PERSONALITY COMPATABILITY AND GROUP COHESION AMONG MUSICIANS

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Abstract

This study examined the relationship between personality compatibility and cohesion among 50 musical groups (191 subjects). Two novel approaches were used: (1) aggregated ratings of personality; and (2) Neuroticism as a potential moderator variable. Participants completed circumplex measures of Assured-Dominance, Gregarious-Extraverted, Arrogant-Calculating and Warm-Agreeable, as well as measures of group cohesion. It was found that aggregated ratings on some personality dimensions were good predictors of group cohesion and that Neuroticism moderated the relationship between Warm-Agreeable and group cohesion. Group mean scores on Gregarious-Extraverted and Assured-Dominance were positively correlated with group cohesion. No support was found for a predicted inverted curvilinear "U" relationship between group cohesion and Assured-Dominance. Researcher-defined personality similarity was associated with cohesion for some traits. Participants also provided global ratings of personality similarity and complementarity, and both were positively related to group cohesion. The results suggest that while single personality dimensions considered in isolation may not correlate substantially with group cohesion, stronger effects are found when many personality traits are considered simultaneously.

Personality Compatibility and Group Cohesion Among Musicians

The relationship between personality compatibility and group outcomes is intriguing. Common sense would indicate that personality compatibility should facilitate group processes. For example, two people may not get along because of personality differences. However, empirical research on personality compatibility has yielded weak or nonsignificant effects (Haythorn, 1968; McGrath, 1978; Meyer & Pepper, 1977). In fact, there is more speculation and belief in the importance of personality than clear-cut evidence (Driskell, Hogan, & Salas, 1987; McGrath, 1978). The present study examined the personality traits of group members in relation to cohesion. Novel approaches were used in an attempt to find stronger evidence for the importance of personality compatibility. The discussion begins with a focus on the nature of cohesion, followed by a review of the literature on personality compatibility.

Group Cohesion

Group cohesion has been defined as the "total field of forces acting on members to remain in the group" (Schachter, 1951, p. 191). Others have defined it as "the tendency of a group to stick together and remain united in the pursuit of its goals and objectives" (Carron & Chelladurai, 1981, p. 124). It is viewed by some as the most important property of groups (Golembiewski, 1962; Lott & Lott, 1965). Consequently, group cohesion has been the focus of a substantial amount of research.

There are many desirable effects of group cohesion. It has been found that group cohesion is associated with self-esteem (Julian, Bishop, & Fielder, 1966) and the ability to express hostility and reduce strain (Pepitone & Reichling, 1955). It has also been found that cohesion is associated with greater acceptance (Yalom, 1975) and increased trust of other group members (Braver, 1975). More cohesive groups show greater ability to stand up under pressure

(Olmsted, 1959), greater effort to achieve group goals (Shaw, 1981), and less resistance to change (Cartwright, 1951).

Group cohesion may also affect group performance. However, there is mixed support for the hypothesis that cohesive groups are more productive (Mudrack, 1989). Some studies have found that higher group cohesion results in a deterioration of performance (Landers & Lueschen, 1974); other studies have found no relationship between cohesion and performance (Melnick & Chemers, 1974); and some have found a positive relationship between group cohesion and performance (Nixon, 1976; Bird, 1977; Carron & Ball, 1977; Gruber & Gray, 1981). In sum, group cohesion appears to have clear positive effects on individual well-being and interpersonal relations, but less straightforward effects on group productivity.

There are many determinants of group cohesion. For example, feelings of responsibility for the group (Sagi, Olmsted, & Atelesek, 1955) and feelings of acceptance by the group (Dittes, 1959) contribute to cohesion. It has also been found that similarity of attitudes (Terborg, Castore, & DeNinno, 1976), social backgrounds (Eitzen, 1973), and performances (Biondo & Pirritano, 1985), tend to make groups more cohesive. In addition, perceptions of team involvement (Robinson & Carron, 1983), and self-disclosure tendencies (Stokes, Fuehrer, & Childs, 1983), contribute to group cohesion. The present study focused on personality compatibility as a determinant of group cohesion.

Despite the abundance of studies on group cohesion, the concept itself is not well understood. A variety of difficult-to-compare measures have been used, which may be responsible for some of the mixed findings. Only recently has there been explicit empirical research on this multi-faceted construct (Widmeyer, Brawley, & Carron, 1985). Psychometric analyses have revealed that cohesion consists of two primary factors, Individual Attraction and Group Integration. Although both facilitate group functioning, Group Integration is concerned with

members' perceptions of their group as a whole, instead of members' personal attraction to the group. An 18-item questionnaire called the Group Environment Questionnaire (GEQ) has been constructed to measure these two factors (Widmeyer, Brawley, & Carron, 1985). A modified version of the GEQ was used in the present study.

Personality Compatibility

Personality has been defined as "the constellation of relatively consistent ways of dealing with people and situations that puts the stamp of individuality on each of us" (Papalia & Olds, 1988, p. 452). Others have defined personality as "a pattern of imbedded psychological characteristics that are, for the most part, unconscious. These traits emerge from a complicated matrix of biological dispositions and experiential learnings and now comprise the individual's distinctive pattern of perceiving, feeling, thinking and coping" (Millon, 1981, p. 8). On the other hand, compatibility is defined as a "property of a relation between two people that leads to mutual satisfaction of interpersonal needs and harmonious coexistence" (Schutz, 1958, p. 105). Consequently, it is possible that personality may be an important determinant of compatibility.

Personality Compatibility in Dyads

Most personality compatibility studies have focused on couples, especially on couple similarity and complementarity. The personality similarity hypothesis states that compatibility is a function of the degree of similarity between two people. As the degree of similarity increases, compatibility should increase. This hypothesis is similar to the old adage, "birds of a feather flock together." On the other hand, personality complementarity is reflected in the phrase "opposites attract." Both hypotheses seem plausible but they are contradictory and have therefore generated an abundance of research.

One of the earliest compatibility studies was conducted by sociologist Robert Winch. In 1955, Winch proposed his theory of complementary needs. The theory suggested that individuals select partners who complement their own personality characteristics. Winch stated that there are two types of complementarity (Type I and Type II). Type I complementarity refers to a relationship where one person has a high need for dominance and their partner has a low need for dominance. Type II complementarity refers to a relationship where two individuals have needs that are different in type, but similar in intensity. For example, a person who has a high need for succorance should be compatible with a person who has a high need for nurturance.

Winch tested this hypothesis by using many measures of needs (structured interview, case-history, TAT cards and multi-clinician assessment). Each person's needs were then correlated with their respective partner's needs. Factor analyses of the data indicated three dimensions of complementarity: nurturance-receptivity, dominance-submissiveness and achievement-vicariousness. Therefore, Winch concluded that his complementarity hypothesis of mate selection was supported by the data. Other studies have also found some support for Winch's hypothesis (Kerckhoff & Davis, 1962; Schutz, 1958; Lipetz, Cohen, Dworin, & Rogers, 1970).

Several other researchers have tried to replicate Winch's results. In doing so, Bowerman and Day (1956) found slightly more evidence for the similarity rather than complementarity of needs. Schellenburg and Bee (1960) found no evidence for the theory of complementarity. Murstein (1967) found no evidence for complementarity and only slight support for similarity of needs. Furthermore, many reviews have concluded that there is little support for the mate selection complementarity hypothesis (Berscheid & Walster, 1978; Campbell, 1980; Fishbein & Thelen, 1981).

Meyer and Pepper (1977) explored need similarity and need complementarity as determinants of marital adjustment. In their study, couples were required to complete the

Personality Research Form (Jackson, 1974) under the conditions of self, ideal self, spouse and ideal spouse. The researchers hypothesized that marital adjustment would be related to nine similar and three complementary needs. The authors found evidence for interpersonal warmth as a determinant of marital adjustment. However, there was no evidence of Type I or Type II complementarity. Similarly, Altman and Haythorn (1967) found that homogeneous "affiliative" dyads were most compatible. Once again these studies provide support for the similarity hypothesis, but it would appear that compatibility is related to specific personality traits (e.g., warmth, affiliation).

Other researchers (Cattell & Nesselroade, 1967) have proposed a "need-completion principle." According to this principle, A will seek B if B has qualities which A does not possess. In other words, a person who lacks warmth may seek a person who is warm. However, the results provided little support for the need-completion principle. Nonetheless, a study by Beier, Rossi and Garfield (1961) found that when friends were rating the personality characteristics of each other, they tended to "assume that their friends were psychologically stronger and better adjusted than themselves" (Berscheid & Walster, 1978, p. 88). Likewise, their enemies were viewed as maladjusted. As a result, the authors concluded: "a person selects as a friend an individual who is perceived as possessing characteristics similar to himself and who also has characteristics toward which he is striving" (Beier, Rossi, & Garfield, 1961, p. 8). Thus, evidence for the need-completion principle is mixed.

In sum, it is difficult to compare the findings of past research due to the host of different measures and methodologies. However, there seems to be little evidence for the complementarity hypothesis, and only slight support for similarity (White & Hatcher, 1984). These approaches to personality compatibility in dyads have thus yielded weak and conflicting findings.

Personality Compatibility in Groups

Many attempts have been made to formulate laws of group interaction. Yet, when these theories are tested, the results frequently fail to confirm the hypotheses (Moerk, 1972). There have been many attempts to study the relationship between individual personality variables and behavior in groups (Mann, 1959; Driskell, Hogan, & Salas, 1987; McGrath, 1978). However, in an extensive review, McGrath and Altman (1966) found that personality characteristics impact upon group behavior in only one out of four studies. As a result, little is known about the influence of personality characteristics and group compatibility.

Of the available research, Schutz (1958) hypothesized that there are three kinds of compatibility. "Reciprocal compatibility" refers to a comparison between the way individual A likes to be treated and the way B likes to treat others. "The more compatible the dyad, the smaller will be the discrepancy between each pair of scores and thus each person will be able to satisfy the needs of the other" (Schutz, 1958, p. 108). "Originator compatibility" occurs when there is agreement between an interacting pair as to who should originate interaction and who should be the receiver of an attempt to originate action. For example, a compatible dyad (A + B) should consist of: A who likes to invite others to join an activity but is uncomfortable when asked to join, and B who likes to be asked to join but does not like to initiate an activity. "Interchange compatibility" refers to agreement on the amount of interaction which occurs. Groups with similar amounts of interchange will be compatible.

Schutz (1958) argued that originator, interchange and reciprocal compatibility exist for each of three needs (inclusion, control and affection). Control resembles the need to be dominant or to establish authority over people. Affection refers to a need to be warm and friendly. Inclusion is the need to associate with other people. With respect to the needs areas, 'want' and 'expression' are critical to the understanding of interpersonal compatibility. 'Expression' refers to

how a person actually behaves in the presence of other people. 'Want' refers to how individuals wish to be treated by others. Schutz's approach is therefore more sophisticated than research designs that have merely tapped the expression of needs or traits.

To test this theory, Schutz assembled five-member groups based on responses to FIRO-B (the measure from Schutz's theory). It was found that productive groups were composed of members who were high on personalness and low to middle on dependence and assertiveness. Reddy and Byrnes (1972) examined the effects of interpersonal group composition on the problem-solving behavior of middle managers. They found that compatibility facilitates productivity. Other researchers have reached similar conclusions (Hewett, O'Brien, & Hornik, 1974; Shalinsky, 1969). However, some researchers have found only weak support (Shaw & Nickols, 1964).

Intuitively, compatible groups should be more cohesive. Schutz (1958) found that total compatibility (control interchange + control originator + affection interchange) was the best predictor of group cohesion. Similarly, Yalom and Rand (1966) found that groups with high interchange compatibility were more cohesive. However, Costell and Koran (1972) did not find a significant relationship between interchange compatibility and group cohesion. As a result, Costell and Koran concluded that FIRO cannot be relied upon to assemble cohesive groups.

In sum, studies of personality compatibility and group cohesion have generally yielded weak or non-significant effects, and this line of research has trickled to a halt in recent years. Some researchers have concluded that the effects of personality on group process are complex, and will probably vary depending on specific traits, group task and situation (Driskell, Hogan, & Salas, 1987; Hare, 1976; Haythorn, 1968; McGrath & Altman, 1966). The notion of personality compatibility remains intuitively appealing, and perhaps stronger support may be found through the use of novel approaches.

Self Versus Aggregated Perceptions of Personality

A problem with previous research is that most studies have relied on self-reports of personality, which may not accurately reflect actual behavior. Researchers have found that self-ratings and peer ratings do not correlate strongly (Shrauger & Schoneman, 1979; Fiske, 1978). Others have found evidence of moderate correlations between self and other ratings of personality (McCrae & Costa, 1987), or moderate agreement on some traits but not others (Funder & Dobroth, 1987). However, even when moderate correlations are found (r = .30 to .60) much of the variance remains unaccounted for. This could stem from inconsistency behavior (Mischel, 1968) or from variation in the interpretation of behavior (O'Connor & Day, 1989). Consensus in personality judgments may also be a function of acquaintanceship and behavioral observability (Paunonen, 1989; Funder & Colvin, 1988). Yet, sometimes personality correlations between even well-acquainted individuals are low (Fiske, 1978).

Many studies have found that aggregation increases personality correlations. For example, it has been found that personality correlations increase as the number of raters increase (McCrae & Costa, 1987; Woodruffe, 1984; Horowitz, Inouye, & Siegelman, 1979). The great advantage of aggregation is that it increases the reliability of measurement, overcomes variation in the interpretation of behavior, and circumvents problems of stylistic responding. It is possible that aggregated measures of personality for each group member will be a more accurate reflection of "real" personality and will yield stronger support for personality compatibility. In the present study the relationship between personality compatibility and group cohesion was therefore examined for aggregated perceptions of personality.

Neuroticism as a Moderating Variable

Many studies have correlated single personality dimensions (e.g., dominance) in relation to selected outcome variables (e.g., marital adjustment, group cohesion, task performance). However, these research designs may not capture the complexity of personality compatibility. It is possible that other important personality dimensions may influence the relationship between interpersonal traits and group cohesion. One possible moderating variable is emotional stability. Research has found that emotional instability is not acceptable in team sports (Kello & Ruisel, 1979). Individuals who are hysterical or maladjusted are likely to have conflict with others (Olearnik, 1976). Individuals who are perceived as highly neurotic may be aversive to other group members. As a result, members may not want to associate with the neurotic individual.

It is possible that there will be a negative relationship between emotional instability and group cohesion. Yet, emotional stability is likely to account for only a small proportion of the variance and other variables (e.g., interpersonal behaviors) may be stronger predictors. In other words, when emotionality is examined in conjunction with interpersonal behaviors, a larger effect may be found. In this study, Neuroticism was hypothesized to moderate the relationship between personality compatibility and group cohesion. Specifically, it was predicted that personality traits would display stronger associations with group cohesion when Neuroticism is low.

In sum, two novel conceptual approaches to personality compatibility were examined in the present study: (1) aggregated perceptions of personality; and (2) Neuroticism as a moderator variable. These approaches were considered with respect to four personality traits (Assured-Dominance, Arrogant-Calculating, Warm-Agreeable and Gregarious-Extraverted), derived from the interpersonal circumplex (Wiggins, 1979; Wiggins, Trapnell, & Phillips, 1988; Trapnell & Wiggins, 1990).

Warm-Agreeable and Group Cohesion

Warm-Agreeable personalities are softhearted, accommodating, sympathetic and kind. Individuals who score high on this dimension may contribute to the effectiveness of a group. Some researchers have found that a warm and loving atmosphere promotes a positive and cooperative social orientation. On the other hand, cold and rejecting relationships tend to develop into negative and hostile orientations (Arend, Gove, & Sroufe, 1979). Similarly, Bluhm, Widiger and Miele (1990) found that friendly behaviors evoke friendliness and hostile behaviors evoke hostility.

Previous research has also indicated that a warm atmosphere contributes to group cohesion (Dittes, 1959). When therapy groups maximize affection, they tend to be highly cohesive (Lawlis & Klein, 1973). Other studies have indicated that highly-cohesive groups are more likely to engage in altruistic behavior (Blake, 1978). In addition, it has been found that a caring leadership structure correlates positively with group cohesion (Hurst, Stein, Korchin, & Soskin, 1978). Haythorn (1953) found that the cohesiveness of a group is related to the degree of interpersonal warmth. Based on past research, it was therefore hypothesized that groups composed of high-scoring Warm-Agreeable personalities will be more cohesive.

Gregarious-Extraverted and Group Cohesion

Gregarious-Extraverted individuals are characterized as cheerful, jovial, enthusiastic, outgoing and friendly. Extraverted types learn the norms of social conduct and know how to get along with people. On the other hand, introverted personalities tend to isolate themselves. By nature, these individuals may be highly productive in solitary circumstances. However, in group situations, introverted personalities may feel uncomfortable because they have little desire to affiliate. Thus, introverted personalities may decrease the effectiveness of a group.

Research indicates that individuals with approach tendencies tend to contribute to social interaction, morale, and cohesiveness (Haythorn, 1953). Others have found that sociability correlates positively with participation (Cattell & Stice, 1960) and group performance (Bouchard, 1969). On the other hand, avoidance tendencies are negatively correlated with friendliness and cohesiveness (Haythorn, 1953). It was therefore hypothesized that as the degree of Gregarious-Extraverted increases, group cohesion may increase.

Arrogant-Calculating and Group Cohesion

Arrogant-Calculating types are defined as egotistical, crafty and untrusting. Individuals who score high on this dimension tend to be self-serving and suspicious. Research indicates that high group means on suspicious anxiety is associated with low observer ratings of group organization and motivation (Hare, 1976). Research has also found that paranoid schizothymia (perhaps an extreme manifestation of Arrogant-Calculating) is negatively correlated with friendliness and cohesiveness (Haythorn, 1953). Based on previous research, it was therefore hypothesized that as Arrogant-Calculating increases, group cohesion may decrease.

Assured-Dominance and Group Cohesion

Dominant individuals are described as people who are self-assured, self-confident and assertive. In group situations they may assume leadership roles. Within groups, these individuals may be described as forceful and commanding. On the other hand, submissiveness constitutes the bipolar opposite of dominance (Wiggins & Broughton, 1985). Submissive individuals may be described as timid and nonaggressive. Consequently, submissive and dominant tendencies are some of the most visible human characteristics. As a result, these dimensions have been studied more often than any other personality dimension (Hare, 1976).

With respect to group functioning, Smelser (1961) hypothesized that when group members are able to express their predisposed dominant-submissive tendencies, they should be able to reduce anxiety and group performance should be enhanced. However, if these tendencies were inhibited, then group performance should deteriorate. In his experiment, six dyads were formed on the basis of role congruence (e.g., a dominant person in a position of leadership) and role incongruence (e.g., a submissive person in a position of leadership). The results indicated role-assigned congruent dominant-submissive combinations were most efficient. Whereas incongruent-role groups were the least efficient (Smelser, 1961). Fry (1965) found similar results. In his experiment, four member groups were assembled on the basis of quartile ascendancy scores. The members then engaged in activities that required a coordination of efforts. The results indicated that groups with similar ascendancy scores performed less efficiently than groups with discrepant scores (Fry, 1965). This suggests that too little or too much ascendancy is detrimental to group performance. Accordingly, moderate averaged ascendancy scores may be most beneficial to group functioning.

Dyce and O'Connor (1992) examined personality complementarity as a determinant of group cohesion in bar bands and found a significant inverted-U relationship between interpersonal dominance and group integration. Groups composed of members who scored high on dominance were not cohesive because not everyone was able to dominate the group. On the other hand, groups composed of low-scoring members were not cohesive because of insufficient leadership (it is assumed that a lack of direction in working groups should lead to dissatisfaction among members). The most cohesive groups were those with moderate group-total scores on dominance. Some moderate groups were compatible because they were composed of individuals with very similar - but moderate - power tendencies. In these cases it was suggested that cohesion was high because there was not much competition for dominance-control, nor was there

a lack of direction. Such groups members complemented each other because they possessed the need in moderate quantities (see Levinger, 1964, p. 154). Likewise, in this study it was predicted that group means scores on Assured-Dominance should display an inverted curvilinear-U relationship with group cohesion.

Personality Similarity and Group Cohesion

The above predictions for the four personality traits were all for the relationship between group mean personality scores and group cohesion. However, compatibility research has also often focused on how "similar" individuals are to one another, which is quasi-independent of mean scores. The similarity hypothesis, which states that individuals who are alike in personality characteristics should get along better, has generally received consistent, although weak support (Bowerman & Day, 1956; Schellenburg & Bee, 1960; Murstein, 1967; Meyer & Pepper, 1977). In the present study the similarity hypothesis was tested for aggregated ratings on the four personality traits.

Subject-Defined Measures of Personality

Another possible reason for the weak findings of previous studies is that personality dimensions have been defined by researchers instead of by group members. Personality compatibility may be important, but the traits that are important may vary across groups. For example, complementarity on dominance may be important in some groups or individuals but not in others. In some groups individuals may be able to satisfy their dominance needs in non-group relationships. Although dominance may not be an important dimension in these cases, other personality dimensions may be important instead. This would make it very difficult for researchers to identify universal personality compatibility dimensions. In sum, personality

compatibility may be important to group outcomes, but the personality dimensions that contribute to compatibility may vary across groups and individuals. Therefore, research that examines single researcher-defined personality traits may not find strong relationships.

The present study examined the relationship between personality compatibility and group cohesion by asking group members to indicate the degree to which their personality characteristics were "similar" and "complementary" with those of other group members. The personality dimensions were therefore defined by the group members themselves instead of by the researchers.

Summary and Overview

In sum, this study examined the relationship between personality compatibility and two forms of group cohesion, Group Integration and Attraction to the Group. Two novel approaches were used: (1) aggregated ratings of personality; and (2) the study examined Neuroticism as a moderator variable. It was hypothesized that Neuroticism may moderate the relationship between personality and group cohesion. These novel conceptual approaches were applied to compatibility on four specific personality traits. Group mean scores on Warm-Agreeable and Gregarious-Extraverted were hypothesized to correlate positively with group cohesion. Group mean scores on Arrogant-Calculating were predicted to correlate negatively with group cohesion. Group mean scores on Assured-Dominance were hypothesized to correlate in an inverted curvilinear-U manner with group cohesion. The similarity hypothesis was tested by examining whether groups composed of members who are similar to one another were more cohesive. Finally, the study also examined personality similarity and complementarity as defined by the participants themselves.

In past research, there has been a tendency to focus on groups of minimally acquainted individuals in laboratory settings (McGrath, 1978). However, artificially created groups may be one of the reasons for the often weak and non-significant findings. In this study, real-life groups were used instead. Musicians who work together on a continuous basis should be more familiar with each others' habits and behaviors. Therefore, real-life groups and novel approaches may help researchers understand the link between personality and compatibility.

Method

Subjects and Procedure

The subjects consisted of 191 musicians (181 males and 10 females) from 50 bar bands (41 rock and 9 country). The mean age was 27.4 years. The bands came from a variety of areas in the United States and Canada, and the mean length of time that all of the current group members had been together was 9 months. The participants were from five 3-member bands; twenty-five 4-member bands; nineteen 5-member bands; and one 6-member band. Full cooperation was obtained for twenty-eight groups, as all group members completed the questionnaires. In eighteen groups one member did not complete the questionnaire, and in four of the groups 2 members did not complete the questionnaire. The missing data for the 22 groups made it impossible to compare the results for the self and aggregated ratings of personality. The analyses were performed on the aggregated ratings for all 50 groups. Although some of the groups had a missing member, the remaining members who did provide their perceptions of the personality characteristics of the missing member(s) and it was assumed that the aggregated perceptions of the missing individuals would be reasonably accurate estimates of their personalities (the findings for the 28 groups for which there was full participation were very similar to the findings for the 22 groups in which there was almost full partipation).

The participants were given questionnaires at the venue where they were performing. The questionnaires were completed during intermissions or prior to the band's performance. Each group member was asked if they would like to participate, and they were assured that their responses would remain confidential. The measures took anywhere between 30 to 60 minutes to complete. Sometimes participants sat together while responding to the items. In these situations, participants were asked not to discuss their responses with each other. At other times, participants were interviewed separately and thus it was necessary to return to a venue two or three times to obtain remaining information. After all had finished, they were debriefed.

Measures

The participants completed a measure of group cohesion called the Group Environment Questionnaire (Widmeyer et al., 1985). Within this questionnaire, two types of cohesion were assessed (e.g., Group Integration and Attraction to the Group). A multi-dimensional model of cohesion is required since previous studies have "only examined interpersonal attraction, a concept which under-represents the attractiveness of groups for their members" (Widmeyer et al., 1985, p. 11). Band members also completed personality dimensions from the Interpersonal circumplex (Wiggins, 1979; Wiggins et al., 1988; Trapnell & Wiggins, 1990). The personality traits measured were Assured-Dominance, Arrogant-Calculating, Warm-Agreeable and Gregarious-Extraverted. Subjects were asked to describe themselves and every other group member on these measures. Participants also provided self-ratings for Neuroticism from the Interpersonal Adjective Scales Revised - Big Five (Trapnell & Wiggins, 1990). Finally, a subject-defined section was included to provide an alternative means of personality measurement. Participants rated the degree of personality similarity and complementarity with other group members. All ratings were made

on one-to-eight Likert scales (1 = extremely inaccurate, 8 = extremely accurate). All measures may be found in the Appendix.

Results

Measures. Internal consistency analyses of the measures revealed the following alpha coefficients: Attraction to the Group = .76, Group Integration = .78, Assured-Dominance = .82, Arrogant-Calculating = .95, Warm-Agreeable = .91, Gregarious-Extraverted = .87 and Neuroticism = .86. The term "self-conscious" was removed from the Neuroticism scale because it lowered internal consistency. Group mean scores were then computed for all of the above measures. Aggregated personality scores were obtained for each individual by computing the mean of how all band members (including self) perceived a given subject. Mean aggregated scores were then computed for each group. The scale means and intercorrelations are reported in Table 1.

Warm-Agreeable and Group Cohesion

It was predicted that there would be a positive relationship between the group mean scores on Warm-Agreeable and group cohesion. As reported in Table 2, there were no zero-order correlations between Group Integration, Attraction to the Group and the group mean scores on Warm-Agreeable.

Neuroticism as Moderator Variable. Multiple regression analyses were conducted to test for moderating relationships. In this procedure, Neuroticism and Warm-Agreeable are first entered into the equation, followed by the product of Warm-Agreeable and Neuroticism. A significant Rsquare change for the product of Warm-Agreeable and Neuroticism indicates the existence of a moderating relationship (Keppel & Zedeck, 1989). As reported in Table 3, a moderating

relationship was found between the group mean scores on Warm-Agreeable, Neuroticism and Group Integration (Rsquare change = .08, F (1, 46) = 4.47, p < 0.05; semipartial r = +.30 for the product of Neuroticism and Warm-Agreeable). Similarly, a moderating relationship was found between the group mean scores on Warm-Agreeable, Neuroticism and Attraction to the Group (Rsquare change = .10, F (1, 46) = 5.44, p < 0.05, semipartial r = +.33 for the product of Neuroticism and Warm-Agreeable). All moderating relationships are reported in Tables 3 and 4.

In order to understand the nature of these moderating relationships, subjects were split into high and low groups based on their Neuroticism scores. The correlation between cohesion and Warm-Agreeable was then computed for each group. When Neuroticism was low, Warm-Agreeable was negatively (but not significantly) related with Group Integration (r = -.18, p = n. s.) and Attraction to the Group (r = -.04, p = n. s.). When Neuroticism was high, Warm-Agreeable was positively related with Group Integration (r = .41, p < 0.05) but not with Attraction to the Group (r = .30, p = n. s.). Although few of these correlations were significant (in part because of the small sample size), the nature of the moderating relationship is clear. As Neuroticism increases the relationship between Warm-Agreeable and group cohesion goes from negative to positive. Groups are most cohesive when group mean scores on both Warm-Agreeable and Neuroticism are high.

Gregarious-Extraverted and Group Cohesion

It was predicted that there would be a positive relationship between the group mean scores on Gregarious-Extraverted and group cohesion. As reported in Table 2, the group mean scores on Gregarious-Extraverted and Group Integration yielded a positive relationship (r = .41, p < .01). A positive relationship was also found between the group mean scores of Gregarious-Extraverted and Attraction to the Group (r = .37, p < .01).

Neuroticism as Moderator Variable. Multiple regression analyses were again conducted to test for moderating relationships. As reported in Tables 3 and 4, all tested relationships for Gregarious-Extraverted were non-significant.

Arrogant-Calculating and Group Cohesion

It was predicted that there would be a negative relationship between the group mean scores on Arrogant-Calculating and group cohesion. As reported in Table 2, there were no significant zero-order correlations between Group Integration, Attraction to the Group and the group mean scores on Arrogant-Calculating.

Neuroticism as Moderator Variable. Multiple regression tests again revealed no significant moderating role for Neuroticism in the relationship between Arrogant-Calculating and group cohesion (see Tables 3 and 4).

Assured-Dominance and Group Cohesion

It was predicted that the relationship between the group mean scores of Assured-Dominance and group cohesion would be characterized by an inverted curvilinear "U." As reported in Table 2, there was a positive zero-order correlation between the aggregated ratings on Assured-Dominance and Group Integration ($r = .35$, $p < .05$). Multiple regression analyses were used to test for curvilinear relationships. In this procedure, a variable is first entered by itself into the regression equation, followed by its square. A significant Rsquare change for the square of Assured-Dominance indicates the existence of a curvilinear relationship (Keppel & Zedeck, 1989). As reported in Table 5, all tested curvilinear relationships were non-significant.

Neuroticism as Moderator Variable. Multiple regression analyses were conducted to test for moderating relationships. All tested linear relationships were non-significant (see Tables 3

and 4). All tested curvilinear relationships were also non-significant (Rsquare change = .00001, F (1, 45) = .0006, p = n. s. semipartial r = -.003 for Group Integration; Rsquare change = .007, F (1, 45) = .38, p = n. s. semipartial r = -.09 for Attraction to the Group).

Personality Similarity and Group Cohesion

To test the "similarity" hypothesis, standard deviations were computed for the circumplex personality measures. The standard deviations were then correlated with group cohesion. It was found that the standard deviations for Gregarious-Extraverted scores were significantly correlated with Group Integration ($r = -.45$, $p < .01$) and Attraction to the Group ($r = -.31$, $p < .05$). In addition, it was found that the standard deviations for Assured-Dominance scores were significantly correlated with Group Integration ($r = -.34$, $p < .05$). All other correlations were non-significant. The correlations between the standard deviations of the personality measures and group cohesion are reported in Table 6.

Overall Contribution of Circumplex Measures to Group Cohesion

Multiple regression analyses were used to assess the total contribution of the circumplex personality measures to group cohesion. Group means for Warm-Agreeable, Gregarious-Extraverted, Arrogant-Calculating and Assured-Dominance were entered as predictors of cohesion in regression equations. The combined contribution of these variables to group cohesion was substantial: multiple R = .65, adjusted Rsquare = .37, $F (4, 45) = 8.2$, $p < .001$ for Group Integration and multiple R = .50, adjusted Rsquare = .19, $F (4, 45) = 3.89$, $p < .01$ for Attraction to the Group. The semipartial correlations for the individual scales are reported in Table 7.

Multiple regression analyses were then performed to assess the contribution of circumplex group means and standard deviations to group cohesion. Circumplex group means

and standard deviations were entered as predictors of cohesion in regression equations. There was a significant overall prediction of Group Integration (multiple R = .70, adjusted Rsquare = .39, F (8, 41) = 4.91, p < .001). However, only the set of group means remained a significant predictor (Rsquare change = .26, p < .05) and the effect for the standard deviations disappeared (Rsquare change = .07, p = n. s.). Similarly, there was an overall prediction of Attraction to the Group (multiple R = .54, adjusted Rsquare = .16, F (8, 41) = 2.14, p < .05). Again, only groups means remained a significant predictor (Rsquare change = .19, p < .05) and the effect for the standard deviations disappeared (Rsquare change = .03, p = n. s.). The semipartial correlations for the individual scales are reported in Tables 8 and 9.

Subject-Defined Personality Compatibility

Participants were also asked to rate their degree of personality Similarity and Complementarity with every other band member. Group means for personality Similarity and Complementarity were computed and then correlated with group cohesion. As reported in Table 10, subject-defined perceptions of personality Similarity were significantly correlated with Group Integration (r = .60, p < .01) and Attraction to the Group (r = .58, p < .01). Subject-defined perceptions of personality Complementarity were also significantly correlated with Group Integration (r = .43, p < .01) and Attraction to the Group (r = .45, p < .01).

Multiple regression analyses were conducted to determine the relative impact of personality Similarity and Complementarity on group cohesion. There was a significant overall prediction of Group Integration (multiple R = .60, adjusted Rsquare = .34, F (2, 47) = 13.6, p < .001). However, while subject-defined personality similarity remained a significant predictor (Rsquare change = .18, semipartial r = .48, p = .001), the complementarity effect disappeared (Rsquare change = .013, semipartial r = .14, p = n. s.). Similarly, there was a significant overall

prediction of Attraction to the Group (multiple R = .60, adjusted Rsquare = .33, F (2, 47) = 13.0, p <.0001). Again, subject-defined personality similarity remained a significant predictor (Rsquare change = .15, semipartial r = .44, p < .01) and the complementarity effect disappeared (Rsquare change = .03, semipartial r = .20, p = n. s.). It appears that for both types of cohesion, subject-defined personality is a good predictor of group cohesion and that perceptions of personality similarity are most important.

Circumplex Versus Subject-Defined Personality Compatibility

Multiple regression analyses were used to compare the relative impact of personality "similarity" on group cohesion as defined by participants (e.g., subject-defined personality similarity) and researchers (e.g., standard deviations). There was a significant overall prediction of Group Integration (multiple R = .60, adjusted Rsquare = .29, F (5, 44) = 5.14, p < .001). However, only subject-defined personality Similarity emerged as a significant predictor (Rsquare change = .13, semipartial r = .42, p < .001). There was also a significant overall prediction of Attraction to the Group (multiple R = .59, adjusted R square = .27, F (8, 41) = 4.68, p < .001). Once again, subject-defined similarity was the only predictor that reached significance (Rsquare change = .24, semipartial r = .52, p < .01). The semipartial correlations for the individual scales are reported in Tables 11 and 12.

Finally, multiple regression analyses were conducted to compare the overall impact of subject-defined personality (Similarity, Complementarity) with the circumplex measures (means, standard deviations). Collectively, circumplex and subject-defined personality dimensions were significant predictors of Group Integration (multiple R = .77, adjusted Rsquare = .50, F (10, 39) = 5.91, p < .001). Circumplex group means were the best predictors of Group Integration (Rsquare change = .21, F = 5.09, p < .01). Circumplex and subject-defined personality

dimensions also significantly predicted Attraction to the Group (multiple R = .70, adjusted Rsquare = .36, F (10, 39) = 3.85, p < .001). Subject-defined personality Similarity emerged as the best predictor of Attraction to the Group (Rsquare change = .09, semipartial r = .39, F = 7.06, p < .01). For more information regarding semipartial correlations, readers may refer to Tables 13 and 14.

Discussion

Self Versus Aggregated Ratings of Personality

Empirical research on personality compatibility has often yielded weak or nonsignificant effects (Haythorn, 1968; McGrath, 1978; Meyer & Pepper, 1977). In this study it was suggested that one of the reasons for weak findings could be the frequent use of self-report measures of personality in previous research. In order to find stronger support for personality compatibility, aggregated ratings were employed in this study. The advantage of aggregation is that it increases the reliability of measurement, overcomes variation in the interpretation of behavior, and circumvents problems of stylistic responding.

At the outset of the study it was hoped that the results for the self and aggregated perceptions could be compared, in order to assess the magnitude of the benefits of aggregation. Unfortunately, this was not possible due to the missing self-ratings for 22 of the groups. The simple correlations for the aggregated perceptions were only slightly stronger than the correlations usually obtained for the self-ratings in previous studies. When the self and aggregated results were compared for the 28 groups in which there was full partipation, the differences between the self and aggregated results were quite minimal. The benefits of aggregation thus appear small or non-existent, but need further testing.

Neuroticism as a Moderating Variable

It was suggested that previous research may have conceptualized personality compatibility in an overly simplistic fashion. For example, many studies have merely examined simple relationships between various personality dimensions and outcome variables (e.g., marital satisfaction, group cohesion, etc.). A more sophisticated approach may capture the complexities of personality compatibility. For this reason, it was hypothesized that Neuroticism may have a moderating influence. Specifically, it was predicted that as Neuroticism increases, the relationship between personality and group cohesion may decrease. It was found that Neuroticism did moderate the relationship between group cohesion and agreeableness. However, contrary to expectations, cohesion was higher when group members were more agreeable and neurotic. This finding is perplexing because low neurotic and high agreeable tendencies are positively associated with psychological well-being (McCrae & Costa, 1991). On the other hand, neurotic-agreeable tendencies may be a reflection of passion (Hofstee, De Raad, & Goldberg, 1991) which may contribute to the creation and performance of music.

It is possible that other combinations of personality variables may yield significant moderating relationships. For example, Openness to Experience (Costa & McCrae, 1985) is a reflection of artistic, philosophical and imaginative characteristics (Trapnell & Wiggins, 1990). Given the creative nature of music, it is possible that Openness to Experience may moderate the relationship between personality compatibility and group cohesion. On the other hand, Conscientiousness (Costa & McCrae, 1985) is a reflection of efficiency, organization and reliability (Trapnell & Wiggins, 1990). Given the importance of "motivation" within the majority of groups, Conscientiousness may moderate the relationship between personality compatibility and group cohesion.

Warm-Agreeable and Group Cohesion

It was hypothesized that group mean scores on Warm-Agreeable would be positively related to group cohesion. Group members with accommodating and charitable tendencies were thought to create an atmosphere that would enhance cohesion. Contrary to expectations, there was no support for this hypothesis (the correlations were positive but not significant). In effect, this finding appears to contradict previous research (e.g., Dittes, 1959; Lawlis & Klein, 1973; Blake, 1978; Haythorn, 1953). However, it is possible that the measure of "warmth" used in other studies may also tap aspects of extraversion, instead of being pure measures of Warm-Agreeable. For example, one of the extraversion facets of the NEO-PI (Costa & McCrae, 1985) is called "warmth." Therefore, the parallel created between "warmth" in other studies and the circumplex measure of "Warm-Agreeable" may have been an inadvertent faux pas. Given the lack of a comprehensive framework from which to compare various personality measures, inappropriate generalizations may continue in future studies.

Gregarious-Extraverted and Group Cohesion

It was hypothesized that group mean scores on Gregarious-Extraverted would be positively related to cohesion. Common sense would suggest that individuals who are friendly or are warm should get along with others and facilitate group functioning. Past research has found support for this hypothesis (Haythorn, 1953; Bouchard, 1969; Cattell & Stice, 1960; Dittes, 1959; Lawlis & Klein, 1973; Blake, 1978). Consistent with past research, the results of this study indicate that Gregarious-Extraverted is positively correlated with group cohesion.

Due to the flamboyant nature of "rock" groups, it is likely that exaggerated forms of extraversion (e.g., exhibitionism) may increase marketability. With greater audience appeal, group members may be more satisfied with the overall efficiency of the group and thus cohesion

may be facilitated. However, these same exhibitionistic tendencies in other "forums" may be maladaptive. For example, exaggerated forms of extraversion have been associated with the histrionic personality disorder (Wiggins & Pincus, 1989; Costa & McCrae, 1990). Therefore, the applicability of this finding to other group settings may be questionable.

Arrogant-Calculating and Group Cohesion

In this study it was predicted that as group mean scores on Arrogant-Calculating increase, cohesion should decrease. Arrogant group members should create an atmosphere of discord as they may not have the best interests of the group in mind. On the other hand, groups composed of humble and self-effacing individuals may have a predisposition to be "other" or group-oriented. There was no support for this hypothesis in the zero-order correlations, but significant effects emerged when Arrogant-Calculating was entered into a regression equation along with the other personality variables. In fact, when all circumplex personality measures were considered, Arrogant-Calculating was the best predictor of Group Integration and Attraction to the Group. This suggests that Arrogant-Calculating may be an important negative contributor to group cohesion, but only when other personality variables have been "decontaminated" from the measure. The reason for this finding is a challenge for further research.

Assured-Dominance and Group Cohesion

It was hypothesized that groups with too little or too much dominance would be less cohesive than groups with moderate levels. A simple positive correlation was found between Assured-Dominance and cohesion. This could mean that greater control and organization increase productivity and hence cohesion. However, no support was found for the predicted inverted curvilinear "U" between dominance and group cohesion, which confirms the conclusions of

previous reviewers that personality "complementarity" effects are difficult to find (Berscheid & Walster, 1978; Campbell, 1980; Fishbein & Thelen, 1981).

The results of this study are in contrast to the findings of Dyce and O'Connor (1992). They had used the "dominance" measure from Jackson's Personality Research Form. In relation to the circumplex, Jackson's Dominance measure has elements of both dominance and arrogance (Wiggins & Broughton, 1991). Furthermore, the measure of cohesion used in the Dyce and O'Connor study only mildly resembles the Group Environment Questionnaire (i.e., the cohesion measure used in the present study). Thus, the measures used in the Dyce and O'Connor study and the present study are not identical, which may account for the discrepancy.

Personality Similarity and Group Cohesion

The similarity hypothesis, which states that individuals who are alike in personality characteristics should get along better, has generally received consistent, although weak support (Bowerman & Day, 1956; Schellenburg & Bee, 1960; Murstein, 1967; Meyer & Pepper, 1977). In the present study the similarity hypothesis was tested for aggregated ratings on the four personality traits. The results suggest that similarity on dominance and extraversion is related to group cohesion. However, no support was found for similarity on arrogance or agreeableness as a determinant of cohesion. Essentially, these findings mirror those of the zero-order correlations reported in Table 2. For example, group means for Assured-Dominance and Gregarious-Extraverted were significantly associated with cohesion, whereas group means for Warm-Agreeable and Arrogant-Calculating were not. Nonetheless, moderate support for the personality similarity hypothesis was provided by the findings of this study.

Overall Contribution of the Circumplex Personality Measures to Group Cohesion

The above discussions suggest that some personality dimensions are related to cohesion. When the circumplex personality measures were considered simultaneously, they accounted for 19% (Attraction to the Group) and 37% (Group Integration) of the variance in group cohesion. This suggests that personality is a relatively important factor in group cohesion, and that it is more important to Group Integration rather than individual Attraction to the Group. It also suggests that while single personality dimensions considered in isolation may not correlate substantially with group cohesion, stronger effects are found when many personality traits are considered simultaneously.

Subject-Defined Personality Compatibility

The results confirm Levinger's (1964) claim that complementarity and similarity are not mutually exclusive phenomena. There is considerable shared variance between subject's perceptions of personality similarity and complementarity. Both complementarity and similarity are related to group cohesion, but when considered simultaneously, only personality similarity remains a significant predictor of cohesion. Therefore, the results of this study support previous research (e.g., Bowerman & Day, 1956; Murstein, 1967; Meyer & Pepper, 1977) which has found evidence for personality similarity and none for complementarity. However, the nature of personality similarity as defined by participants remains unknown. Participants were asked to provide open-ended descriptions of how they were similar and complementary, but their responses varied considerably and there was missing data.

Circumplex Versus Subject-Defined Personality Compatibility

The relative impact of personality "similarity" on group cohesion as defined by participants (e.g., subject-defined personality similarity) and researchers (e.g., standard deviations) was examined. It was found that the researcher and subject-defined measures of personality similarity were able to collectively predict Attraction to the Group and Group Integration. However, subject-defined personality Similarity was the best predictor of group cohesion and the effect for researcher-defined personality similarity disappeared. Although it is not entirely clear why similarity is important to group processes, the results indicate the importance of subject-defined personality.

The overall impact of researcher and subject-defined personality on group cohesion was also examined. This "collective" set of personality variables (e.g., group means, standard deviations, and subject-defined personality Similarity and Complementarity) were able to predict 50% of the variance in Group Integration. Contrary to the conclusions of many researchers (e.g., Haythorn, 1968; McGrath, 1978), this suggests that personality is quite important to group functioning. The strong overall effect for personality is probably due to the characteristics of the circumplex, which attempts to measure the universe of interpersonal traits. When these traits are considered simultaneously, instead of in isolation as in much of previous research, the findings confirm the intuitive belief that personality is an important factor in group cohesion. In sum, the results indicate the importance of an "holistic" approach to the study of personality characteristics and group functioning.

Limitations

In this study the circumplex was adopted over other measures because of it's (1) interpersonal focus, (2) adjective format (ideally suited to multiple ratings), and (3) excellent

psychometric and structural properties. Nonetheless, the circumplex is but one conception of personality. For this reason, subject-defined personality ratings were also included. However, it is not known how the results of the study would have been modified if for example Strack's (1990) Personality Adjective Checklist would have been employed. Perhaps the use of alternative inventories may have yielded different results.

Another limitation of this study is that it may have been overly simplistic. For example, only personality variables were examined in relation to group cohesion. However, other non-personality variables (e.g., goals, interests, attitudes) are also likely to effect group processes. In fact, a number of studies have implicated the importance of non-personality variables (Terborg, Castore, & DeNinno, 1976; Eitzen, 1973; Biondo & Pirritano, 1985; Robinson & Carron, 1983; Stokes, Fuehrer, & Childs, 1983) whereas there has been relatively little evidence for the impact of personality on group processes (Haythorn, 1968; McGrath, 1978; Meyer & Pepper, 1977). However, the relative contribution of personality and non-personality variables is not known and remains a question for further research.

Another limitation of this study is the generalizability of the results. For example, the personality dynamics of musical groups may not be similar to those of other groups. If similar dynamics operate, then some generalizability may be warranted. For example, dominance and extraversion may be important determinants of cohesion. On the other hand, if personality dynamics differ across groups, then one must carefully consider how the results of this study may be applied to other settings. For example, extraverted and dominant tendencies may be appropriate for business, but not for therapy. It would be of interest to conduct an identical study to examine whether or not similar personality dynamics operate across different types of groups.

A final limitation of this study pertains to sample size. Although only 50 groups were employed in this study, some would suggest that a larger sample size is warranted. However,

data collection with "real-life" subjects (such as musical groups) is very time-consuming and difficult. For example, two months of continuous collection were needed to gather data on 50 groups (191 subjects). It was frequently necessary to return to a venue two or three times to obtain remaining data. Therefore, the sample size employed in this study must be considered in relation to the effort required to obtain this information.

Conclusion

In sum, this study examined the relationship between personality compatibility and cohesion in musical groups. It was found that the use of aggregated ratings of personality were reasonably good predictors of group cohesion for some traits. A moderating relationship was found between Warm-Agreeable, Neuroticism and group cohesion. Gregarious-Extraverted and Assured-Dominance were positively correlated with group cohesion, however, simple correlations indicated that Arrogant-Calculating was not significantly related to group cohesion. No support was found for the predicted inverted curvilinear "U" relationship between group cohesion and Assured-Dominance. Similar to the zero-order correlations mentioned above, researcher-defined personality Similarity (e.g., dominance, extraversion) was associated with cohesion for some traits. It was also found that subject-defined personality Complementarity and Similarity were positively related to group cohesion. When both circumplex (i. e., researcher-defined) and subject-defined conceptions of personality were considered simultaneously, circumplex personality measures emerged as the best predictors of Group Integration whereas subject-defined personality Similarity was the best predictor of Attraction to the Group. The results of this study suggest that the personality characteristics of group members can be quite important to group functioning.

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Appendix

Assured-Dominance

(1) forceful, (2) self-assured, (3) persistent, (4) dominant, (5) firm, (6) assertive, (7) self confident, (8) domineering

Gregarious-Extraverted

(1) cheerful, (2) friendly, (3) outgoing, (4) perky, (5) jovial, (6) enthusiastic, (7) extraverted, (8) neighborly

Warm-Agreeable

(1) softhearted, (2) kind, (3) accommodating, (4) tenderhearted, (5) sympathetic, (6) tender, (7) charitable, (8) gentlehearted

Arrogant-Calculating

(1) cocky, (2) boastful, (3) calculating, (4) tricky, (5) wily, (6) sly, (7) cunning, (8) crafty

Neuroticism

(1) anxious, (2) worrying, (3) guilt-prone, (4) tense, (5) hypersensitive, (6) nervous, (7) fretful

Attraction to the Group

(1) I do not enjoy being part of the social activities of this band (R).

(2) I am not happy about the songs that we play (R).

(3) If this group breaks up, I would miss the members of the band.

(4) I'm unhappy with my group's desire to succeed (R).

(5) Some of best friends are in this group.

(6) The group does not provide enough opportunities to improve my performance (R).

(7) I would rather party with other people rather than the group members (R).

(8) I am not happy with the playing style of group members (R).

(9) This group is one of the most important social groups to which I belong.

Group Integration

(1) Our group is united in trying to reach its goals for performance.

(2) Some group members would like to form their own groups (R).

(3) On a bad night, we all take responsibility for poor performance.

(4) Our group members do not communicate freely about each person's responsibilities (R).

(5) Our group rarely parties together (R).

(6) Our group members have conflicting aspirations for the groups's performance (R).

(7) When we are off the road, band members spend time together.

(8) If a member has trouble learning his parts, other members are usually supportive.

(9) Members do not stick together outside of performance (R).

Subject-Defined Section

(1) I am similar in personality to...

(2) Please indicate the degree to which your personality characteristics complement those of other group members.

Table 1

Means, Standard Deviations, and Correlations

			1.	2.	3.	4.	5.
Warm-Agreeable	mean	s.d.					
1. aggregated-rating	5.76	.56	1.0	.71**	.03	.16	.10
Gregarious-Extraverted							
2. aggregated-rating	6.00	.48		1.0	.07	.53**	-.03
Arrogant-Calculating							
3. aggregated-rating	4.41	.70			1.0	.54**	.33*
Assured-Dominance							
4. aggregated-rating	5.50	.45				1.0	-.13
Neuroticism							
5. self-rating	4.62	.83					1.0

All ratings on an 8-point scale. * indicates $p < 0.05$; ** indicates $p < 0.01$.

Table 2

Pearson correlations between personality, Attraction to the Group and Group Integration.

	Group Integration	Attraction to the Group
Warm-Agreeable	+.11	+.11
Gregarious-Extraverted	+.41**	+.37**
Arrogant-Calculating	-.27	-.17
Assured-Dominance	+.35*	+.28

* indicates $p < 0.05$, ** indicates $p < 0.01$

Table 3

Neuroticism as Moderator of Personality and Group Integration

	R^2 Change	F	df	p	semipartial r
Warm-Agreeable					
Step 1:Warm-Agreeable	.01	0.61	1, 48	.05	-.29
Step 2: Neuroticism	.05	2.24	2, 47	.14	-.22
Step 3: Warm-Agreeable by Neuroticism	.08	3.17	3, 46	.04	+.30
Gregarious-Extraverted					
Step 1: Gregarious-Extraverted	.15	9.82	1, 48	.32	+.15
Step 2: Neuroticism	.20	7.20	2, 47	.05	-.28
Step 3: Gregarious-Extraverted by Neuroticism	.20	4.99	3, 46	.41	-.12
Arrogant-Calculating					
Step 1: Arrogant-Calculating	.05	3.65	1, 48	.67	+.06
Step 2: Neuroticism	.07	2.88	2, 47	.14	-.22
Step 3: Arrogant-Calculating by Neuroticism	.00	2.00	3, 46	.57	-.08
Assured-Dominance					
Step 1: Assured-Dominance	.10	6.50	1, 48	.28	+.15
Step 2: Neuroticism	.13	4.79	2, 47	.09	-.24
Step 3: Assured-Dominance by Neuroticism	.13	3.48	3, 46	.36	-.14

Table 4

Neuroticism as a Moderator of Personality and Attraction to the Group

	R^2 Change	F	df	p	semipartial r
Warm-Agreeable					
Step 1:Warm-Agreeable	.00	0.58	1, 48	.03	-.31
Step 2: Neuroticism	.03	1.69	2, 47	.27	-.16
Step 3: Warm-Agreeable by Neuroticism	.11	3.05	3, 46	.02	+.33
Gregarious-Extraverted					
Step 1: Gregarious-Extraverted	.12	7.71	1, 48	.52	-.09
Step 2: Neuroticism	.15	5.25	2, 47	.13	-.22
Step 3: Gregarious-Extraverted by Neuroticism	.14	3.68	3, 46	.43	+.11
Arrogant-Calculating					
Step 1: Arrogant-Calculating	.00	1.37	1, 48	.65	+.07
Step 2: Neuroticism	.02	1.51	2, 47	.18	-.20
Step 3: Arrogant-Calculating by Neuroticism	.00	1.08	3, 46	.59	-.08
Assured-Dominance					
Step 1: Assured-Dominance	.06	4.03	1, 48	.54	-.09
Step 2: Neuroticism	.08	2.98	2, 47	.19	-.19
Step 3: Assured-Dominance by Neuroticism	.07	2.15	3, 46	.46	-.09

Table 5

Regression tests of curvilinear relationships

Group Integration	R^2 Change	F	df	p	semipartial r
Step 1: Assured-Dominance	.10	6.50	1, 48	.30	+.15
Step 2: Assured-Dominance Squared	.09	3.61	2, 47	.39	-.13
Attraction to the Group					
Step 1: Assured-Dominance	.06	4.02	1, 48	.53	-.09
Step 2: Assured-Dominance Squared	.05	2.29	2, 47	.44	+.11

Table 6

Correlations between the Group Standard Deviations in Personality and Group Cohesion.

	Group Integration	Attraction to the Group
Warm-Agreeable	-.26	-.18
Gregarious-Extraverted	-.45**	-.31*
Arrogant-Calculating	-.16	-.05
Assured-Dominance	-.34*	-.17

All ratings on an 8-point scale. * indicates $p < 0.05$; ** indicates $p < 0.01$.

Table 7

Overall Contribution of Circumplex Personality Measures to Group Cohesion

	semipartial r	p
Group Integration		
Warm-Agreeable	-.14	.32
Gregarious-Extraverted	+.16	.14
Assured-Dominance	+.37	.009
Arrogant-Calculating	-.49	.0005
Attraction to the Group		
Warm-Agreeable	-.15	.31
Gregarious-Extraverted	+.24	.10
Assured-Dominance	+.19	.18
Arrogant-Calculating	-.29	.04

Table 8

Overall Contribution of Circumplex Personality Measures to Group Integration: Group Means and Standard Deviations

	semipartial r	p
Group Means: R^2 Change = .26, F = 5.15, p = .02		
Warm-Agreeable	+.17	.46
Gregarious-Extraverted	+.00	.98
Assured-Dominance	+.46	.005
Arrogant-Calculating	-.34	.04
Standard Deviations: R^2 Change = .07, F = 1.35, p = n. s.		
Warm-Agreeable	-.05	.77
Gregarious-Extraverted	-.06	.73
Assured-Dominance	+.06	.73
Arrogant-Calculating	-.16	.33

Table 9

Overall Contribution of Circumplex Personality Measures to Attraction to the Group: Group Means and Standard Deviations

	semipartial r	p
Group Means: R^2 Change = .19, F = 2.75, p = .04		
Warm-Agreeable	-.22	.16
Gregarious-Extraverted	+.21	.12
Assured-Dominance	+.20	.13
Arrogant-Calculating	-.30	.05
Standard Deviations: R^2 Change = .03, F = 0.54, p = n. s.		
Warm-Agreeable	-.13	.38
Gregarious-Extraverted	+.05	.77
Assured-Dominance	+.15	.32
Arrogant-Calculating	-.16	.31

Table 10

Means, Standard Deviations, and Correlations for Group Integration, Attraction to the Group, and Subject-Defined Personality Similarity and Complementarity.

	mean	s.d.	1.	2.	3.	4.
1. Group Integration	5.75	0.80	1.0	.82**	.60**	.43**
2. Attraction to the Group	6.23	0.80		1.0	.58**	.45**
3. Similarity	5.43	0.83			1.0	.56**
4. Complementarity	5.58	0.63				1.0

All ratings on an 8-point scale. * indicates $p < 0.05$; ** indicates $p < 0.01$.

Table 11

Overall Contribution of Researcher and Subject-Defined Personality Similarity to Group Integration

	semipartial r	p
Standard Deviations: R^2 Change = 0.01, F = 0.26, p = n. s.		
Warm-Agreeable	+.08	.58
Gregarious-Extraverted	-.07	.61
Assured-Dominance	-.10	.49
Arrogant-Calculating	+.00	.98
Subject-Defined Personality: R^2 Change = 0.13, F = 9.49, p = .0002		
Similarity	+.42	.0002

Table 12

Overall Contribution of Researcher and Subject-Defined Personality Similarity to Attraction to the Group

	semipartial r	p
Standard Deviations: R^2 Change = 0.02, F = 0.27, p = .89		
Warm-Agreeable	+.00	.99
Gregarious-Extraverted	-.09	.55
Assured-Dominance	+.02	.88
Arrogant-Calculating	+.04	.77
Subject-Defined Personality: R^2 Change = 0.24, F = 16.3, p = .003		
Similarity	+.52	.003

Table 13

Overall Contribution of Circumplex Measures and Subject-Defined Personality to Group Integration.

	semipartial r	p
Circumplex Group Means: R^2 Change = .21, F = 5.09, p = .002		
Warm-Agreeable	-.20	.20
Gregarious-Extraverted	+.11	.47
Assured-Dominance	+.33	.03
Arrogant-Calculating	-.52	.0004
Circumplex Standard Deviations: R^2 Change = .04, F = 0.91, p = n. s.		
Warm-Agreeable	-.03	.86
Gregarious-Extraverted	+.07	.64
Assured-Dominance	+.14	.39
Arrogant-Calculating	-.28	.07
Subject-Defined Personality : R^2 Change = .03, F = 2.63, p = n. s.		
Similarity	+.25	.11
Subject-Defined Personality: R^2 Change = .03, F = 2.74, p = n. s.		
Complementarity	+.25	.10

Table 14

Overall Contribution of Circumplex and Subject-Defined Personality to Attraction to the Group.

	semipartial r	p
Circumplex Group Means: R^2 Change = .13, F = 2.45, p = .06		
Warm-Agreeable	-.22	.16
Gregarious-Extraverted	+.09	.59
Assured-Dominance	+.18	.23
Arrogant-Calculating	-.35	.03
Circumplex Standard Deviations: R^2 Change = .05, F = 0.89, p = n. s.		
Warm-Agreeable	-.10	.52
Gregarious-Extraverted	+.18	.24
Assured-Dominance	+.18	.24
Arrogant-Calculating	-.13	.42
Subject-Defined Personality : R^2 Change = .09, F = 7.06, p = .01		
Similarity	+.39	.01
Subject-Defined Personality: R^2 Change = .02, F = 1.31, p = n. s.		
Complementarity	+.18	.26