupp, H. H. (1986). Structural analysis of social
behavior: Application to a study of interpersonal process in differential
psychotherapeutic outcome. *Journal of Consulting and Clinical Psychology*, *54*,
27-31.

Hopwood, C. J., Ansell, E. B., Pincus, A. L., Wright, A. G., Lukowitsky, M. R., &
Roche, M. J. (2011). The circumplex structure of interpersonal sensitivities.
Journal of Personality, *79*, 707-740.

Hopwood, C. J., Burt, S. A., Keel, P. K., Neale, M. C., Boker, S. M., & Klump, K. L. (2013). Interpersonal problems associated with multidimensional personality questionnaire traits in women during the transition to adulthood. *Assessment*, *20*, 60-67.

King, A. R., & Terrance, C. (2006). Relationships between personality disorder attributes and friendship qualities among college students. *Journal of Social and Personal Relationships*, *23*, 5-20.

Klohnen, E. C., & Luo, S. (2003). Interpersonal attraction and personality: What is attractive--self similarity, ideal similarity, complementarity or attachment security? *Journal of Personality and Social Psychology*, *85*, 709-722.

Krueger, R. F., Derringer, J., Markon, K. E., Watson, D., & Skodol, A. E. (2013). *The Personality Inventory for DSM-5—brief form (PID-5-BF)—adult*. Washington, DC: American Psychiatric Association.

Launay, J., & Dunbar, R. I. (2015). Does implied community size predict likeability of a similar stranger? *Evolution and Human Behavior*, *36*, 32-37.

Leary, T. (1957). *Interpersonal diagnosis of personality.* New York, NY: Ronald Press.

Lewis, K. N., & Walsh, W. B. (1980). Effects of value-communication style and similarity of values on counselor evaluation. *Journal of Counseling Psychology*, *27*, 305-314.

Lizdek, I., Woody, E., Sadler, P., & Rehman, U. S. (2016). How do depressive symptoms in husbands and wives relate to the interpersonal dynamics of marital interactions? *Journal of Counseling Psychology*, *63*, 721-735.

Locke, K. D. (2000). Circumplex scales of interpersonal values: Reliability, validity, and applicability to interpersonal problems and personality disorders. *Journal of Personality Assessment*, *75*, 249-267.

Locke, K. D., & Sadler, P. (2007). Self-efficacy, values, and complementarity in dyadic interactions: Integrating interpersonal and social-cognitive theory. *Personality and Social Psychology Bulletin*, *33*, 94-109.

Locke, K. D., Sayegh, L., Penberthy, J. K., Weber, C., Haentjens, K., & Turecki, G. (2017). Interpersonal circumplex profiles of persistent depression: Goals, self-efficacy, problems, and effects of group therapy. *Journal of Clinical Psychology*, *73*, 595-611.

Marion, D., Laursen, B., Zettergren, P., & Bergman, L. R. (2013). Predicting life satisfaction during middle adulthood from peer relationships during mid-adolescence. *Journal of Youth and Adolescence*, *42*, 1299-1307.

Markey, P. M., & Markey, C. N. (2009). A brief assessment of the interpersonal circumplex: The IPIP-IPC. *Assessment*, *16*, 352-361.

Markey, P. M., Funder, D. C., & Ozer, D. J. (2003). Complementarity of interpersonal behaviors in dyadic interactions. *Personality and Social Psychology Bulletin, 29,* 1082-1090.

Miller, J. D., Crowe, M., Weiss, B., Maples-Keller, J. L., & Lynam, D. R. (2017). Using online, crowdsourcing platforms for data collection in personality disorder research: The example of Amazon's Mechanical Turk. *Personality Disorders: Theory, Research, and Treatment*, *8*, 26-34.

Montoya, R. M., & Horton, R. S. (2013). A meta-analytic investigation of the processes underlying the similarity-attraction effect. *Journal of Social and Personal Relationships*, *30*, 64-94.

Nangle, D. W., Erdley, C. A., Zeff, K. R., Stanchfield, L. L., & Gold, J. A. (2004). Opposites do not attract: Social status and behavioral-style concordances and discordances among children and the peers who like or dislike them. *Journal of Abnormal Child Psychology*, *32*, 425-434.

Nezlek, J. B., Imbrie, M., & Shean, G. D. (1994). Depression and everyday social interaction. *Journal of Personality and Social Psychology*, *67*(6), 1101-1111.

Norton, M. I., Frost, J. H., & Ariely, D. (2007). Less is more: The lure of ambiguity, or why familiarity breeds contempt. *Journal of Personality and Social Psychology*, *92*, 97-105.

Oltmanns, T. F., & Turkheimer, E. (2006). Perceptions of self and others regarding pathological personality traits. In R. F. Krueger & J. L. Tackett (Eds.), *Personality and psychopathology* (pp. 71-111). New York, NY: Guilford Press.

Pincus, A. L., & Gurtman, M. B. (2003). Interpersonal assessment. In J. S. Wiggins (Ed.), *Paradigms of personality assessment* (pp. 246-261). New York, NY: Guilford.

Pittman, L. D., & Richmond, A. (2008). University belonging, friendship quality, and psychological adjustment during the transition to college. *Journal of Experimental Education*, *76*, 343-362.

Procidano, M. E., & Heller, K. (1983). Measures of perceived social support from friends and from family: Three validation studies. *American Journal of Community Psychology*, *11*, 1-24.

Reid, C. A., Davis, J. L., & Green, J. D. (2013). The power of change: Interpersonal attraction as a function of attitude similarity and attitude alignment. *The Journal of Social Psychology*, *153*, 700-719.

Reis, H. T., Maniaci, M. R., Caprariello, P. A., Eastwick, P. W., & Finkel, E. J. (2011). Familiarity does indeed promote attraction in live interaction. *Journal of Personality and Social Psychology*, *101*, 557-570.

Ryff, C. D., & Keyes, C. L. M. (1995). The structure of psychological well-being revisited. *Journal of Personality and Social Psychology, 69*, 719-727.

Sadler, P., Ethier, N., Gunn, G. R., Duong, D., & Woody, E. (2009). Are we on the same wavelength? Interpersonal complementarity as shared cyclical patterns during interactions. *Journal of Personality and Social Psychology, 97,* 1005-1020.

Sadler, P., & Woody, E. (2003). Is who you are who you're talking to? Interpersonal style and complementarity in mixed-sex interactions. *Journal of Personality and Social Psychology, 84,* 80-96.

Soldz, S., Budman, S., Demby, A, & Merry, J. (1995). A short form of the Inventory of Interpersonal Circumplex Scales. *Assessment, 2,* 53-63.

Tenney, E. R., Turkheimer, E., & Oltmanns, T. F. (2009). Being liked is more than having a good personality: The role of matching. *Journal of Research in Personality*, *43*, 579-585.

Thomas, K. M., Hopwood, C. J., Woody, E., Ethier, N., & Sadler, P. (2014). Momentary assessment of interpersonal process in psychotherapy. *Journal of Counseling Psychology*, *61*, 1-14.

Tracey, T. J. (1993). An interpersonal stage model of the therapeutic process. *Journal of Counseling Psychology*, *40*, 396-409.

Tracey, T. J. (2004). Levels of interpersonal complementarity: A simplex representation. *Personality and Social Psychology Bulletin*, *30*, 1211-1225.

Tracey, T. J., Ryan, J. M., & Jaschik-Herman, B. (2001). Complementarity of interpersonal circumplex traits. *Personality and Social Psychology Bulletin*, *27*, 786-797.

Wiggins, J. S. (1982). Circumplex models of interpersonal behavior in clinical psychology. In P. C. Kendall & J. N. Butcher (Eds.), *Handbook of research methods in clinical psychology* (pp. 183-221). New York, NY: Wiley.

Wiggins, J. S. (2003). *Paradigms of personality assessment*. New York, NY: Guilford.

Wiggins, J. S., Trapnell, P., & Phillips, N. (1988). Psychometric and geometric characteristics of the Revised Interpersonal Adjective Scales (IAS-R). *Multivariate Behavioral Research*, *23*, 517-530.

Wright, A. G., Pincus, A. L., Hopwood, C. J., Thomas, K. M., Markon, K. E., & Krueger, R. F. (2012). An interpersonal analysis of pathological personality traits in DSM-5. *Assessment*, *19*, 263-275.

Wright, P. H. (1985). The acquaintance description form. In S. Duck & D. Perlman (Eds.), *Understanding personal relationships: An interdisciplinary approach* (pp. 39-62). London, England: Sage.

Wright, P. H. (1997). *A bare-bones guide to the Acquaintance Description Form – F2*. Unpublished manuscript.

Van Zalk, M., & Denissen, J. (2015). Idiosyncratic versus social consensus approaches to

    personality: Self-view, perceived, and peer-view similarity. *Journal of*

    Personality and Social Psychology, *109*, 121-141.

Zimmermann, J., & Wright, A. G. (2017). Beyond description in interpersonal construct

    validation: Methodological advances in the circumplex structural summary

    approach. *Assessment*, *24*, 3-23.

APPENDIX A

Table 1

Predicted Structural Summary Results for Self-Rated Interpersonal Traits Across

Different Types of Evaluation Toward Others (N = 470)

	Liking Toward Others		
Self-Rating	Elevation Amplitude	Angle	R^2
Dominance (90°)	>.15	67.5°-112.5°	> .70
Cold-dominance (135°)	>.15	112.5°-157.5°	> .70
Coldness (180°)	>.15	157.5°-202.5°	> .70
Cold-submissiveness (225°)	>.15	202.5°-247.5°	> .70
Submissiveness (270°)	>.15	247.5°-292.5°	> .70
Warm-submissiveness (315°)	>.15	292.5°-337.5°	> .70
Warmth (0°)	>.15	337.5°- 22.5°	> .70
Warm-dominance (45°)	>.15	22.5°-67.5°	> .70

	Being Bothered By Others		
Self-Rating	Elevation Amplitude	Angle	R^2
Dominance (90°)	>.15	247.5°-292.5°	> .70
Cold-dominance (135°)	>.15	292.5°-337.5°	> .70
Coldness (180°)	>.15	337.5°- 22.5°	> .70

<u>Being Bothered By Others</u>

Self-Rating	Elevation Amplitude	Angle	R^2
Cold-submissiveness (225°)	>.15	22.5°-67.5°	> .70
Submissiveness (270°)	>.15	67.5°-112.5°	> .70
Warm-submissiveness (315°)	>.15	112.5°-157.5°	> .70
Warmth (0°)	>.15	157.5°-202.5°	> .70
Warm-dominance (45°)	>.15	202.5°-247.5°	> .70

Note. We will create separate tables for each measure in the actual analyses.

Table 2

Correlations of Between Self-Rated Interpersonal Traits and Preference on Others' Dominance or Warmth (N = 470)

Self-Rating	Liking Dom (IF)	Liking Dom (GA)	Bothered by Dom (IF)	Bothered by Dom (GA)	Liking Warm (IF)	Liking Warm (GA)	Bothered by Warm (IF)	Bothered by Warm (GA)
Dom	.39*	.28*	-.33*	-.15*	-.13*	-.10	.12	.11
Cold-dom	.29*	.15*	-.27*	-.18*	-.41*	-.37*	.41*	.37*
Coldness	-.06	-.12	-.10	.05	-.60*	-.50*	.53*	.49*
Cold-sub	-.38*	-.45*	.26*	.28*	-.47*	-.36*	.37*	.30*
Sub	-.43*	-.39*	.38*	.20*	-.001	.03	-.05	-.04
Warm-sub	-.34*	-.24*	.33*	.29*	.40*	.38*	-.42*	-.37*
Warm	.14*	.147*	.03	-.07	.55*	.48*	-.47*	-.47*
Warm-dom	.37*	.44*	-.23*	-.24*	.46*	.36*	-.36*	-.33*
†Mean Correlation	.30	.28	.24	.18	.38	.32	.34	.31

Note. Dom = Dominance; IF = Intimate Friends; GA = General Acquaintances.

*p < .01.

† Mean correlations were calculated based on absolute values.

Table 3

Structural Summary Parameters and 95% Bootstrap Confidence Intervals for Self-Rated Interpersonal

Traits Across Different Types of Evaluation Toward Others (N = 470)

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	Patterns of Liking Intimate Friends			
Self-evaluation	Elevation	Amplitude	Displacement	Goodness-of-Fit
Dominance (90°)	0.05	**0.27**	**116.9**	**0.936**
	[0.01, 0.08]	**[0.21, 0.32]**	**[96.1, 134.4]**	
Cold-dominance (135°)	0.05	**0.42**	**155.7**	**0.957**
	[0.01, 0.09]	**[0.34, 0.50]**	**[145.8, 164.3]**	
Coldness (180°)	0.05	**0.56**	**183.9**	**0.971**
	[0.01, 0.09]	**[0.48, 0.63]**	**[177.8, 190.1]**	
Cold-submissiveness (225°)	0.03	**0.49**	**207.9**	**0.939**
	[-0.01, 0.07]	**[0.42, 0.56]**	**[199.8, 216.7]**	
Submissiveness (270°)	0.04	**0.26**	**269.8**	**0.954**
	[0.00, 0.07]	**[0.21, 0.32]**	**[250.5, 288.5]**	
Warm-submissiveness (315°)	0.01	**0.42**	**330.9**	**0.946**
	[-0.02, 0.05]	**[0.36, 0.49]**	**[321.1, 339.9]**	
Warmth (0°)	0.03	**0.52**	**9.5**	**0.962**
	[-0.01, 0.07]	**[0.44, 0.59]**	**[3.0, 16.2]**	
Warm-dominance (45°)	0.02	**0.48**	**27.7**	**0.946**
	[-0.02, 0.06]	**[0.41, 0.55]**	**[19.9, 37.1]**	

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(*table continues*)

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<u>Patterns of Liking General Acquaintances</u>

Self-evaluation	Elevation	Amplitude	Displacement	Goodness-of-Fit
Dominance (90°)	0.01	**0.20**	**116.6**	**0.973**
	[-0.02, 0.05]	**[0.14, 0.27]**	**[90.9, 138.0]**	
Cold-dominance (135°)	0.06	**0.36**	**164.4**	**0.950**
	[0.01, 0.10]	**[0.28, 0.44]**	**[152.6, 174.7]**	
Coldness (180°)	0.05	**0.47**	**189.3**	**0.979**
	[0.01, 0.08]	**[0.40, 0.55]**	**[181.6, 197.3]**	
Cold-submissiveness (225°)	0.04	**0.44**	**220.8**	**0.959**
	[0.01, 0.08]	**[0.37, 0.50]**	**[212.7, 230.0]**	
Submissiveness (270°)	0.05	**0.25**	**275.9**	**0.933**
	[0.02, 0.09]	**[0.19, 0.32]**	**[256.9, 295.6]**	
Warm-submissiveness (315°)	0.01	**0.38**	**336.2**	**0.955**
	[-0.02, 0.05]	**[0.31, 0.46]**	**[324.7, 346.0]**	
Warmth (0°)	0.02	**0.46**	**11.7**	**0.971**
	[-0.01, 0.05]	**[0.39, 0.54]**	**[4.3, 19.2]**	
Warm-dominance (45°)	-0.01	**0.44**	**39.9**	**0.963**
	[-0.04, 0.03]	**[0.37, 0.51]**	**[31.5, 50.0]**	

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(*table continues*)

Patterns of Being Bothered by Intimate Friends

Self-evaluation	Elevation	Amplitude	Displacement	Goodness-of-Fit
Dominance (90°)	-0.01	**0.19**	**300.7**	**0.862**
	[-0.06, 0.05]	**[0.14, 0.26]**	**[277.1, 318.6]**	
Cold-dominance (135°)	-0.00	**0.38**	**339.1**	**0.935**
	[-0.05, 0.04]	**[0.31, 0.45]**	**[330.0, 346.8]**	
Coldness (180°)	0.01	**0.46**	**353.6**	**0.954**
	[-0.04, 0.08]	**[0.39, 0.52]**	**[346.8, 359.2]**	
Cold-submissiveness (225°)	-0.06	**0.34**	**22.7**	**0.920**
	[-0.11, -0.00]	**[0.26, 0.42]**	**[14.5, 32.7]**	
Submissiveness (270°)	-0.09	**0.20**	**103.5**	**0.855**
	[-0.14, -0.04]	**[0.15, 0.25]**	**[79.0, 123.7]**	
Warm-submissiveness (315°)	-0.04	**0.39**	**155.3**	**0.950**
	[-0.09, 0.01]	**[0.33, 0.46]**	**[147.0, 162.4]**	
Warmth (0°)	-0.03	**0.40**		**177.7** **0.947**
	[-0.09, 0.03]	**[0.32, 0.48]**	**[169.9, 183.9]**	
Warm-dominance (45°)	0.05	**0.33**	**200.7**	**0.939**
	[-0.01, 0.10]	**[0.24, 0.41]**	**[192.0, 211.1]**	

(*table continues*)

Patterns of Being Bothered by General Acquaintances

Self-Evaluation	Elevation	Amplitude	Displacement	Goodness-of-Fit
Dominance (90°)	0.05	0.12	315.9	**0.893**
	[-0.01, 0.10]	[0.06, 0.19]	[280.5, 346.7]	
Cold-dominance (135°)	0.03	**0.30**	**341.4**	**0.919**
	[-0.02, 0.09]	**[0.23, 0.37]**	**[330.3, 351.0]**	
Coldness (180°)	0.03	**0.39**	**3.7**	**0.936**
	[-0.02, 0.08]	**[0.33, 0.44]**	**[356.3, 11.7]**	
Cold-submissiveness (225°)	-0.04	**0.28**	**31.6**	**0.923**
	[-0.09, 0.02]	**[0.22, 0.34]**	**[18.9, 46.0]**	
Submissiveness (270°)	-0.11	0.11	105.9	**0.803**
	[-0.17, -0.06]	[0.06, 0.17]	[66.8, 136.6]	
Warm-submissiveness (315°)	-0.08	**0.33**	**152.2**	**0.939**
	[-0.13, -0.03]	**[0.26, 0.39]**	**[142.0, 161.3]**	
Warmth (0°)	-0.03	**0.37**	**185.9**	**0.940**
	[-0.08, 0.03]	**[0.31, 0.43]**	**[177.9, 194.7]**	
Warm-dominance (45°)	0.02	**0.28**	**206.2**	**0.928**
	[-0.04, 0.07]	**[0.22, 0.35]**	**[194.3, 219.4]**	

Note. Elevation ≥ .15 (threshold for adequate elevation) were bolded; Amplitude ≥ .15 (threshold for adequate specificity of interpersonal profile) were bolded; R^2 = goodness-of-fit, and values ≥ .8 (threshold for prototypical fit) were bolded; Angle = Angular Displacement, and interpretable displacements (i.e. when goodness-of-fit and amplitude are adequate) were bolded. Numbers in brackets represent the 95% confidence interval for the structural summary parameters.

Table 4

Correlations of Structural Summary Parameters

Between Evaluating Intimate Friends and

General Acquaintances (N = 470)

—————————————————————

Patterns of Liking Others

—————————————————————

	Correlation
Elev	.52
Amp	.85
Angle	1.00

—————————————————————

Patterns of Being Bothered by Others

—————————————————————

	Correlation
Elev	.78
Amp	.78
Angle	1.00

—————————————————————

Table 5

Hierarchical Regressions of Psychological Functioning Variables on Interpersonal Behaviors and Patterns of Liking Toward Others (N = 470)

	Stress		Social Support		Wellbeing		Dom Problems		Wrm Problems	
	B	*SE*	*B*	*SE*	*B*	*SE*	*B*	*SE*	*B*	*SE*
Self-Dom	-.18**	.04	.34**	.06	.28**	.03	.46**	.02	.06	.03
Self-Wrm	-.01	.04	.52**	.05	.30**	.03	-.16**	.02	.43**	.03
R^2	.04**		.23**		.33**		.46**		.40**	
Self-Dom			.25**	.07	.50**	.03				
Self-Wrm			.41**	.07	-.11**	.03				
Like.IF.Dom			.23	.09	-.09	.04				
Like.IF.Wrm			.14	.07	-.06	.03				
R^2 Change	.01		.02*		.01		.01*		.01	

(*table continues*)

	Negative Affect		Detachment		Antagonism		Disinhibition		Psychoticism	
	B	SE	B	SE	B	SE	B	SE	B	SE
Self-Dom	-.18**	.04	-.20**	.03	.13**	.03	.04	.04	-.11*	.04
Self-Wrm	-.02	.04	-.32**	.02	-.29**	.02	-.12*	.03	-.19**	.03
R^2	.04**		.34**		.26**		.03*		.08**	
Self-Dom			-.18**	.03						
Self-Wrm			-.25**	.03						
Like.IF.Dom			-.07	.04						
Like.IF.Wrm			-.10*	.03						
R^2 Change	.01		.02*		.01		.01		.00	

Note. Dom = Dominance; Wrm = Warmth; IF = Intimate Friends; GA = General Acquaintances.

*$p < .01$. **$p < .001$.

Table 6

Hierarchical Regressions of Psychological Functioning Variables on Interpersonal Behaviors and Patterns of Being Bothered by Others (N = 470)

	Stress		Social Support		Wellbeing		Dom Problems		Wrm Problems	
	B	*SE*	*B*	*SE*	*B*	*SE*	*B*	*SE*	*B*	*SE*
Self-Dom	-.18**	.04	.34**	.06	.28**	.03	.46**	.02	.06	.03
Self-Wrm	-.01	.04	.52**	.05	.30**	.03	-.16**	.02	.43**	.03
R^2	.04**		.25**		.33**		.46**		.40**	
Self-Dom									.01	.03
Self-Wrm									.42**	.03
Bother.IF.Dom									-.18*	.05
Bother.IF.Wrm									-.05	.03
R^2 Change	.00		.01		.01		.00		.02*	

	Negative Affect		Detachment		Antagonism		Disinhibition		Psychoticism	
	B	*SE*	*B*	*SE*	*B*	*SE*	*B*	*SE*	*B*	*SE*
Self-Dom	-.18**	.04	-.20**	.04	.13**	.03	.04	.04	-.11*	.04
Self-Wrm	-.03	.04	-.32**	.02	-.29**	.02	-.12*	.03	-.19**	.03
R^2	.04**		.34**		.26**		.03*		.08**	
Self-Dom										
Self-Wrm										
Bother.IF.Dom										
Bother.IF.Wrm										
R^2 Change	.01		.01		.00		.01		.00	
Self-Dom	-.17**	.05								
Self-Wrm	-.14**	.05								
Bother.IF.Dom	.10	.08								
Bother.IF.Wrm	-.08	.05								
Bother.GA.Dom	-.20*	.07								
Bother.GA.Wrm	-.12	.06								
R^2 Change	.02*		.00		.00		.00		.00	

Note. Dom = Dominance; Wrm = Warmth; IF = Intimate Friends; GA = General Acquaintances.
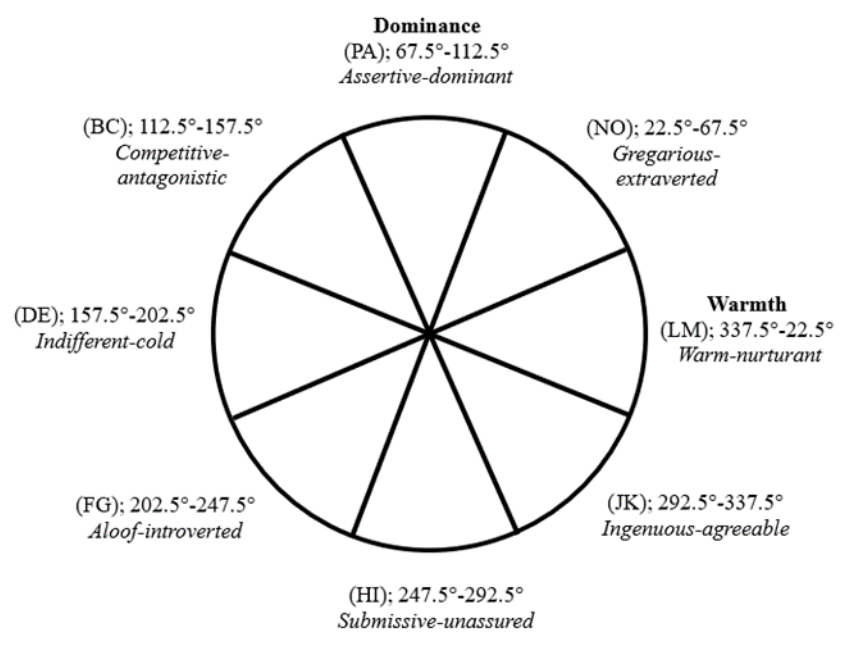
*p < .01. **p < .001.

APPENDIX B

Figure 1. The Interpersonal Circumplex (Waldherr & Muck, 2011).
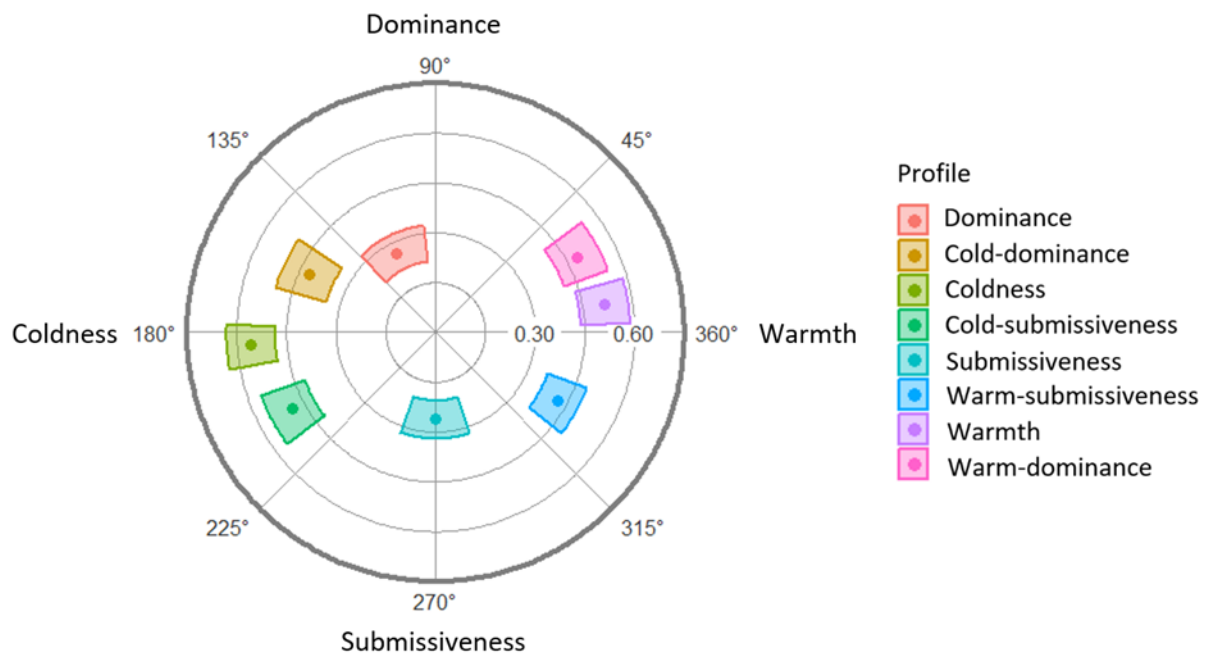
Figure 2. Amplitude and angular displacement confidence intervals for self-rated interpersonal traits on patterns of liking intimate friends (*N* = 470).
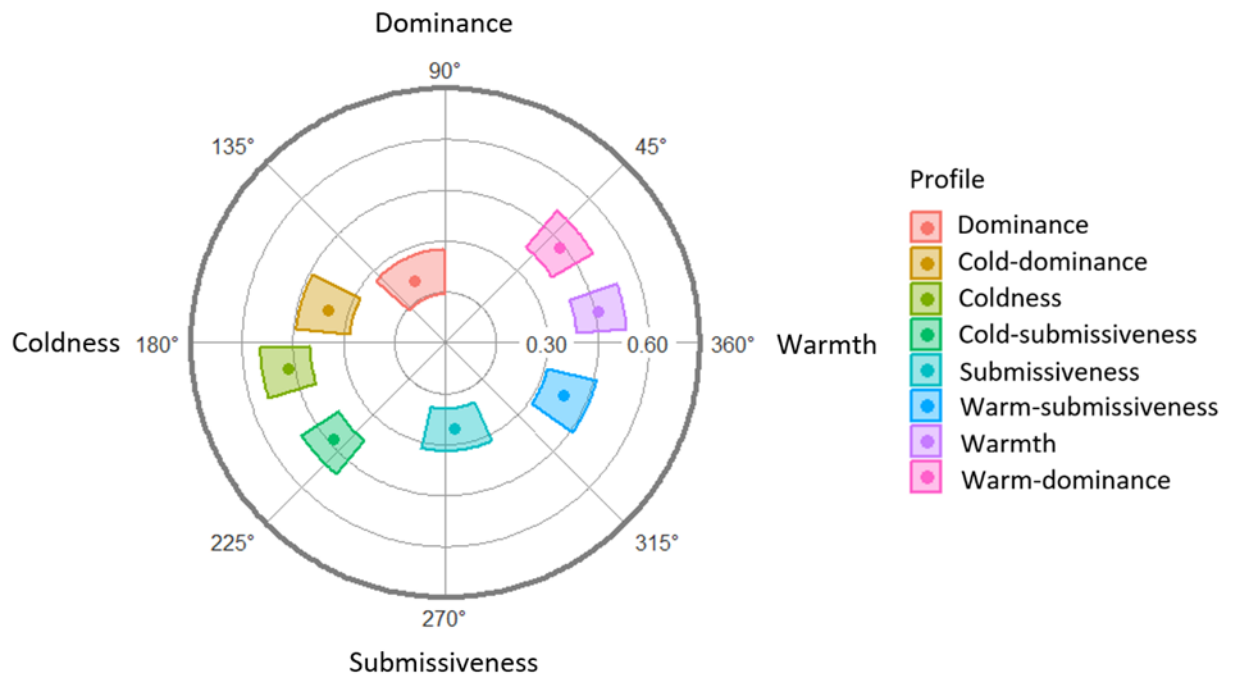
Figure 3. Amplitude and angular displacement confidence intervals for self-rated interpersonal

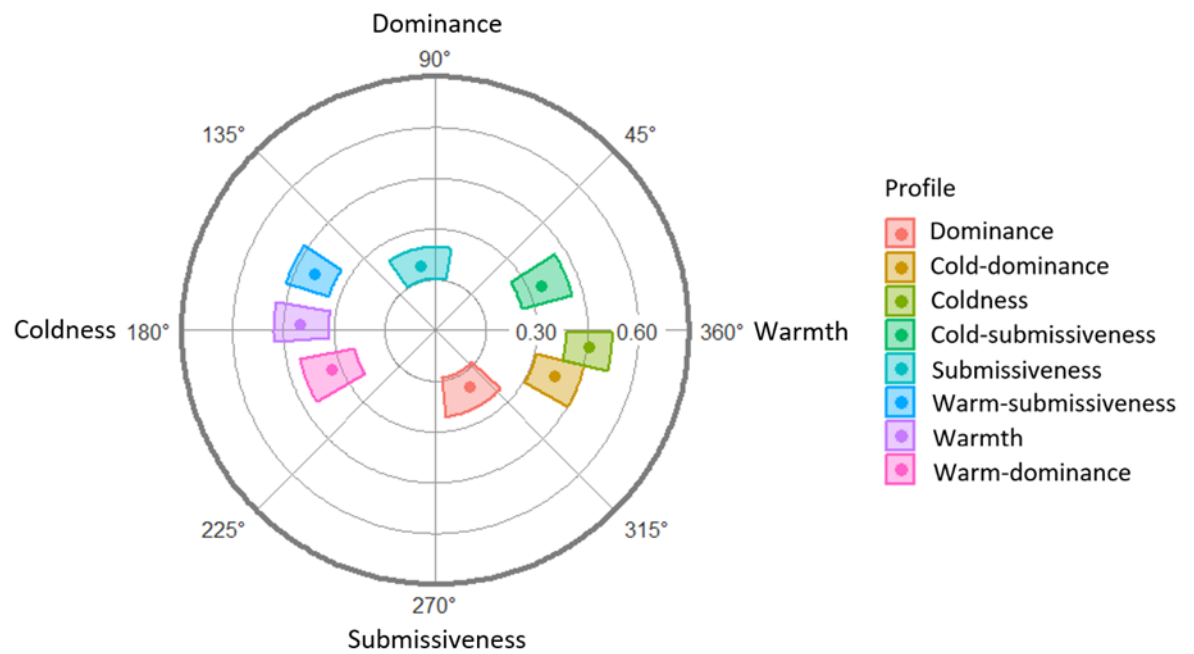traits on patterns of liking general acquaintances (N=470).

Figure 4. Amplitude and angular displacement confidence intervals for self-rated interpersonal traits on patterns of being bothered by intimate friends (N=470).
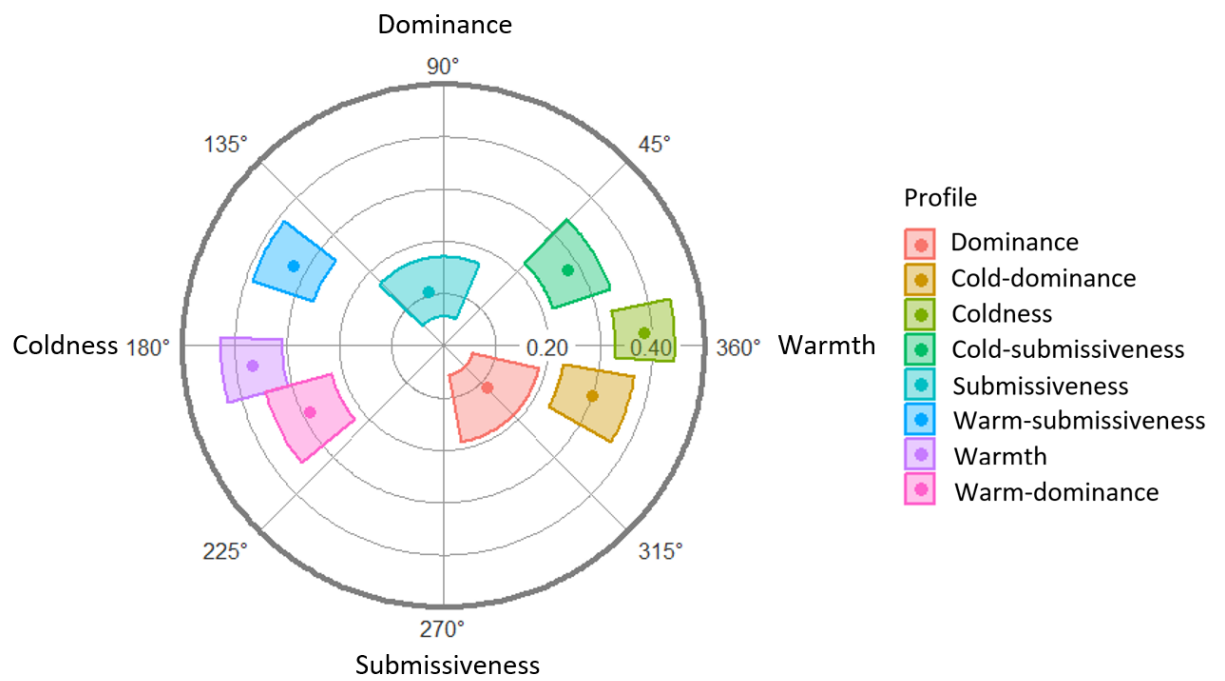
Figure 5. Amplitude and angular displacement confidence intervals for self-rated interpersonal

traits on patterns of being bothered by general acquaintances (N=470).