
Increasing Acquaintanceship and Complementarity of Behavioral Styles and Personality Traits Among College Roommates

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Robert Carson's principle of complementarity asserts that the behavioral styles of interaction partners tend to complement each other by encouraging individuals to act opposite in terms of dominance and similar in terms of warmth. The principles of complementarity further hypothesize that as relationships progress through multiple interactions, the behavioral styles of its members will be altered to increase complementarity. To examine this acquaintanceship hypothesis, the behavioral styles and personalities of 102 college roommate dyads were assessed after living together for 2 weeks and again after living together for 15 weeks. Consistent with the acquaintanceship hypothesis, after 2 weeks the behavioral styles of roommates did not complement each other; however, after 15 weeks, the behavioral styles of roommates strongly complemented each other. In contrast to the change in complementarity observed in roommates' behavioral styles, participants' perceptions of their own personalities were relatively unaffected by the personalities of their roommates.

Keywords: complementarity; interpersonal circumplex; interpersonal behaviors

Every fall, thousands of young adults leave their homes and begin college. This experience often affords students the chance to start new social networks and experience life away from home for the first time. This typically results in students living in dorm rooms with a person they previously did not know. These arbitrarily formed dyads often develop into strong friendships, antagonistic relationships, or one of the many shades of indifference between these extremes. In any case, within the close confines of their living situation, all roommates will engage in a multitude of interpersonal interactions. Because these individuals are initially

forced to live together regardless of their feelings about one another, it seems likely they will alter their behavioral styles when interacting with each other to encourage a reasonable state of harmony. To this end, the current research examines whether increasing levels of acquaintanceship alter the interpersonal behavior of college roommates in a manner consistent with the principles of complementarity.

The principles of complementarity assert that during dyadic interactions, the behavioral style of one person tends to elicit or constrain the behavioral style of the other and vice versa (Carson, 1969; Kiesler, 1983). For example, a person may act differently around a roommate who is hostile than he or she may act around a roommate who is warm. This notion suggests that one's behavioral style conveys information regarding how others (e.g., roommates) should respond; thus, for each behavioral style, there is another behavioral style that is its complement.

The Interpersonal Circumplex (IPC; Leary, 1957) is often used to define the exact manner in which behavioral styles complement each other. The circular structure of the IPC implies that variables measuring

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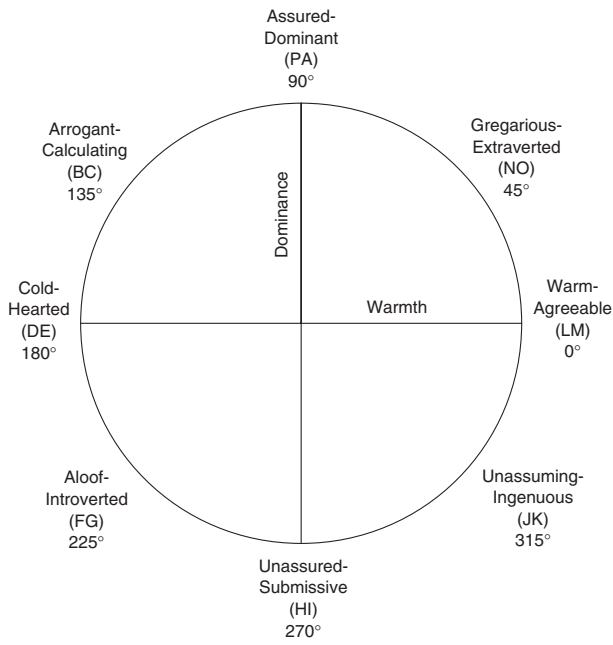


Figure 1 Wiggins, Trapnell, and Phillips's (1988) Interpersonal Circumplex.

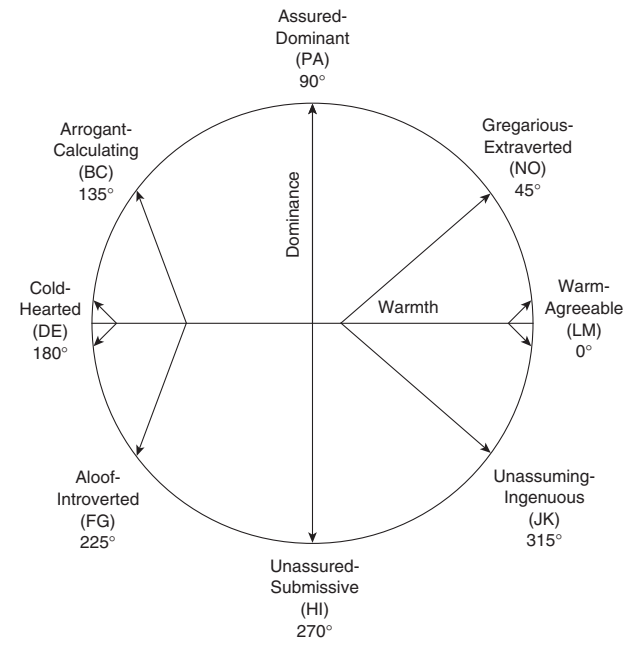


Figure 2 Complementary octants of the Interpersonal Circumplex according to Carson's (1969) definition.

behavioral styles are arranged on the circumference of a circle formed by the two primary dimensions of warmth and dominance (Acton & Revelle, 2002; Markey, Markey, & Tinsley, 2005; Wiggins, Trapnell, & Phillips, 1988). Although the IPC has gone through various revisions (e.g., Kiesler, 1983; Strong et al., 1988), there tends to be agreement concerning its basic structure. Figure 1 presents the circular ordering of the eight-octant behavioral styles presented by Wiggins et al. (1988).

Using the two main dimensions of the IPC, Robert Carson (1969) defined the particular manner in which complementarity occurs. During interpersonal interactions, dominant or submissive behavioral styles encourage the opposite style in interaction partners (i.e., dominance invites submission, and submission invites dominance), and warm or cold behavioral styles encourage similar response in interaction partners (i.e., warmth invites warmth, and coldness invites coldness). This implies that an individual's behavioral style alters the behavioral style of his or her interaction partner in predictable ways. Figure 2 uses arrows to graphically display the manner in which behavioral styles are predicted to complement each other. For example, if Person A acts in a warm and dominant manner (octant NO), the likely response of Person B would be to complement this style of behavior by acting in a warm and submissive

manner (octant JK). Research suggests that Carson's model of complementarity is predictive of many diverse relationship outcomes, such as therapy satisfaction (Tracey, 2004), closeness of friends (Yaughn & Nowicki, 1999), cooperative behavior among preschool children (McLeod & Nowicki, 1985), number of verbal exchanges (Nowicki & Manheim, 1991), and marital divorce (Tracey, Ryan, & Jaschik-Herman, 2001).

Past research investigating complementarity has often examined the behavioral styles of individuals while interacting with confederates or imagined interaction partners (e.g., Bluhm, Widiger, & Miele, 1990; Tracey, 1994). For example, Strong et al. (1988) found that participants who interacted with a confederate coached to act in accordance with one of the IPC octants tended to respond to this confederate in a manner predicted by the model presented in Figure 2. Although such research suggests that interpersonal transactions tend to occur in a complementary manner at a single time point, the generalizability of these findings outside the laboratory setting still remains unclear. As noted by Sadler and Woody (2003), research using a confederate or an imagined interaction partner is less sensitive to the principle of complementarity, which states that both individuals will mutually influence each other's behavioral styles during a dyadic interaction. Based on these studies, it is unclear if complementarity would

occur in more realistic dyadic interactions in which both persons freely express their behavioral styles.

When complementarity has been examined in dyadic interactions without confederates, researchers have tended to examine the behavioral styles of randomly paired strangers (e.g., Sadler & Woody, 2003). For example, Markey, Funder, and Ozer (2003) found that the behavioral styles of strangers tended to occur in a complementary manner as they were videotaped engaging in several tasks (e.g., building Tinker-Toys, playing the memory game Simon, etc.). Although randomly pairing participants serves to reduce potential confounds that might artificially increase the observed complementarity during an interaction, it also reduces the importance of the interaction from the perspective of the participants. Participants are aware that at the conclusion of the experiment they will likely never interact with this stranger again. It is therefore likely that such interactions have less interpersonal salience to participants than interactions they have with their coworkers, roommates, or loved ones. The lack of importance attached to strangers in the laboratory might alter the generalizability of such research to the daily interactions that occur outside the laboratory with interpersonally important individuals.

The lack of salience of interaction partners may not be the only aspect of the lab setting that hinders the generalizability of these findings to real-world interactions. The carefully planned and controlled protocols of the typical experiment render laboratory interactions much less realistic than natural relationships. When two individuals are paired with each other in a laboratory and instructed to interact, they find themselves talking to each other without any of the distractions that occur in a natural environment. Of course, in the natural environment there are a multitude of distractions that affect the flow of interpersonal transactions—a third person might enter a room, a television might be turned on, a meal may be served, and so on. In this manner, the controlled environment of the laboratory might artificially increase how much the behavioral styles of two people complement each other. It would therefore be desirable to examine the principles of complementarity across time to gauge the effects of multiple interpersonal interactions that occur in naturally developing relationships.

To examine complementarity outside the laboratory, researchers have tended to employ measures of stable personality traits to determine which types of personalities complement each other (e.g., O'Connor & Dyce, 1997; Tracey et al., 2001; Yaughn & Nowicki, 1999). In such research designs, personality traits are typically assessed using self-report methods that provide information about how a person generally behaves across

different interaction partners. That is, an individual's perception of his or her personality is unlikely to be affected by the interpersonal style of one specific interaction partner. Because the principles of complementarity assert that the behavioral styles of individuals are altered by the behavioral styles of different interaction partners, self-ratings of personality traits would be limited in the information they can provide concerning complementarity in specific relationships (Tracey, 2004). A better way to examine complementarity outside the laboratory might be to assess how an individual tends to behave when he or she is in the presence of a specific interaction partner and how this specific interaction partner tends to behave when he or she is in the presence of the individual. One means of obtaining such information is to have each member of a dyad describe the behavioral style of the other member of the dyad. In contrast to self-rated personality traits, informant reports of interaction partners' behavioral styles may provide insight into how a person tends to behave when he or she is in the presence of the rater.

There are few studies examining complementarity outside the laboratory, but no studies to date have examined how the behavioral styles of individuals affect each other across the course of a naturally developing relationship. This is an unfortunate omission because interpersonal theory stresses that as relationships progress, the behavioral styles of its members will be altered in a manner that establishes greater complementarity if they are invested and/or cannot escape the relationship (Kiesler, 1983). If this principle is correct, the degree of complementarity observed in the behavioral styles of two individuals should increase across time due to greater levels of acquaintanceship in their ongoing relationship.

The current study examines complementarity of behavioral styles and personality traits between college roommates at two occasions during the first semester of college. Following the principles of complementarity set forth by Kiesler (1983), it is hypothesized that roommates' perceptions of behavioral styles will become more complementary at higher levels of acquaintanceship. However, because complementarity focuses on how an interaction partner alters one's behavioral style, it is predicted that roommates' perceptions of their own personalities (i.e., how they generally behave across interaction partners) will be relatively unaffected by the personalities of their roommates. In other words, it is hypothesized that across the 13-week period, roommates will alter their behavioral styles in a complementarity manner, but their self-perceptions of personality will not be altered during this time frame. College roommates provide several unique opportunities for testing the principles of complementarity that have not

been fully explored in the existing literature. First, when roommates are randomly paired by the institution, various selection biases and similarity confounds are lessened, rendering a more “experimental” flavor to the design. Second, the dates of introduction and cohabitation may be obtained, which allows for an exact characterization of temporal acquaintanceship. Third and perhaps most important, the social interactions of roommates occur in a natural environment that requires cooperation and compromise within the close confines of a daily living situation. Over time, the behavior of the roommate can be highly salient to a college student’s personal, social, and academic goals. Indeed, the relationship may develop into a friendship or something quite the opposite. The use of college roommates in the present study addresses major omissions in the previous literature on complementarity described earlier, namely, access to real relationships of importance to both persons developing over time through interactions that occur in a natural environment.

METHOD

Participants

Participants were 204 female freshman undergraduates (102 roommate dyads). At least one person in each roommate dyad was enrolled in an introductory psychology course and received course credit for participating. To be eligible to participate in the study, the participant had to recruit and be accompanied by her roommate at two sessions. Participants who did not need course credit received \$15 for completing the study. Other than the considerations of gender and smoking preference, roommates were randomly paired together by the university. None of the roommates were acquainted with each other before they were assigned to sharing a room.

Procedure

Data were collected at two different time points, after roommates had lived together for 2 weeks and after roommates had lived together for 15 weeks (i.e., approximately one semester). After living together for 2 weeks, roommates came to the laboratory and were placed in separate testing rooms. Participants then completed measures designed to assess perceptions of their roommate’s behavioral style and perceptions of their own personality. After living together for 15 weeks, participants returned to the laboratory, were again placed in separate testing rooms, and were again asked to complete the measures designed to assess perceptions of their roommate’s behavioral style and perceptions of their own personality.

Measures

Behavioral style of roommate. Participants rated the behavioral styles of their roommates using an informant version of the Interpersonal Adjective Scale (I-IAS; Wiggins, 1995; Wiggins et al., 1988). The I-IAS consists of 64 adjective items assigned to one of eight scales. Each scale measures an octant of the interpersonal circle (see Figure 1), and they are alphabetically labeled in a counterclockwise direction: assured-dominant (PA), arrogant-calculating (BC), cold-hearted (DE), aloof-introverted (FG), unassured-submissive (HI), unassuming-ingenuous (JK), warm-agreeable (LM), and gregarious-extraverted (NO). Past research has demonstrated that the informant version of the I-IAS can be reliably used by informants to describe the behavioral styles of others (Kurtz, Lee, & Sherker, 1999). In the current sample, the mean internal consistency estimates for the eight scales of the I-IAS were .89 at 2 weeks and .92 at 15 weeks.

Self-rated personality. Participants rated their own personalities using the self version of the Interpersonal Adjective Scale (S-IAS; Wiggins, 1995; Wiggins et al., 1988). The S-IAS uses the same 64 items as the I-IAS to measure the eight octants of the IPC. The only differences between these two measures are the directions. The S-IAS instructs participants to “Please rate how accurately each of the words describe you as a person,” and the I-IAS instructs participants to “Please rate how accurately each of the words describe your roommate as a person.” In the current sample, the mean internal consistency estimates for the eight S-IAS scales were .87 at 2 weeks and .88 at 15 weeks.

RESULTS

Circular Ordering of the IAS Octant Scales

Before the complementarity hypotheses of the study can be examined, it was first important to determine whether the I-IAS and S-IAS ratings occurred in a manner predicted by the IPC (see Figure 1) at both the 2-week and 15-week assessment sessions. According to the IPC, the magnitude of the within-person correlations between various octant scales of the I-IAS and S-IAS can be predicted based on the distance between the octants. Specifically, correlations between octants closer on the circle are predicted to be greater than those more distal. The correlations for the octants separated by 45° should be greater than the correlations for the octants separated by 90°; the correlations for the octants separated by 90° should be greater than the octants separated by 135°; and the correlations for the octants separated by 135° should be greater than the correlations for the octants

separated by 180°. The circular structure also suggests that the correlations of octants separated by 45° will be greater than those separated by 135° and those separated by 180°; and the correlations of the octants separated by 90° will be greater than the octants separated by 180°. Taken together, the circular structure presented in Figure 1 generates a total of 288 order predictions.

Due to the dependent nature of the data collected for this study, roommate dyads were split by randomly placing each member of a roommate dyad into one of two separate samples. Next, correspondence indices (CI) were computed (Hubert & Arabie, 1987) to evaluate the fit of the circumplex model to the obtained within-person correlation matrices for the I-IAS and S-IAS at 2 weeks and 15 weeks. The CI serves as an index of fit of the original matrix with the order predictions and is computed by comparing an obtained correlation matrix with the 288 order predictions using the formula proposed by Hubert and Arabie (1987):

$$CI = \frac{\text{number of correct predictions} - \text{number of incorrect predictions}}{\text{total number of predictions}}$$

The CI can range from +1 (perfect fit) to -1 (no predictions were met), with a CI of 0.0 indicating the number of predictions met is equal to the number of predictions violated. To evaluate the significance of the fit of the circumplex model to the obtained correlation matrices, the confirmation or violation of the 288 order predictions was examined with a randomization test of hypothesized order relations (Hubert & Arabie, 1987; Rounds, Tracey, & Hubert, 1992). This test yields an exact probability of obtaining the predicted order among the correlations in the observed data matrix under the null hypothesis that the eight-octant scales are relabeled at random; no assumptions about the independence of the order predictions are made. In a correlation matrix with eight variables, there are a total of 8! (40,320) possible random matrices that can be used to create a comparison distribution for evaluating the fit of the original matrix.

Randomization tests were computed to examine the 288 predicted order relations for the I-IAS at 2 weeks and 15 weeks. As shown in Table 1, all of the randomization tests were significant, and none of the random matrices fit the predicted order relations better than the original matrices. Likewise, the obtained correlation matrices for the S-IAS at 2 weeks and 15 weeks significantly conformed to a circular structure (see Table 1).

Complementarity of the IAS Octant Scales

Statistical tests were next performed to test whether the behavioral styles of roommates measured with the

TABLE 1: Randomization Tests of the Circular Order Relations for the Informant Ratings of Roommates' Behavioral Styles (Interpersonal Adjective Scale; I-IAS) and Roommates' Self-Rated Personalities (S-IAS)

	<i>Predictions Made</i>	<i>Prediction Met</i>	<i>Correspondence Index</i>	<i>p</i>
<i>Circular ordering of the informant ratings of roommates' behavioral styles (I-IAS)</i>				
2 weeks				
Sample 1	288	283	.97	< .001
Sample 2	288	277	.93	< .001
15 Weeks				
Sample 1	288	270	.88	< .001
Sample 2	288	271	.90	< .001
<i>Circular ordering of the roommates' self-rated personalities (S-IAS)</i>				
2 weeks				
Sample 1	288	284	.97	< .001
Sample 2	288	283	.97	< .001
15 Weeks				
Sample 1	288	285	.98	< .001
Sample 2	288	284	.97	< .001

I-IAS occurred in a complementary manner after living together for 2 weeks. Table 2 presents the pairwise intraclass correlations (Griffin & Gonzalez, 1995) between roommates' I-IAS octant ratings. To determine if these between-person correlations occurred in a manner predicted by the complementarity model shown in Figure 2, a set of order predictions was created (Rounds et al., 1992). Table 3 displays the predicted correlation matrix when perfect complementarity occurs. As seen in this table, the complementarity model predicts that correlations between complementary octants (e.g., BC and FG, PA and HI, etc.) will be greater than the correlations between scales 45° from complementarity (e.g., BC and HI, PA and FG, etc.), which will also be greater than scales 90° from complementarity (e.g., BC and JK, PA and DE, etc.), which will be greater than scales 135° from complementarity (e.g., BC and LM, PA and BC, etc.), which will be greater than scales 180° from complementarity (e.g., BC and NO, PA and PA). Applying this set of order relations to the octants of the circumplex yields 800 separate order predictions when the observed correlation matrix is symmetrical.

To evaluate the significance of fit for the complementarity model (see Table 3) to the obtained between-person correlation matrix of the I-IAS (see Table 2), the confirmation or violation of the 800 order predictions was examined with a randomization test of hypothesized order relations. The results of the randomization tests of hypothesized order relations and the corresponding

TABLE 2: Intraclass Correlation Matrices for Informant Ratings of Roommates' Behavioral Styles (Interpersonal Adjective Scale; I-IAS) at 2 Weeks and 15 Weeks

	<i>Assured-Dominant (PA)</i>	<i>Arrogant-Calculating (BC)</i>	<i>Cold-Hearted (DE)</i>	<i>Aloof-Introverted (FG)</i>	<i>Unassured-Submissive (HI)</i>	<i>Unassuming-Ingenuous (JK)</i>	<i>Warm-Agreeable (LM)</i>	<i>Gregarious-Extraverted (NO)</i>
<i>I-IAS octant scales at 2 Weeks</i>								
PA	-.01							
BC	.00	.11						
DE	.07	-.02	-.09					
FG	.12	.18		.04				
HI	.07	.05	-.14	-.14	-.16			
JK	.04	.12	-.11	.13	.00	.14		
LM	-.01	-.13	.11	-.18	-.08	-.20*	.20*	
NO	-.10	-.07	.21*	.03	.12	-.05	.14	-.03
<i>I-IAS octant scales at 15 Weeks</i>								
PA	-.21*							
BC	-.08	.16						
DE	-.01	.26**	.40***					
FG	.16	.34**	.40***	.07				
HI	.27**	.18	.12	-.09	-.30**			
JK	.03	-.14	-.23*	-.22**	-.14	.10		
LM	.06	-.26**	-.39***	-.32**	-.12	.22*	.39***	
NO	-.10	-.30**	-.39***	-.16	.01	.22*	.25*	.24*

NOTE: *df* = 100.
 p* < .05. *p* < .01. ****p* < .001.

TABLE 3: Hypothesized Intraclass Correlation Matrix of Interpersonal Adjective Scale Octant Scales According to Carson's (1969) Definition of Complementarity (see Figure 2)

	<i>Assured-Dominant (PA)</i>	<i>Arrogant-Calculating (BC)</i>	<i>Cold-Hearted (DE)</i>	<i>Aloof-Introverted (FG)</i>	<i>Unassured-Submissive (HI)</i>	<i>Unassuming-Ingenuous (JK)</i>	<i>Warm-Agreeable (LM)</i>	<i>Gregarious-Extraverted (NO)</i>
PA	-1.00							
BC	.707	.00						
DE	.00	.707	1.00					
FG	.707	1.00	.707	.00				
HI	1.00	.707	.00	-.707	-1.00			
JK	.707	.00	-.707	-1.00	-.707	.00		
LM	.00	-.707	-1.00	-.707	.00	.707	1.00	
NO	-.707	-1.00	-.707	.00	.707	1.00	.707	.00

CI are presented in Table 4. As seen in Table 4, roommates' behavioral styles did not occur in a complementary manner after living together for 2 weeks (*CI* = .16, *p* = .14).

To examine whether the behavioral styles of roommates occurred in a complementary manner at a higher level of acquaintanceship, pairwise intraclass correlations were computed for the I-IAS octant ratings obtained at 15 weeks (see Table 3). To evaluate the significance of the fit of the complementarity model to the obtained correlation matrix, the confirmation or violation of the 800 order predictions was again examined

using a randomization test of hypothesized order relations. As shown in Table 4, roommates' behavioral styles tended to occur in a complementary manner after living together for 15 weeks (*CI* = .78, *p* = .0001).

Randomization tests were next used to determine if the change in complementarity observed in the I-IAS data from 2 weeks to 15 weeks was significant. Therefore, a *CI* difference was computed to test the relative fit of the complementarity model across the two correlation matrices (i.e., the 2-week I-IAS and the 15-week I-IAS). The *CI* difference is defined as the proportion of predictions met by the second correlation matrix (i.e., 15 weeks)

TABLE 4: Randomization Tests of Complementary Order Relations for the Informant Ratings of Roommates' Behavioral Styles (Interpersonal Adjective Scale; I-AS) and Roommates' Self-Rated Personalities (Interpersonal Adjective Scale; S-IAS) at 2 Weeks and 15 Weeks

	<i>Predictions Made</i>	<i>Predictions Met</i>	<i>Correspondence Index</i>	<i>p</i>
<i>Complementarity of informant ratings of roommates' behavioral styles (I-AS)</i>				
2 weeks	800	459	.16	.137
15 weeks	800	708	.78	< .001
2 weeks versus 15 weeks ^a			.31	.006
<i>Complementarity of roommates' self-rated personalities (S-IAS)</i>				
2 weeks	800	396	.03	.426
15 weeks	800	451	.14	.135
Two weeks versus 15 weeks ^a			.07	.282

a. To examine the change in complementarity from 2 weeks to 15 weeks, a correspondence index difference statistic was computed. This statistic represents the proportion of predictions met at 15 weeks minus the proportion of predictions met at 2 weeks.

minus the proportion of predictions met by the first correlation matrix (i.e., 2 weeks; Hubert & Arabie, 1987; Tracey, 1994; Tracey et al., 2001). As with the CI, the CI difference can range from +1 (all predictions were confirmed by the second correlation matrix and none of the predictions were confirmed by the first correlation matrix) to -1 (all predictions were confirmed by the first correlation matrix and none of the predictions were confirmed by the second correlation matrix), with a CI difference of 0.0 indicating that the model of complementarity fit both data sets equally well. An exact probability of the CI difference can be obtained using randomization tests by comparing the obtained CI difference against the distribution of all permutations of the row and columns of the data matrices (Tracey, 1994; Tracey et al., 2001). As shown in Table 4, the degree of complementarity observed in roommates' behavioral styles significantly increased between 2 weeks and 15 weeks (CI difference = .31; $p = .006$).

Finally, statistical tests were performed to test whether the personalities of roommates, measured with the S-IAS, occurred in a complementary manner after living together for 2 weeks and 15 weeks. Table 5 presents the pairwise intraclass correlations (Griffin & Gonzalez, 1995) between roommates' S-IAS octant ratings at these two time points. To evaluate the fit of the complementarity model to the obtained correlation matrices, CI indices were again computed and tested for significance using

randomization tests of hypothesized order relations. As shown in Table 4, roommates' personalities failed to complement each other at either 2 weeks (CI = .03) or 15 weeks (CI = .16). In addition, as shown in Table 4, the slight change in complementarity between these two time periods was not significant (CI difference = .07; $p = .282$).

DISCUSSION

A key element of interpersonal theory is the hypothesis that during dyadic interactions, the behavioral styles of individuals affect each other in accordance with the principles of complementarity. Specifically, it is theorized that the behavioral styles of interaction partners are likely to complement each other by encouraging individuals to act opposite in terms of dominance (i.e., dominance encourages submission, and submission encourages dominance) and similar in terms of warmth (i.e., warmth encourages warmth, and hostility encourages hostility; see Figure 2). It is further suggested that as important relationships progress through multiple interactions, the behavioral styles of its members will be altered in a manner that establishes greater complementarity (Kiesler, 1983). In other words, as the level of acquaintanceship between two people increases, the degree to which their behavioral styles complement each other should also increase. The current study examined the behavioral styles and personalities of college roommates to investigate the changes in complementarity that might occur as these important interpersonal relationships develop over time and through interactions that occur in a natural environment.

Consistent with this hypothesis, the current study found that roommates' perceptions of each others' behavioral style became more complementary at higher levels of acquaintanceship. After roommates had lived together for only 2 weeks, their behavioral styles did not complement each other, but after living together for 15 weeks, their behavioral styles strongly complemented each other. Thus, at the beginning of the relationship, after a limited number of opportunities to have interacted, roommates did not yet perceive complementing behavioral styles. However, as the relationship progressed and roommates had extensive opportunities to interact, their behavioral styles were altered in a complementary manner. As shown in Table 2, this change in complementarity occurred on both the dominance and warmth dimensions of the IPC. For example, after living together for 15 weeks, participants who acted in a submissive manner tended to have roommates who acted dominant ($r = .27$, $p < .01$) and were unlikely to have roommates who acted submissive ($r = -.30$, $p < .01$).

TABLE 5: Intraclass Correlation Matrices for Roommates' Self-Rated Personalities (Interpersonal Adjective Scale; S-IAS) at 2 Weeks and 15 Weeks

	<i>Assured-Dominant (PA)</i>	<i>Arrogant-Calculating (BC)</i>	<i>Cold-Hearted (DE)</i>	<i>Aloof-Introverted (FG)</i>	<i>Unassured-Submissive (HI)</i>	<i>Unassuming-Ingenuous (JK)</i>	<i>Warm-Agreeable (LM)</i>	<i>Gregarious-Extraverted (NO)</i>
<i>S-IAS octant scales at 2 weeks</i>								
PA	.06							
BC	.15	.11						
DE	.16	.11	.13					
FG	.09	.10	.00	.03				
HI	-.01	-.04	-.12	.02	.08			
JK	-.01	.02	-.01	-.05	-.03	-.09		
LM	-.11	-.04	-.05	-.05	.08	.00	.00	
NO	-.05	-.07	.01	-.06	-.03	.03	-.04	.06
<i>S-IAS octant scales at 15 weeks</i>								
PA	.00							
BC	-.02	.04						
DE	-.02	.05	.12					
FG	.03	.04	.00	-.10				
HI	-.01	.03	-.01	-.06	.05			
JK	-.06	-.03	-.05	.03	.05	.09		
LM	-.01	-.08	-.12	.00	.02	.01	.08	
NO	-.08	-.01	.12	.17	.01	-.03	-.15	-.01

Participants who acted in a cold manner were likely to have roommates who also acted cold ($r = .40, p < .001$) and were unlikely to have roommates who acted warm ($r = -.39, p < .001$). In other words, after living together for 15 weeks, roommates perceived one another as acting opposite in terms of dominance (i.e., dominance encouraged submission, and submission encouraged dominance) and as acting the same in terms of warmth (i.e., warmth encouraged warmth, and hostility encouraged hostility).

However, this complementary change in behavioral styles was not observed in the participants' perceptions of their own personalities after living together for 15 weeks. It appears that although roommates altered their behavioral styles to complement each other, their perceptions of their own personalities remained the same. This finding likely occurred because personality traits provide information about how a person typically behaves across many different interaction partners rather than how a person tends to behave in the presence of a specific individual (i.e., the roommate). As noted by Tracey (2004), because the notion of complementarity suggests that the behavioral styles of individuals are altered by the behavioral styles of interaction partners, stable personality traits are likely limited in the information they can provide concerning complementarity in a specific relationships. In contrast to self-rated personality traits, the current study suggests informant ratings of behavioral styles seem to provide a

better assessment of how a person tends to behave in a specific relationship. Future researchers examining complementarity in naturally occurring dyads would therefore be well advised to do so by simply having individuals describe the behavioral style of the other member of the dyad.

The current study extends past laboratory research that has examined complementarity among strangers at a single time point by longitudinally examining complementarity in the natural environment between people who are interpersonally important to each other. It is interesting to note that although the current study found that the behavioral styles of roommates tended to complement each other after living together for 15 weeks, complementarity did not occur as quickly as past laboratory research has implied (e.g., Sadler & Woody, 2003; Tracey, 1994). For example, Markey et al. (2003) found that 77 randomly paired dyads obtained complementarity in as little as 5 minutes when interacting in unstructured ($CI = .57$), corporative ($CI = .71$), and competitive ($CI = .76$) situations in a laboratory. This difference may be due to an artifact of laboratory procedures; in the laboratory, individuals' behavioral styles are typically measured as they interact with a specific person during a single occasion, whereas the current study measured individuals' behavioral styles as they interacted with a specific person across multiple occasions. Although both approaches to the assessment of behavioral styles contribute to researchers' understanding of

interpersonal transactions, it seems likely that in our daily interactions with others who are interpersonally important to us (e.g., friends, family, roommates, etc.), we are more interested in how a person generally acts in our presence than how he or she may have acted on a single occasion.

It is also possible that the current study did not detect complementarity as quickly as past laboratory research because these past findings do not generalize outside the laboratory. In a laboratory, participants are provided with a controlled environment in which to interact; in this setting, there is little chance of unexpected interruptions. In contrast, during the first 2 weeks of living together, the participants in the current study probably experienced many distractions during their interactions. During this time, participants would have probably been unpacking and settling into their new rooms, doing homework, eating meals, attending parties, and talking to others while in the presence of their roommates. It is likely that the richness (or unmeasured noise) of this natural environment might explain why complementarity was not detected as quickly in the current study as in past laboratory studies that examine complementarity in a highly controlled environment.

In addition to signifying the importance of informant ratings when examining complementarity, the current study suggests the unique opportunities afforded by examining the interpersonal styles of college roommates. Unlike randomly paired dyads in a laboratory, the social interactions of roommates occur in a natural environment that requires cooperation and compromise within the close confines of a daily living situation. Because the roommates in the current study were randomly paired by an institution, various selection biases and similarity confounds are lessened. However, because some dorms have different reputations (e.g., the academic dorm, the party dorm, etc.), if students are permitted to select which dorm they would like to inhabit it would be possible for a researcher using this population to unknowingly obtain pairings of roommates that were less than perfectly random. Even though this was not an issue for the current study, future researchers using this unique population need to be aware if their university allows students to indicate their dorm preferences.

There are some limitations associated with the methodology employed in the current study. To measure the behavioral styles of participants, the current study relied on the informant reports of their roommates. This assessment technique was used because it seemed like the most direct means of obtaining a measurement of how a person tended to act in the presence of her roommate. Past research has demonstrated that such informant ratings provide valid measures of behavior

(Funder & Sneed, 1993; Markey, Markey, & Tinsley, 2004), but these measurements are also susceptible to various response biases and errors (John & Robins, 1993). Fortunately, because the current study collected data from both roommates at two time points and complementarity was only observed at the second time point, it is difficult to imagine what type of response bias would explain this predicted change in complementarity. It therefore seems unlikely that the results of the current study are primarily due to some response bias or error caused by using informant ratings of behavioral styles.

Informant ratings are also potentially limited because they might produce significant results simply because the informants' perceptions of each others' behavioral styles were complementary rather than the informants' actual behavioral styles. Of course in the current research design, it would have been almost impossible to record roommates' behavioral styles using traditional laboratory techniques (e.g., video cameras, tape recordings, etc.). Even if one were able to videotape the interactions of roommates as they lived together for 15 weeks, such an unnatural intrusion would likely limit the generalizability of the findings to more naturalistic (i.e., nonvideotaped) situations. In fact, it seems very unlikely that any single study could provide both an "objective" assessment of behavioral styles and a natural environment. This methodological trade-off implies that to best assess the validity of complementarity, results from multiple studies employing various methodologies need to be considered. Past research examining videotaped behaviors of dyadic interactions in the laboratory environment has already confirmed that behavioral styles tend to complement each other (e.g., Markey et al., 2003; Sadler & Woody, 2003; Tracey, 1994). The current study expands on this previous research by finding that informant reports of behavioral styles also occur in a complementary manner in a natural environment.

The informant rating methodology used in the current study should be extended to future longitudinal studies of complementary behavioral styles and personality traits in other types of "real-life" interpersonal relationships. Using this methodology, it could be examined if the interpersonal transactions between coworkers, romantic partners, and family members also tend to develop in a manner consistent with the principles of complementarity. Systematic comparisons of these diverse types of relationships will allow researchers to investigate the strength of complementarity effects across different relationship contexts. For example, one might find different effects in same-sex dyads versus opposite-sex dyads, in interactions with socially scripted roles versus egalitarian roles, or when using chosen partners

versus imposed partners. Such research has the potential to help us better understand the developmental trajectory of some of the most meaningful relationships that we enjoy.

REFERENCES

- Acton, G. S., & Revelle, W. (2002). Interpersonal personality measures show circumplex structure based on new psychometric criteria. *Journal of Personality Assessment*, *79*, 456-481.
- Bluhm, C., Widiger, T. A., & Miele, G. M. (1990). Interpersonal complementarity and individual differences. *Journal of Personality and Social Psychology*, *58*, 464-471.
- Carson, R. (1969). *Interaction concepts of personality*. Chicago: Aldine.
- Funder, D. C., & Sneed, C. D. (1993). Behavioral manifestations of personality: An ecological approach to judgmental accuracy. *Journal of Personality and Social Psychology*, *64*, 479-490.
- Griffin, D., & Gonzalez, R. (1995). Correlational analysis of dyad-level data in the exchangeable case. *Psychological Bulletin*, *118*, 430-439.
- Hubert, L., & Arabie, P. (1987). Evaluating order hypotheses within proximity matrices. *Psychological Bulletin*, *102*, 172-178.
- John, O. P., & Robins, R. W. (1993). Determinants of interjudge agreement on personality traits: The Big Five domains, observability, evaluativeness, and the unique perspective of the self. *Journal of Personality*, *61*, 521-551.
- Kiesler, D. J. (1983). The 1982 interpersonal circle: A taxonomy for complementarity in human transactions. *Psychological Review*, *90*, 185-214.
- Kurtz, J. E., Lee, P. A., & Sherker, J. L. (1999). Internal and temporal reliability estimates for informant ratings of personality using the NEO PI-R and IAS. *Assessment*, *6*, 103-113.
- Leary, T. (1957). *The interpersonal diagnosis of personality*. New York: Roland.
- 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.
- Markey, P. M., Markey, C. N., & Tinsley, B. J. (2004). Children's behavioral manifestations of the five-factor model of personality. *Personality and Social Psychology Bulletin*, *30*, 423-432.
- Markey, P. M., Markey, C. M., & Tinsley, B. (2005). Applying the interpersonal circumplex to children's behavior: Parent-child interactions and risk behaviors. *Personality and Social Psychology Bulletin*, *31*, 549-559.
- McLeod, M., & Nowicki, S. (1985). Cooperative behavior as a function of interpersonal style in preschoolers. *Journal of Personality*, *53*, 36-45.
- Nowicki, S., & Manheim, S. (1991). Interpersonal complementarity and time of interaction in female relationships. *Journal of Research in Personality*, *25*, 322-333.
- O'Connor, B. P., & Dyce, J. (1997). Interpersonal rigidity, hostility, and complementarity in musical bands. *Journal of Personality and Social Psychology*, *72*, 362-372.
- Rounds, J., Tracey, T. J., & Hubert, L. (1992). Methods for evaluating vocational interests structural hypotheses. *Journal of Vocational Behavior*, *40*, 239-259.
- 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.
- Strong, S. R., Hills, H., Kilmartin, C. T., DeVries, H., Lamer, K., Nelson, B. N., et al. (1988). The dynamic relations among interpersonal behaviors: A test of complementarity and anticomplementarity. *Journal of Personality and Social Psychology*, *54*, 798-810.
- Tracey, T. J. (1994). An examination of complementarity of interpersonal behavior. *Journal of Personality and Social Psychology*, *67*, 864-878.
- Tracey, T. J. (2004). Levels of interpersonal complementarity: A simplex representation. *Personality and Social Psychology Bulletin*, *30*, 1211-1225.
- Tracey, T. J. G., Ryan, M., & Jaschik-Herman, B. (2001). Complementarity of interpersonal circumplex traits. *Personality and Social Psychology Bulletin*, *27*, 786-797.
- Wiggins, J. S. (1995). *Interpersonal Adjective Scales professional manual*. Odessa, FL: Psychological Assessment Resources.
- 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.
- Yaghn, E., & Nowicki, S., Jr. (1999). Close relationships and complementary interpersonal styles among men and women. *Journal of Social Psychology*, *139*, 473-478.

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