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Interpersonal Circumplex Octant, Control, and Affiliation Scales for the NEO-PI-R

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Abstract

The Five Factor Model (FFM) traits of agreeableness and extraversion are rotational equivalents of the interpersonal circumplex (IPC) dimensions of affiliation and control. Given that the NEO-PI-R is a widely used measure of the FFM, availability of IPC dimension scales within this inventory could facilitate integration of FFM and interpersonal perspectives. In a study of 301 married couples, we evaluated an IPC scoring system for the NEO-PI-R (Wiggins & Trobst, 1998) comprising 6-item octant scales and composites representing control and affiliation. The octant scales demonstrated expected circular structure. Octant and dimension scales demonstrated convergent and discriminant validity, in analyses of self-report and spouse-rating versions of this IPC measure and the Impact Message Inventory. Further, extraversion corresponded to friendly dominance in the IPC and agreeableness to submissive friendliness.

Keywords

Interpersonal Circumplex; NEO-PI-R; control; dominance; affiliation

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Introduction

As a widely accepted taxonomy of personality traits, the Five Factor Model (FFM) is important in basic research and clinical applications. One variation (Trapnell & Wiggins, 1990) conceptualizes the two traits closely related to social behavior (i.e., extraversion; agreeableness) as corresponding to the principal dimensions of the interpersonal circumplex (IPC), *Control*: dominance versus submissiveness, and *Affiliation*: warmth versus hostility. Traditional measures of extraversion are strongly correlated with dominance and significantly but less closely correlated with friendliness in the IPC, whereas measures of agreeableness have large correlations with friendliness and smaller but significant correlations with submissiveness (McCrae & Costa, 1989; Trapnell & Wiggins, 1990). Hence, the IPC dimensions and these FFM traits define virtually identical two-dimensional spaces, differing in the rotation of their main axes (see Figure 1).

In some applications the IPC could provide a useful supplement or alternative to the FFM version of the social behavior trait domain. Compared to agreeableness and extraversion, the IPC provides a more direct link to the interpersonal tradition (Pincus & Ansell, 2003), which includes valuable conceptual and empirical tools for theory-driven research and clinical application regarding personality and social relationships. For example, the interpersonal approach has important implications for the conceptualization, assessment, and treatment of psychopathology and emotional or social adjustment difficulties (Horowitz, 2004; Kiesler, 1996). Similarly, the interpersonal perspective has considerable potential as an integrative approach to studying psychosocial risk for physical illness (Smith, Glazer, Ruiz, & Gallo, 2004), where the IPC dimensions provide useful descriptions of two classes of risk factors ordinarily conceptualized and assessed quite differently – personality traits and aspects of relationships or social environments.

Further, agreeableness and extraversion are blends of the IPC dimensions of affiliation and control (see Figure 1). In some situations it may be desirable to measure the latter two constructs directly. For example, some models of biological underpinnings of individual differences in social behavior (Depue, 2006) suggest that control and affiliation are related to distinct neural systems, and traditional measures of extraversion reflect a personality correlate of the combined functioning of these systems. Types or aspects of personality disorder could also have differing associations with control and affiliation (Wiggins & Pincus, 1989), and therefore correlations with extraversion could produce a less precise description of interpersonal features of personality dysfunction. Similarly, research on psychosocial risk factors for physical illness and reduced longevity suggests that affiliation is inversely associated with risk, whereas control or dominance confers increased risk (Smith et al., in press). These differing associations could be obscured if extraversion is measured rather than the two IPC dimensions. Further, low agreeableness (i.e., antagonism) combines low affiliation with high control. If antagonism is found to predict poor emotional or physical health, it is possible that either low affiliation or dominance – or both – are involved in the association. Certainly, the large and informative literature on extraversion and agreeableness attests to the utility of these concepts and the related measures. Yet, the IPC-based alternative is also likely to be useful in some applications.

To provide empirical integration of the IPC and FFM, Trapnell and Wiggins (1990) extended the original IPC-based Interpersonal Adjective Scales (Wiggins, 1979), adding scales for the other three FFM traits (i.e., conscientiousness, neuroticism, openness) and the FFM alternatives to the IPC dimensions (i.e., extraversion, agreeableness). However, among FFM-based inventories, the NEO-PI-R (Costa & McCrae, 1992) is the most widely utilized (Costa & McCrae, 2008). To avoid the need for multiple inventories, IPC-based control and affiliation scales within the NEO-PI-R would be useful. Wiggins and Trobst (1998) proposed such a NEO-PI-R based IPC measure, and provided initial evidence of reliability and expected structure. In the research reported here, we attempted to replicate the circumplex structure of this NEO-PI-R based version of IPC scales and examined their convergent and discriminant validity for self-reports and spouse ratings.

Method

Participants

Participants included 301 married couples (Wives, $M = 53.0$ years old, Husbands, $M = 55.3$). The majority were Caucasian (Wives, 96.6%; Husbands, 95.8%) and recruited from the greater Salt Lake City, Utah community. Eligibility screening included: 1) married for a minimum of 5 years, 2) at least one member who was either between 40 and 50 years old or between 60 and 70 years old, and 3) English as a primary language was required.

Measures

Participants completed items from self-report (Form S) and observer rating (Form R) versions of the NEO-PI-R (Costa & McCrae, 1992) Extraversion and Agreeableness domains. On the basis of item content and related research (McCrae & Costa, 1989; Trapnell & Wiggins, 1990), Wiggins and Trobst (1998) identified items from these domains to measure IPC octants, and established the internal consistency of the octant scales, as well as their circumplex structure.¹ In terms of their NEO-PI-R location, PA octant items are mostly from the assertiveness facet scale of extraversion, with other items from the excitement seeking and activity facets. BC items are reversed scored items from the modesty and straightforwardness facets of agreeableness. DE items are reversed scored items from the altruism, trust, and straightforwardness facets of agreeableness and the warmth facet of extraversion. FG items are reversed scored items from the positive emotionality, gregariousness, and activity facets of extraversion. HI items are primarily reversed scored items from the assertiveness facet of extraversion, and items from the modesty and compliance facets of agreeableness. JK items are from the modesty, straightforwardness, and compliance facets of agreeableness. LM items are from the altruism, tender-mindedness, and trust facets of agreeableness, and NO items are from the positive emotionality, warmth, and gregariousness facets of extraversion. In their original analyses, internal consistencies of

¹The NEO-PI-R (Costa & McCrae, 1992) item numbers for the IPC octant scores from the Wiggins and Trobst (1998) scoring are as follows: PA (12, 47, 72, 132, 142, 192), BC (24, 39, 144, 159, 189, 234), DE (04, 14, 74, 92, 124, 134), FG (27, 67, 87, 127, 137, 187), HI (42, 54, 79, 102, 162, 222), JK (09, 19, 69, 139, 174, 204), LM (44, 104, 184, 194, 209, 224), NO (37, 117, 122, 177, 217, 237), from the NEO Personality Inventory-Revised Form R, by Paul Costa and Robert McCrae, Copyright 1978, 1985, 1989, 1991, 1992 by Psychological Assessment Resources, Inc. (PAR). Further reproduction is prohibited without permission of PAR. Note that in the IPC scoring, items are scored in the direction of the IPC octant content, which in some cases is opposite to the NEO-PI-R scoring.

these 6-item octant scales ranged from $\alpha = .77$ (BC) to $.58$ (JK). In the current sample, alphas ranged from $.75$ (DE) to $.54$ (JK), with a median value of $\alpha = .68$.

Participants also completed a separate IPC measure, a 32 item version of the Impact Message Inventory (IMI; Kiesler & Schmidt, 1993) assessing perceptions of their spouse's behavior during marital interactions. They rated their agreement with statements that indicate how interacting with their spouse makes them feel, such as: "In general, interacting with my husband/wife makes me feel bossed around;" and "In day-to-day interactions, my husband/wife makes me feel that I can lean on him/her for support." Four-item octant scales are combined to obtain scores for affiliation and control. This scale demonstrates good reliability across all dimensions ($\alpha = .69$ or greater for all scales), and several studies with this version demonstrate construct validity (Smith, Ruiz, & Uchino, 2004).

Procedures

Participants were recruited through a telephone polling firm, advertisements in local newspapers, workplace newsletters, health and fitness centers, and community programs. Participants received separate survey packets for husbands and wives. Questionnaires described and analyzed in this paper represent a subset of those included in the study.

Statistical Analyses

To evaluate the circumplex structure of the NEO-PI-R IPC octant scales, participants' scores were correlated with one another and subjected to a principal components analysis (PCA). PCA represents an exploratory approach, and circumplex structure is reflected in a solution that recovers two main dimensions and loadings of octant scales on these dimensions in a circular pattern (Gurtman & Pincus, 2003), with high loading for measures of the poles of the main dimensions, intermediate loadings for measures in the diagonal of the IPC, and near zero loading for measures that fall at right angles to an IPC dimension. As a confirmatory test, the correlation matrix of NEO-PI-IPC octant scales was analyzed using the RANDALL program (Tracey, 1997). This procedure uses a randomization test of hypothesized order relations. By weighting the relative magnitudes of expected correlations among the octant scales, RANDALL calculates how many predictions, out of 288 in the case of an octant circumplex, are consistent with the predicted circular structure (i.e., the correlations of adjacent scales should exceed correlations of scales two octants apart, which in turn should exceed those of scales three octants apart, which in turn should exceed those of scales opposite on the circle). This program also calculates the correspondence index (CI; Hubert & Arabie, 1987), which is the proportion of predictions met minus the proportion violated and the probability that the fit would occur by chance. CI scores range from -1.0 (all predictions violated) to 0.0 (50% met or chance) to 1.0 (all predictions met).

The convergent and discriminant validity of the NEO-PI-R IPC octant scales was tested through the structural convergence (Wagner, Kiesler, & Schmidt, 1995) of the two pairs of self-report and spouse-rating octant scales (i.e., convergence of wives' self-reports with husbands' spouse-ratings; husbands' self-reports with wives' spouse-ratings). Converging sets of octant scores were subjected to a joint PCA. Loadings of the two sets of octant scores on the first two components are then plotted. Convergence is computed as the mean angular

displacement (MAD) between the corresponding pairs of octant scores. The significance of the convergence is tested as $\chi^2 = 4n[\cos(\text{MAD}/2)^2]$, where n equals the number of pairs being compared.

Results

Circumplex Structure of the NEO-PI-R IPC Scales

Pearson correlations among the octant scales for wives' self-reports and husbands' self-reports (considered separately) are displayed in the top half of Table 1; correlations for wives' and husbands' partner ratings are in the lower portion. As expected the highest positive correlations occur for adjacent octant scales and the largest negative correlations occur between polar opposite scales. Further, inspection of these matrices reveals a pattern of correlations that generally varied with positions around the circumplex, consistent with the expected pattern.

In exploratory tests of the circumplex structure of the IPC octant scales, PCA were conducted on the four sets of scales in Table 1. Factor loadings for each of these four PCAs are presented in Table 2. In the PCA of wives' self-reports, two factors emerged with Eigenvalues greater than 1.0. Factor loadings indicated that the first factor (Eigenvalue = 3.04; % of Variance = 37.9) reflected control, whereas the second (Eigenvalue = 2.03; % of Variance = 25.4) reflected affiliation. Similarly in the PCA of husbands' self-reports, two factors emerged with Eigenvalues greater than 1.0; the first reflected control (Eigenvalue = 2.86; % of Variance = 35.7) whereas the second reflected affiliation (Eigenvalue = 2.10; % of Variance = 26.2). In the PCA of wives' ratings of their husbands, again only two factors emerged; first (Eigenvalue = 3.25; % of Variance = 40.6) reflected control, whereas the second (Eigenvalue = 2.55; % of Variance = 31.8) reflected affiliation. Finally, the PCA of husbands' spouse ratings again revealed only two factors, reflecting control (Eigenvalue = 2.67; % of Variance = 33.3) and affiliation (Eigenvalue = 2.47; % of Variance = 30.9). Plotting the octant scales according to their loading on the two components produced a clear approximation of the IPC in each case. Panels A and B of Figure 2 display plots of the component loadings of the eight scales for self-reports, and Panels C and D display the spouse-ratings; all four demonstrated the expected circular structure, albeit with minor variations of the axes.

In the confirmatory test of circumplex structure using RANDALL (Tracey, 1997), each of the four analyses of the sets of correlations presented in Table 1 provided clear evidence of the expected structure. For wives' self-reports, 281 of 288 predictions were met ($CI > .95$, $p < .001$); for husbands' self-reports, 287 of 288 were met ($CI > .99$, $p < .001$); for wives' spouse-ratings, 285 of 288 were met ($CI > .97$, $p < .001$); and for husbands' spouse ratings, 278 of 288 were met ($CI > .93$, $p < .001$). All cases indicate close conformity to the expected circular structure.

Convergent and Discriminant Validity of NEO-PI-R IPC Scales

Pearson correlations reflecting the convergence of the self-report and spouse-rating NEO-PI-R IPC octant scores are displayed in Table 3. The matrix of correlations again generally

reflects expected patterns of convergence and circumplex structure, in which the convergent associations between self-reports and spouse-ratings for a given octant along the main diagonal are the largest values in each row and column, with a general pattern of falling and rising correlations corresponding to the distance between scales around the IPC. There were some exceptions to this pattern. For example, the correlation of the LM pole of the affiliation dimension with the polar opposite scale (DE) for wives' self-reports and ratings by their spouses were relatively weak, being about half as large as the corresponding correlation for husbands' self-reports and ratings by their wives. Similarly, The BC (hostile-dominant) – JK (friendly-submissive) octant scale correlations for both the wives' self-reports with ratings by husbands and husbands' self-reports with ratings by wives were also somewhat weak compared to the other associations involving convergence between polar opposite scales.

As a direct test the convergent and discriminant validity of the NEO-PI-R IPC octant scales, structural convergence of the self-report and partner-rating octant scales was tested through two sets of joint PCAs (Wagner et al., 1995). In the PCA of wives' octant self-reports and husbands' ratings of their wives, two factors emerged with Eigenvalues greater than 1.0. As can be seen in the first column of Table 4, the first factor (Eigenvalue = 4.42; % of Variance = 27.65) captured the control dimension. The second column indicates that the second factor (Eigenvalue = 3.29; % of Variance = 20.54) captured the affiliation dimension. In the combined PCA of husbands' self-reports and wives' ratings of their husbands, again two factors had Eigenvalues greater than 1.0. The first (see third column of Table 4; Eigenvalue = 4.861; % of Variance = 30.38) reflected the control dimension, whereas the second (see fourth column of Table 4; Eigenvalue = 3.62; % of Variance = 22.62) reflected affiliation.

Plots of the first two components for wives' self-reports and husbands' partner ratings are displayed in Panel A of Figure 3; husbands' self-reports and wives' partner-ratings are in Panel B. Convergence was computed as the mean angular displacement (MAD) between pairs of self and spouse scores. For wives' self-reports and husbands' partner-ratings, MAD was 9.42° , with $\chi^2(8) = 29.63$, $p < .01$, and for husbands' self-reports with their wives' partner-ratings, MAD was 11.75° , with $\chi^2(8) = 26.37$, $p < .01$. Thus, there is significant structural convergence between the self and partner octant scale ratings on the NEO-PI-R IPC. These results indicate a high level of convergent and discriminant validity at the level of octant scales.

To examine convergent and discriminant validity of the control and affiliation dimension scales, the association of self-report NEO-PI-R control and affiliation scores with NEO-PI-R spouse-ratings of these dimensions and IMI-C ratings of the spouse on these two dimensions were examined. Pearson correlations are presented in Table 5. In each case self-reports of control were more closely associated with spouse-ratings of control than with spouse ratings of affiliation. Similarly, self-reports of affiliation were more closely associated with spouse ratings of affiliation than with spouse ratings of control (t-tests for differences between dependent correlations > 3.0 in all cases, $p < .01$). This cross-source convergence was generally greater for spouse-ratings on the NEO-PI-R than for the IMI, but the patterns of convergent and discriminant associations were similar for both sets of spouse-ratings. In a further test of the convergent and discriminant validity, the NEO-PI-R spouse-ratings of affiliation and control were correlated with the IMI spouse-ratings. These Pearson

correlations are presented in Table 6, where the convergent associations are consistently larger than divergent associations (all t -tests > 3.0 , $p < .01$). The small cross-dimension associations are consistent with prior conjoint analyses of the IMI and IAS (Kiesler & Schmidt, 1993), in which the IMI dimensions are rotated counterclockwise slightly in the IPC space defined by the IAS.

Replicating the IPC Location of Extraversion and Agreeableness

Across the four sets of assessments (i.e., wives' and husbands' self-reports and spouse-ratings), when NEO-PI-R scores for Extraversion and Agreeableness were regressed on the NEO-PI-R IPC control and affiliation dimension scores the multiple R ranged from .94 to .97 (c.f., Gurtman & Pincus, 2003), indicating nearly complete representation of the FFM traits in the IPC space. The overlapping items would account for the fact that this association is stronger than reported elsewhere (McCrae & Costa, 1989; Wiggins & Broughton, 1991). Across these four analyses, Extraversion was highly correlated with the control axis of the IPC (r s ranged from .85 to .89) and moderately associated with the affiliation (r s ranged from .42 to .53), all p values $< .01$. Agreeableness was closely associated with the affiliation axis (r s ranged from .71 to .87) and moderately associated with control (r s ranged from $-.35$ to $-.42$), all p values $< .01$. Hence, as in prior analyses, Extraversion corresponded to somewhat friendly dominance in the IPC, whereas Agreeableness corresponded to somewhat submissive friendliness.

Discussion

Overall, the NEO-PI-R IPC octant scales originally proposed by Wiggins and Trobst (1998) demonstrated the expected circumplex structure, and construct validity in the form of significant convergence between self-reports and spouse ratings. In four separate analyses (i.e., self-reports and spouse-ratings from wives and husbands) and two methods (i.e., PCA and RANDALL), the IPC octant scales derived from the NEO-PI-R conformed closely to the predicted circumplex structure. Further, these octant scales demonstrated convergent and discriminant validity in the pattern of correlations between self-reports and spouse-ratings and in joint PCAs of self-reports and spouse ratings. Further, the control and affiliation dimension scales proposed by Wiggins and Trobst (1998), calculated from the octant scores, demonstrated convergent and discriminant validity. The parallel self-report and spouse rating versions of these dimension scales demonstrated clear evidence of convergent and discriminant validity, as did their associations with a second measure of the IPC (i.e., IMI).

These findings support the availability of valid IPC measures within the NEO-PI-R. This could facilitate the integration of FFM and interpersonal perspectives when this widely-used inventory is used. It should be noted again, however, that when considered together the IPC and FFM versions of these individual differences define virtually identical conceptual spaces. Further, the facet scales within the Extraversion and Agreeableness domains of the NEO-PI-R could provide some of the same specificity that is obtained through the IPC scoring system. Importantly, additional research is necessary before generalizing these results to non-Caucasian ethnic groups, younger adults, and non-married individuals. Also, the internal consistency of the octant scales was problematically low in some cases and may

require further examination and refinement. Until then, interpretation of the individual octant scales should be qualified by the potential limitations of their low internal consistency. Finally, it will be important to use large representative samples to develop norms for these IPC octant and dimension scales.

As noted above, the validation of these IPC scales from the FFM-based NEO-PI-R is not intended to suggest that control and affiliation are inherently more useful or accurate replacements of the FFM traits of extraversion and agreeableness, as a substantial body of theory and research attests to the utility of the traditional concepts and related measures. Nonetheless, the scales proposed by Wiggins and Trobst (1998) could facilitate the integration of the FFM and interpersonal perspectives in research and practice. In addition to the version of the IAS-R that permits scoring of the IPC and FFM traits (Trapnell & Wiggins, 1990), the widely used NEO-PI-R can be used to obtain both the standard FFM trait domain scores and the facets comprising these broad domains, as well as the IPC octants and dimensions.

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Figure 1.

The Interpersonal Circumplex (IPC), adapted from Kiesler (1996), Leary (1957), and Wiggins (1979). Primary dimensions are control (dominance vs. submissiveness) and affiliation (friendliness vs. hostility). Octant scores reflect blends of these dimensions, and are labeled with the alphabetical notation originally provided by Leary (1957). The IPC locations of FFM traits of extraversion (vs. introversion) and agreeableness (vs. antagonism) are indicated in italics, based on prior theory and research (McCrae & Costa, 1989; Trapnell & Wiggins, 1990).

Figure 2.
 Plot of Rotated Components for NEO-PI-R Octant Scales *Panel A:* Wives' Self Reports.
Panel B: Husbands' Self Reports. *Panel C:* Wives' Spouse Ratings. *Panel D:* Husbands' Spouse Ratings.

Figure 3. Plots of PCA Components for Joint PCA of Self-Reports and Spouse Ratings *Panel A:* Wives' Self Reports and Husbands' Spouse Ratings. *Panel B:* Husbands' Self Reports and Wives' Spouse Ratings.

Table 1

Pearson Correlations within Self Reports and Spouse Ratings on NEO-PI-R Interpersonal Circumplex Octant Scales

Self Reports	PA	BC	DE	FG	HI	JK	LM	NO
PA	1	0.46	-0.05	-0.39	-0.62	-0.10	0.17	0.50
BC	0.37	1	0.35	-0.08	-0.25	-0.42	-0.08	0.20
DE	-0.00	0.26	1	0.45	-0.11	-0.29	-0.47	-0.35
FG	-0.41	-0.06	0.51	1	0.44	0	-0.35	-0.68
HI	-0.58	-0.33	0.15	0.48	1	0.26	-0.07	-0.318
JK	-0.17	-0.31	-0.23	-0.07	0.24	1	0.30	0.05
LM	0.24	-0.08	-0.53	-0.34	-0.11	0.35	1	0.39
NO	0.44	0.19	-0.41	-0.68	-0.44	0.07	0.40	1
Partner Ratings	PA	BC	DE	FG	HI	JK	LM	NO
PA	1	0.41	-0.05	-0.50	-0.68	-0.15	0.22	0.54
BC	0.36	1	0.35	-0.06	-0.25	-0.45	-0.16	0.17
DE	0.05	0.45	1	0.35	-0.10	-0.49	-0.58	-0.30
FG	-0.41	-0.04	0.50	1	0.27	-0.12	-0.29	-0.73
HI	-0.63	-0.36	0.00	0.43	1	0.30	0.09	-0.25
JK	-0.16	-0.55	-0.59	-0.18	0.22	1	0.50	0.13
LM	0.08	-0.24	-0.68	-0.47	-0.03	0.54	1	0.33
NO	0.46	0.11	-0.44	-0.78	-0.36	0.18	0.49	1

Note. Correlations for wives above diagonal, husbands below.

PA=Dominance; NO=Friendly Dominance; LM=Friendly Submissiveness; JK=Friendly Submissiveness; HI=Submissiveness; FG=Hostile Submissiveness; DE=Hostility; BC=Hostile Dominance

Table 2

Rotated Loadings for Principal Components Analyses for Self Reports and Spouse Ratings on NEO-PI-R Interpersonal Circumplex Octant Scores

<u>Self Reports</u>	<u>Wives'</u>		<u>Husbands'</u>	
	Component 1	Component 2	Component 1	Component 2
PA	0.82	0.10	0.72	-0.36
BC	0.67	-0.37	0.28	-0.72
DE	-0.04	-0.82	-0.45	-0.68
FG	-0.54	-0.64	-0.83	-0.15
HI	-0.81	-0.13	-0.66	0.36
JK	-0.40	0.55	-0.07	0.74
LM	0.07	0.76	0.53	0.51
NO	0.61	0.58	0.81	0.12

<u>Partner Ratings</u>	<u>Wives'</u>		<u>Husbands'</u>	
	Component 1	Component 2	Component 1	Component 2
PA	0.87	-0.10	0.83	-0.16
BC	0.49	-0.66	0.44	-0.54
DE	-0.18	-0.87	-0.12	-0.82
FG	-0.76	-0.45	-0.74	-0.39
HI	-0.78	0.21	-0.68	0.31
JK	-0.17	0.82	-0.17	0.79
LM	0.31	0.78	0.20	0.76
NO	0.76	0.42	0.77	0.36

Table 3
Pearson Correlations of Self Reports with Spouse Ratings on NEO-PI-R Interpersonal Circumplex Octants Scales

	W PA	W BC	W DE	W FG	W HI	W JK	W LM	W NO
P PA	0.53**	0.26**	-0.05	-0.32**	-0.43**	-0.13*	0.10	0.31**
P BC	0.28**	0.34**	0.06	-0.11	-0.17**	-0.21**	0.03	0.13*
P DE	0.05	0.09	0.29**	0.19**	0.03	-0.27**	-0.17**	-0.23**
P FG	-0.25**	-0.06	0.22**	0.45**	0.30**	-0.05	-0.16**	-0.47**
P HI	-0.50**	-0.28**	-0.03	0.25**	0.49**	0.18**	-0.00	-0.28**
P JK	-0.15*	-0.19**	-0.15**	-0.03**	0.18**	0.35**	0.16**	0.03
P LM	-0.00	-0.06	-0.17**	-0.11	0.00	0.21**	0.24**	0.13*
P NO	0.24**	0.04	-0.18**	-0.36**	-0.27**	0.04	0.15**	0.46**
	H PA	H BC	H DE	H FG	H HI	H JK	H LM	H NO
P PA	0.55**	0.24**	-0.07	-0.38**	-0.44**	-0.15**	0.17**	0.38**
P BC	0.25**	0.33**	0.07	-0.14*	-0.27**	-0.32**	0.06	0.15*
P DE	-0.02	0.18**	0.41**	0.22**	-0.04	-0.29**	-0.31**	-0.17**
P FG	-0.31**	-0.07	0.31**	0.50**	0.22**	-0.07	-0.31**	-0.49**
P HI	-0.52**	-0.27**	-0.05	0.30**	0.54**	0.24**	-0.08	-0.30**
P JK	-0.08	-0.20**	-0.23**	-0.01**	0.14*	0.36**	0.23**	0.00
P LM	0.11	-0.06	-0.34**	-0.20**	-0.01	0.23**	0.39**	0.24**
P NO	0.26**	0.10	-0.32**	-0.48**	-0.19**	0.07	0.31**	0.57**

PA=Domineer; NO=Friendly Dominance; LM=Friendliness; JK=Friendly Submissiveness; HI=Submissiveness; FG=Hostile Submissiveness; DE=Hostility; BC=Hostile Dominance
Convergent associations in bold;

W & H=Wife & Husband Self Reports, P= Rating by Partner

Table 4

Rotated Factor Loadings for Joint Principal Components Analyses of Self Reports and Spouse Ratings on NEO-PI-R Interpersonal Circumplex Octant Scores

<u>Self Reports</u>	<u>Wives</u>		<u>Husbands</u>	
	Component 1	Component 2	Component 1	Component 2
PA	0.77	−0.03	0.73	0.04
BC	0.49	−0.33	0.49	−0.33
DE	−0.17	−0.61	−0.08	−0.64
FG	−0.60	−0.45	−0.61	−0.41
HI	−0.74	−0.02	−0.68	0.05
JK	−0.25	0.53	−0.36	0.52
LM	0.19	0.53	0.22	0.56
NO	0.66	0.44	0.62	0.41

<u>Ratings by Partner</u>	<u>Husband Rating of Wife</u>		<u>Wife rating of Husband</u>	
	Component 1	Component 2	Component 1	Component 2
PA	0.75	0.00	0.79	0.11
BC	0.48	−0.38	0.57	−0.42
DE	0.05	−0.73	0.05	−0.82
FG	−0.53	−0.49	−0.55	−0.60
HI	−0.70	0.18	−0.77	0.05
JK	−0.32	0.65	−0.32	0.67
LM	−0.02	0.65	0.08	0.76
NO	0.53	0.46	0.55	0.59

Table 5

Correlations of Wives' and Husbands' Self Reports with Their Partners' Reports on the NEO-PI-R and IMI Affiliation and Control Dimension Scores

Ratings by Spouse	<u>Wives' Self-Reports</u>		<u>Husbands' Self-Reports</u>	
	Control	Affiliation	Control	Affiliation
Control NEO	0.61 **	0.10	0.64 **	0.17 **
Affiliation NEO	0.04	0.39 **	0.05	0.49 **
Control IMI	0.42 **	-.06	0.36 **	-.09
Affiliation IMI	.08	0.28 **	0.13 *	0.31 **

Note.

*
 $p < .05$.

**
 $p < .01$. (2-tailed).

Convergent associations in bold

Table 6

Correlations of Wives' and Husbands' Partner Ratings on the NEO-PI-R and IMI Affiliation and Dominance Dimension Scores

	<u>Wives</u>		<u>Husbands</u>	
	NEO-Con	NEO-Aff	NEO-Con	NEO-Aff
IMI-Con	0.51 **	-.28 **	0.45 **	-.18 **
IMI-Aff	0.28 **	0.60 **	0.13 *	0.38 **

Note.

*
 $p < .05$.

**
 $p < .01$. (2-tailed).

Convergent association in bold