Relating Member Ability and Personality to Work-Team Processes and Team Effectiveness

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Six hundred fifty-two employees composing 51 work teams participated in a study examining relationships among team composition (ability and personality), team process (social cohesion), and team outcomes (team viability and team performance). Mean, variance, minimum, and maximum were 4 scoring methods used to operationalize the team composition variables to capture the team members' characteristics. With respect to composition variables, teams higher in general mental ability (GMA), conscientiousness, agreeableness, extraversion, and emotional stability received higher supervisor ratings for team performance. Teams higher in GMA, extraversion, and emotional stability received higher supervisor ratings for team viability. Results also show that extraversion and emotional stability were associated with team viability through social cohesion. Implications and future research needs are discussed.

The use of work teams has been described as pivotal to organizational transformation and renaissance (Goodman, Ravlin, & Schminke, 1987; Sundstrom, De Meuse, & Futrell, 1990). Yet, even with an increasing number of organizations structuring work through the use of teams, we know relatively little about how the individuals comprising a team affect intragroup processes and outcomes. This lack of understanding suggests that contemporary work organizations may not be obtaining the maximal benefits from work teams.

The dominant way of thinking about teams is the input–process–output model (Gladstein, 1984; Guzzo & Shea, 1992; Hackman, 1987; McGrath, 1964). The model posits that a variety of inputs combine to influence intragroup processes, which in turn affect team outputs. Inputs have been grouped into three categories (Hackman, 1987): individual-level factors (e.g., team-member attributes),

group-level factors (e.g., structure and size) and environmental-level factors (e.g., task characteristics and reward structures). In this study we focused only on individual inputs, specifically team-member personality and ability. *Intragroup processes* refers to the interactions that take place among team members and includes communication patterns, personal disclosure and conflict, and efforts toward leadership and other forms of influence. *Team output* refers to team outcomes associated with productivity, as well as to the capability of team members to continue working cooperatively (team viability).

In this study the input–process–output framework served as the basis for examining actual work teams in organizational settings. The major purpose of this study was to assess how member characteristics (e.g., ability and personality) of functioning work teams relate to differences in team effectiveness. Included in this analysis was an examination of various methods for operationalizing member characteristics (mean, variance, minimum, and maximum). We also explored social cohesion as an indicator of synergistic group processes through which some of the team composition characteristics operate.

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Team Composition

The composition of the team has long been hypothesized to influence team processes and outputs (e.g., Cattell, 1948; Haythorn, 1953). Yet, despite recognition of the importance of team composition variables (Sundstrom et al., 1990), the effect of nondemographic compo-

sition characteristics on team processes and performance in work settings has seldom been studied. An exception is the work by Campion and colleagues (Campion, Medsker, & Higgs, 1993; Campion, Papper, & Medsker, 1996), who used self-report measures of expertise, skill, experience, collectivism, flexibility, and group size as measures of composition. Their research provided evidence of significant associations between these composition variables and team process and effectiveness measures. However, they did not examine the composition of individual-member traits (e.g., general mental ability [GMA] and personality).

Some theoretical research has developed models of the knowledge, skills, and abilities required of workers organized into teams (Klimoski & Jones, 1995; Stevens & Campion, 1994), but the association between individual trait characteristics and team performance generally has not been studied in actual field settings, with the exception of a few studies examining composition in terms of member ability (e.g., Tziner & Eden, 1985). One reason is the difficulty of finding samples with an adequate number of teams (McIntyre & Salas, 1995). Perhaps another reason is that a focus on teams rather than individuals requires composition variables to be measured at an aggregated level of analysis. This higher level of analysis is often difficult because there is not an established theoretical approach for proper aggregation of individual characteristics into team-level constructs. Before describing our hypotheses about how the composition of individual traits relates to team processes and outcomes, we review common methods of operationalization and provide theoretical guidance for understanding when each approach is most appropriate.

Methods of Operationalization

Researchers have historically adopted three different methods for operationalizing team composition. The most common operationalization is to calculate a mean score for the individual measures (e.g., Heslin, 1964; Williams & Sternberg, 1988). This approach assumes that the amount of a characteristic possessed by each individual member increases the collective pool of that characteristic. That is, more of a trait is always better or worse, regardless of how that characteristic is distributed among team members. The mean score of individual measures is, however, potentially problematic in some instances because aggregation can mask important information when individual characteristics do not combine additively to form a collective resource pool.

The second method used to operationalize team composition focuses on the variability of individual characteristics. Such measures are frequently used to capture differences in team composition that are masked by the mean.

The most common approach has examined the effect of demographic variables on team performance and adopts indexes based on the variance of individual scores for a particular trait (e.g., Jackson et al., 1991; Tsui, Egan, & O'Reilly, 1992). A variation of this approach is to look at the proportion of team members possessing that trait (e.g., Barry & Stewart, 1997). These examinations of similarity can provide information about fit among team members (e.g., Chatman, 1991; B. Schneider, 1987), as well as provide insight about the variety of inputs that team members are expected to bring to the team. Therefore, a focus on the variance of traits is appropriate when researchers seek to understand the relationship of team composition homogeneity to team process and team outcomes.

The third approach focuses on the highest or lowest individual-trait score for the team. This is based on research that suggests that a single individual can significantly affect a group (Kenrick & Funder, 1988). Thus, in some cases the highest (i.e., maximum method) or lowest (minimum method) individual team-member score may provide valuable insight. For instance, the inputs of the highest ability member are critical for generating solutions to problems, and the inputs of the lowest ability member significantly affect the quality of assembly-line work (Steiner, 1972). Focusing on the highest or lowest individual-trait score of team members is therefore appropriate in situations where one person has an inordinate effect on team success.

Each of the three operationalizations described here focuses on a different aspect of team composition. Individual studies tend to report results for only one of the approaches; consequently, potentially important relationships between the various team-composition operationalizations and team processes and outcomes cannot be detected. Thus, one purpose of this study was to compare results on the basis of different operationalizations of team ability and personality. Although we did not make specific hypotheses about how each operationalization of each trait is related to team effectiveness, by calculating and reporting more than one operationalization we can gain insight into the differences between methods of measuring team composition. We specifically compared and contrasted the following operationalizations: mean score, variance score, minimum score, and maximum score.

Choosing an Operationalization

The appropriateness of any operationalization depends largely on the nature of the task being completed by the team, the research questions being asked, and the specific traits being analyzed. After presenting a taxonomy of tasks, we describe the general nature of the tasks performed by the teams in our study. We then present our

specific hypotheses that illustrate the effect of differences associated with particular traits and research questions.

A taxonomy developed by Steiner (1972) is helpful in determining how task type might influence decisions about the appropriate method for operationalizing team composition. This taxonomy distinguishes between (a) additive tasks, which require the summing of resources for performance (e.g., moving a heavy object), (b) compensatory tasks, which require that individual inputs be averaged together to arrive at a team outcome (e.g., forecasting sales for a new product), (c) conjunctive tasks, which require each group member to perform at a minimally acceptable level for the team to succeed (e.g., assembly lines), and (d) disjunctive tasks, which require only one team member to perform well in order for the team to succeed (e.g., problem solving).

For additive tasks the mean level of a trait may be most appropriate because these tasks are structured so that the contribution of each member adds to a collective pool that can be used to help the team succeed. Physical strength is a trait that should follow this pattern when the task is moving a heavy object. More strength is helpful regardless of who provides it.

Operationalizing composition as variance among team members on a trait may be most appropriate for understanding the effect of group-level traits on compensatory tasks that benefit from diverse inputs. If a forecasting team is composed entirely of members who are highly risk averse, their output will likely be overly conservative. However, if the team includes both risk-averse and risk-seeking members, then these differences are likely to balance out and consequently improve the overall forecast. In such a case, variance among team members is a critical measure of composition.

A different operationalization is more appropriate if the team approaches the forecast as a disjunctive task and simply adopts the forecast of its most competent member. In the case of a disjunctive task the maximum method is a superior operationalization, as the forecasting ability of the best team member will determine the quality of the outcome for the team. In a similar way the minimum method would be most appropriate if the team approaches forecasting as a conjunctive task where each member must provide unique information and where defective input from any member will lead to a bad forecast.

In this study, all of the work teams were from manufacturing facilities. Each team received materials or information from suppliers, transformed and added value to those inputs in cooperation with management and staff, and delivered output to team customers (a team's suppliers and customers can be either inside or outside the organization). Although workers possess general skills and primarily perform redundant roles, they are organized into teams as interaction goes beyond a simple pooled combination

of efforts and resembles varying degrees of reciprocal interdependence (Van de Ven & Ferry, 1980). Nevertheless, this interdependence is managed primarily through a process where the inputs of each team member combine into a collective output. Aggregated composition measures (i.e., mean score) are thus appropriate as the basic method of operationalizing trait characteristics. The task and team processes are, however, also conjunctive to some degree. That is, each group member must perform at a minimally acceptable level in order for the team to succeed. Because of this, the minimum measure of a trait is also included in several hypotheses because of its relevance to team processes that are conjunctive in nature. As stated above, specific operationalizations also depend on the traits being studied, and we describe these relationships after introducing our measures of team outcomes.

Assessing Team Outcomes

Hackman (1987) proposed that a comprehensive assessment of success in ongoing work teams must capture both current team effectiveness (i.e., present performance) and future team effectiveness (i.e., capability to continue working together). The first important measure of team effectiveness is thus an assessment of the team's current performance, which is typically based on either supervisor ratings of team productivity or objective indicators of team quantity and quality of productivity. The second critical measure of team effectiveness is an assessment of a team's capability to continue functioning as a unit (called team viability). Teams without long-term viability experience burnout because of unresolved conflict, as well as increased divisiveness and decreased willingness to work cooperatively (Hackman, 1987). In this study, we therefore collected supervisor ratings of both team performance and team viability.

We expected productivity and viability to be related. Nevertheless, we predicted that productivity and viability would have different relationships with various input and process variables. In particular, we expected a number of composition variables to relate to viability rather than productivity. Past studies that have focused only on productivity may therefore have failed to establish relationships for a variety of important composition variables. Specific hypotheses of these relationships follow.

Team Characteristics and Team Processes

GMA

Research conducted in the past 15 to 20 years on GMA shows that it is related to performance for virtually all jobs (from low- to high-complexity jobs, p ranges from .40 to .58; Hunter, 1986; Hunter & Hunter, 1984; Schmidt, Hunter, & Pearlman, 1981). Because team output is de-

pendent on individual contributions, it follows that greater levels of ability among team members should lead to higher team performance. Heslin (1964) found some support for this when he concluded that the team's mean level of GMA was significantly related to the team's performance in three out of the four studies he reviewed. More recently, a study by Tziner and Eden (1985) concluded that crews with more high-ability soldiers performed better, and Williams and Sternberg (1988) found team performance to correlate positively with both the team's mean level of intelligence and the highest individual intelligence score. Hill (1982) also reported that higher member ability leads to increased productivity for teams of systems analysts. Similarly, Stevens and Campion (1994) reported that a team's mean scores for a traditional aptitude test are positively associated with supervisor ratings of the team's overall technical skills, teamwork, and team performance ($rs = .36, .23$, and $.29$, respectively). On the basis of the literature reviewed above,

> *Hypothesis 1.* Work teams with higher mean levels of GMA will receive higher supervisor ratings for performance.

Because GMA is outside the domain of personality, it is not expected to be associated with interpersonal relationships. Therefore, we did not predict that GMA would influence the second performance dimension, team capability to continue working together.

Personality

Research on the effects of group composition has also examined the influence of group-member personality on team outcomes (e.g., Bouchard, 1969; DeBiasio, 1986; Driskell & Salas, 1992; George, 1990; Hoffman, 1959; Hoffman, & Maier, 1961; Strube, Keller, Oxenberg, & Lapido, 1989). However, most of these studies have been conducted in laboratory settings using creativity as the performance criterion, meaning that they are disjunctive rather than additive tasks. Relatively little has been done to understand the relationship of personality to the performance of actual work teams completing production tasks that are additive.

Another reason for the lack of cumulative knowledge in relating personality to actual work-team outcomes has been the lack of a generally accepted taxonomy of personality. The recent emergence of the five-factor model (FFM) as a robust taxonomy of personality (Costa & McCrae, 1988; Barrick & Mount, 1991) provides a comprehensive framework from which to examine personality and its relationship to both individual and team performance. The five factors are Extraversion, Emotional Stability, Agreeableness, Conscientiousness, and Openness to Experience.

Meta-analyses have consistently demonstrated relationships between some of the FFM personality constructs and various individual performance criteria (Barrick & Mount, 1991; Hough, 1992; Hough, Eaton, Dunnette, Kamp, & McCloy, 1990; Tett, Jackson, & Rothstein, 1991). However, the studies included in these meta-analyses focused on relationships between FFM constructs and individual performance, not team performance. Hough's (1992) meta-analysis did, nevertheless, include an individual-level criterion of teamwork, which consists of ratings of cooperativeness with coworkers and team members. Although this criterion does not measure team-based outcomes (e.g., team performance or team viability), it does assess an individual's success in working with others. In that meta-analysis, three personality constructs were correlated with ratings of teamwork: conscientiousness, which Hough broke into two scales, achievement and dependability ($rs = .14$ and $.17$, respectively); emotional stability ($r = .13$); and agreeableness ($r = .17$).

Of the five personality constructs, conscientiousness has been found to have the most consistent and the strongest relationship with individual performance in work environments and has been found to generalize across jobs settings (Barrick & Mount, 1991; Mount & Barrick, 1995). Similar to GMA, team members' conscientiousness should combine additively in that more is better regardless of the individual providing it. Specifically, because the relationship between conscientiousness and performance has been found to generalize across tasks, greater conscientiousness should help each team member to contribute more to the overall team outcome regardless of the team member's specific role, tasks, or relationships with other team members. This means that higher mean levels of team-member conscientiousness should be associated with higher team performance. At the team level, team members who are high in achievement motivation (a component of conscientiousness) have also been shown to have more concern about the success of the team (Zander & Forward, 1968). This concern seems to translate into higher team performance, as French (1958) found that teams composed of high achievement-oriented members were better performers and more efficient than those composed of low achievement-oriented members. Moreover, F. W. Schneider and Delaney (1972) found that teams composed of members with higher achievement motivation scores solved complex problems more efficiently. These arguments resulted in the following hypothesis:

> *Hypothesis 2.* Work teams with higher mean levels of conscientiousness will receive higher supervisor ratings of performance.

Because conscientiousness has been found to relate to task completion rather than to interpersonal relationships,

there is no expectation that differences in conscientiousness will correspond with variations in team viability.

While GMA and conscientiousness are expected to correspond to supervisor evaluations of overall team performance, interpersonal dimensions of performance are expected to correspond with team viability, or the team's capability to continue working together. Cooperation is the key to developing a team with the long-term capability to work interdependently (Hackman, 1990), suggesting that the viability criterion should be influenced by personality traits associated with positive social interaction, which foster cooperation and trust (Forsyth, 1990). Consequently, personality traits such as agreeableness and extraversion, which are intrinsically interpersonal in nature (McCrae & Costa, 1989), should be associated with team viability.

Indeed, research has consistently found that liking and interpersonal attraction are related to team viability, attraction, and member satisfaction but not to performance (Berkowitz, 1954; Haythorn, 1953; Terborg, Castore, & DeNinno, 1976; Tjosvold, 1984; Tziner & Vardi, 1982). For example, Terborg et al. (1976) demonstrated in a longitudinal test of 42 groups that attitudinally similar groups expressed the highest levels of cohesion. Consequently, we expected the interpersonal traits of agreeableness and extraversion to be related to the team's viability.

Agreeable team members are helpful, friendly, warm, trusting, and tolerant. In fact, the very essence of agreeableness is cooperation. Because cooperation improves long-term team viability, the aggregate level of agreeableness for a team should directly relate to ability to continue working together. The more agreeable each member is, the more likely the team is to work together cooperatively. For example, Graziano, Jensen-Campbell, and Hair (1996) found that even in tasks designed to elicit conflict, agreeableness was related to less perceived conflict and more positive perceptions from the "opposing" participants. Moreover, members with similar levels of agreeableness should have similar styles of conflict management, which should help them to effectively mediate any differences and thereby improve cooperation (Jackson, Stone, & Alvarez, 1992). Recognizing this and accounting for the interpersonal-attraction literature, higher mean levels on agreeableness are likely to be positively associated with team viability.

A single disagreeable member also may be enough to destroy the team's capability to work cooperatively, regardless of the level of agreeableness for other team members. A very disagreeable person may make team membership overly costly in terms of social rewards (Thibaut & Kelley, 1959) and thereby destroy interpersonal relationships within the team; the minimum score for agreeableness should thus correlate with team viability. The expected effects of agreeableness are summarized in Hypotheses 3a and 3b:

Hypothesis 3a. Work teams with higher mean levels of individual agreeableness will receive higher ratings for capability to continue working together.

Hypothesis 3b. Work teams with higher scores for the least agreeable member of the team will receive higher ratings for capability to continue working together.

The other interpersonal trait is extraversion. Extraverts are sociable, enthusiastic, energetic, and optimistic. Extraverts have a desire to work with others and should, therefore, be motivated to behave in ways that ensure that the team will remain viable. Furthermore, McCrae and Costa (1987) argued that extraversion incorporates a measure of positive affectivity (Watson & Clark, 1984). Individuals high on positive affectivity are prone to have an overall sense of well-being and experience more positive emotional states, which should result in greater satisfaction with the team. Indirect support for this is provided in a study by George (1990), who reported that positive affectivity of team members resulted in lower absenteeism $(r = -.39)$.

Barry and Stewart (1997), however, demonstrated that too many extraverts can create a team full of leaders with no followers to fill complementary roles. Specifically, they found a curvilinear $\cap$ relationship between number of extraverted members and group effectiveness. Inclusion of some extraverts was helpful, but too many extraverts harmed performance. Their finding suggests that teams may be more effective when there is greater variance among member levels of extraversion, so that complementary roles of leading and following are carried out.

Different lines of reasoning thus result in two somewhat competing hypotheses. The notion of positive affectivity results in a prediction that a higher mean level of extraversion will correspond with increased viability, while the findings of Barry and Stewart (1997) suggest that the distribution of extraversion is more important and that teams will be more viable when some members are introverted. These two predictions resulted in the following hypotheses:

Hypothesis 4a. Work teams with higher mean levels of individual extraversion will receive higher ratings for capability to continue working together.

Hypothesis 4b. Work teams with higher variance in member scores on extraversion will receive higher ratings for capability to continue working together.

Existing literature also suggests that emotional stability may affect the team's capability to continue working together. Heslin (1964) concluded that emotional stability is one of the best predictors of team performance, particularly of measures associated with team viability. In one

of the studies that Heslin reviewed, Haythorn (1953) found that emotional stability was positively related to team viability, as rated by outside observers ($r = .48$). Higher aggregate levels of emotional stability also should lead to a more relaxed atmosphere that should promote capability to continue working cooperatively. In contrast, low emotional stability, what Watson and Tellegen (1985) referred to as negative affectivity, is likely to suppress or inhibit cooperation. As evidence of this supposition, George (1990) reported that teams with negative affective tones engaged in less prosocial behavior ($r = -.57$). Thus, teams with a greater tendency toward anxiety or negative affectivity are likely to be less capable of continued positive interactions. However, inclusion of a single team member who is emotionally unstable may also create a negative affective tone that makes it difficult for the team to work together. These ideas lead to Hypotheses 5a and 5b:

> *Hypothesis 5a.* Work teams with higher mean levels of individual emotional stability will receive higher ratings for capability to continue working together.

> *Hypothesis 5b.* Work teams with higher scores for the least emotionally stable member will receive higher ratings for capability to continue working together.

Intragroup Processes

Understanding the process through which team composition and team effectiveness are related is also important. There are numerous variables that can reflect intragroup process, which Hackman (1987) defined as "the interaction that takes place among members" (p. 315). Potential measures of interaction include communication patterns, conflict levels, weighting of individual inputs, and distribution of team-member assignments (Gladstein, 1984). Although each of these variables is potentially distinct, research suggests that there is substantial overlap among such process measures (e.g., Gladstein, 1984). In fact, we believe that many of the processes are reflected in the construct of social cohesion. *Social cohesion* has been defined as "the resultant of all forces acting on members to remain in the group" (Festinger, 1950, p. 274). Cohesion thus reflects synergistic interactions between team members, including positive communication, conflict resolution, and effective workload sharing. In order to simplify our examination of the input–process–output model we thus developed hypotheses that adopt social cohesion as a general indicator of synergistic group interaction— or process. Nevertheless, we do report correlations for other process indicators (assessed at the team level), including team conflict and communication, and team member flexibility and workload sharing.

The construct of cohesion has been the subject of a great deal of research in the teams domain. Reviews of

the teams literature have reported a lack of consensus regarding the magnitude, direction, or even existence of a relationship between cohesion and performance (e.g., Bettenhausen, 1991; Goodman et al., 1987; Hackman, 1992). Mullen and Copper's (1994) meta-analysis of the cohesion–performance effect reported that the average correlation between cohesion and performance was small but significant ($\rho = .25$). However, a common deficiency with prior meta-analyses of the cohesion–performance effect is that they fail to define clearly the criterion of performance. That is, they do not specify whether social cohesion is related to team performance or team viability. Thus, an important contribution of our present study is that we examined the relationship between social cohesiveness and each of these two outcome measures. Because social cohesiveness is an indicator of positive interpersonal dynamics within the team, we expected it to be correlated with the team's viability or capability to maintain itself; we did not expect it to be related directly to team performance. Thus,

> *Hypothesis 6.* Work teams reporting greater social cohesion will receive higher ratings for their ability to continue working together.

Because personality traits reflect differences in approaching and developing interpersonal relationships, we also expected social cohesion to mediate relationships between "interpersonally oriented" personality traits and team viability. Specifically, the relationship of agreeableness, extraversion, and emotional stability to team viability should be mediated by social cohesiveness. Tjosvold (1984) and Stogdill (1974) found that team leaders who are person oriented or high in personal warmth toward others (on a warmth–coldness scale) tend to enhance interpersonal (social) cohesiveness. We expected this effect to generalize from leaders to all team members, meaning that the more agreeable each member is, the more socially cohesive the team will become. We also expected higher levels of extraversion to increase social cohesiveness. Extraverts are likely to have higher positive affectivity (Watson & Clark, 1984), which increases social cohesion. Research by Greer (1955) also suggests emotional stability may be important, as he found anxiety and paranoid tendencies (low emotional stability) in army members to relate negatively with team social cohesiveness. Hence,

> *Hypothesis 7.* Social cohesiveness will mediate relationships between team viability and the personality traits of agreeableness (mean and minimum), extraversion (mean and variance method), and emotional stability (mean and minimum method).

Method

Participant Sample

Because organizations use the label *team* to describe work configurations that vary greatly in the extent to which workers actually function as interdependent groups rather than as individuals, we carefully screened the teams included in our sample. This screening was consistent with the conceptualization of Guzzo and Dickson (1996), who defined teams as being "made up of individuals who see themselves and who are seen by others as a social entity, who are interdependent because of the tasks they perform as members of a group, who are embedded in one or more larger social systems (e.g., community, organization), and who perform tasks that affect others (such as customers or coworkers)" (p. 308). The original sample consisted of 252 participants from 22 teams that assemble small appliances, 285 participants from 19 teams that assemble electronic equipment, 103 participants from 6 fabrication and maintenance teams in a rubber-manufacturing plant, and 52 participants from 8 fabrication and maintenance teams in a second rubber-manufacturing plant.

The first and third criteria for being teams were met as each team was embedded in an organization and was seen by itself and others as a unique social entity. To quantitatively assess the second and fourth criteria, we used seven items from Kiggundu's (1983) task-interdependence scale rated on a 5-point scale. Examples of items include "My team members' output feeds into my work" and "How other team members do their work has an impact on my performance." In order to assess agreement among team members' perceptions of task interdependence, we also calculated intraclass correlation coefficients (ICC) as suggested by James (1982). ICC(1) was .21 and ICC(2) was .73. Both estimates are well within the expected range and imply acceptable levels of agreement. The mean score on the 5-point scale was 3.56 with a standard deviation of .41. However, four teams reported scores less than 3.0 and more than 2.0 standard deviations below the mean. Because they did not appear to have adequate interdependence to meet the definition of teams, these four teams were eliminated from the study to leave a sample of 652 individuals working in 51 teams. Because the unit of analysis is the team, the sample size is 51 for all analyses.

The average age of participants was 41.66 years ($SD = 9.59$), 44% of the participants were male, 98% were Caucasian, and the median level of education was a high school degree (range from ninth grade to a graduate degree). Average tenure was 14.67 years ($SD = 7.59$) within organizations and 3.59 years ($SD = 1.20$) within teams. The average size of the teams was 13 ($SD = 7.84$). Means were generally consistent across the four organizations in terms of age, gender composition, and tenure in the firm and in the team. (It should be noted that these teams had functioned in each of the organizations for 5 to 6 years.) The largest difference among the various organizations was the size of the teams (for Organization 1, $M = 11.55$, $SD = 5.87$; for Organization 2, $M = 15.00$, $SD = 13.41$; for Organization 3, $M = 17.17$, $SD = 10.60$; and for Organization 4, $M = 5.40$, $SD = 2.35$).

Measures and Scoring

Three sets of measures were collected: team composition, team process, and team outcomes. The composition and process measures were collected at the individual level and aggregated to the team level. The team's supervisor, who did not have knowledge of responses to the team composition or process variables, provided the outcome measures.

Although the composition measures focused on the individual team members, team process and outcome measures were designed to assess attributes about the team. For example, questions regarding team cohesion measured the team member's assessment of the typical level of social cohesion displayed by all members of the team, not the extent of cohesion felt by one individual team member. Thus the process and outcome measures were assessed at the team level to ensure conformity to the level of the theory (i.e., team-level data). Although we developed explicit hypotheses only for cohesiveness as an indicator of intragroup process, we also collected and report measures of conflict, flexibility, communication, and workload sharing.

Social cohesiveness. We assessed social cohesiveness using a scale developed by Stokes (1983) and used in previous studies (e.g., O'Reilly, Caldwell, & Barnett, 1989; Stokes, 1983). Participants responded to seven items using a 5-point Likert-type scale, with high scores associated with favorable (highly cohesive) responses. Examples of items include "Team members consistently help each other on the job" and "The members of this team got along well with each other." Coefficient alpha was .87 in this study, ICC(1) was .24, and ICC(2) was .75. Consequently, it appears appropriate to aggregate ratings from team members into a team-level measure of social cohesiveness.

Team conflict. We assessed conflict within each team through an 8-item intragroup conflict scale developed by Rahim (1983). The scale consists of items like "There is dissension in my group." Higher scores represent greater conflict. Coefficient alpha for the conflict scale was .83, ICC(1) was .21, and ICC(2) was .71.

Member flexibility. We measured team-member flexibility with a 3-item scale developed by Campion et al. (1993). This scale assessed the degree to which team members can complete each other's tasks. A representative item is "Most members of my team know each other's jobs." Higher scores represent increased flexibility. Coefficient alpha for this scale was .69, ICC(1) was .27, and ICC(2) was .79.

Team communication. We assessed communication using a 3-item openness-to-communication scale originally developed by O'Reilly and Roberts (1976). The scale includes items like "It is easy to talk openly to all members of this group." Higher scores represent more open communication. Coefficient alpha for this scale was .87, ICC(1) was .24, and ICC(2) was .75.

Workload sharing. We measured workload sharing using a 3-item scale developed by Campion et al. (1993). A representative item from the scale is "Everyone on my team does their fair share of the work." Higher scores represent a greater balance of inputs. Coefficient alpha for this scale was .82, ICC(1) was .21, and ICC(2) was .71.

Team viability. Supervisors rated each team's capability to maintain itself over time. This scale had 12 items and used a

5-point Likert-type scale (1 = *strongly disagree*, 5 = *strongly agree*). Items from two scales used to assess members' willingness to continue functioning as a team were combined to comprehensively measure team viability in an actual work setting (DeStephen & Hirokawa, 1988; Evans & Jarvis, 1986). Examples of items included "This team should not continue to function as a team" and "This team is not capable of working together as a unit." Taken together, the items measured the degree to which the team was likely to continue to function together as a team in the future. A varimax, unconstrained factor analysis of the 12 items resulted in a single factor. Coefficient alpha for this scale was .82.

Team performance. We also assessed the overall performance of each team by supervisor ratings of team effectiveness on a 5-point scale (1 = *somewhat below requirements*, 5 = *consistently exceeds requirements*). In all organizations, an eight-dimension measure of team performance was used. These performance dimensions were developed based on a description of the tasks done in these organizations. The dimensions were knowledge of tasks, quality of work, quantity of work, initiative, interpersonal skills, planning and allocation, commitment to the team, and an overall evaluation of team performance. Each dimension was defined by a one-sentence description, followed by three interpretative examples illustrating important facets of that performance dimension. Overall performance was the sum of the ratings across all dimensions. Coefficient alpha for this scale was .83.

Ability (GMA). We used the Wonderlic Personnel Test (Form 5) to assess GMA. Across forms, test–retest reliabilities reported in the test manual ranged from .82 to .94. Measures of internal consistency reliability ranged from .88 to .94 (see Wonderlic & Associates, 1983).

Personality. We used the Personal Characteristics Inventory (PCI; Barrick & Mount, 1995) to assess the FFM of personality. Coefficient alpha reliability estimates reported in the test manual were .87, .86, .82, .86, and .83 for conscientiousness, extraversion, agreeableness, emotional stability, and openness to experience, respectively. Test–retest reliability estimates over 4 months (N = 194) were .82, .84, .70, .81, and .82, respectively.

Results

Because this is one of the first studies to examine different methods of operationalizing team composition variables, we report a correlation matrix in Table 1 for the different team composition variables (GMA and the FFM personality constructs) across the different operationalization methods (mean, variance, minimum, and maximum). As shown in Table 1, the highest correlations tend to be reported between different methods of operationalizing the same trait. The average of these correlations (using absolute values) across all five composition variables using the four different operationalization methods was .40 (the average correlation for each trait across the four methods, using absolute values, was .38 for GMA, .38 for conscientiousness, .46 for agreeableness, .43 for extraversion, and .34 for emotional stability). The correlations

tend to be considerably smaller for different traits whether operationalized with the same method (the average correlation for the same method across different traits was .22, using absolute values) or different methods (the average correlation for different methods across different traits was .16, using absolute values). Taken together, this suggests that "scores" from different methods of operationalizing the same trait correlate moderately (average r = .40, using absolute values). Nevertheless, the moderate relationships suggest that, although the various measures are somewhat related, they do indeed operationalize team-level traits differently.

Table 2 reports the means, standard deviations, and zero-order correlations for the team composition variables, the team process variables, and the team outcome measures. Variables representing the team's size (number of team members) and dummy variables for the company in which the team exists are also included, because they are used as control variables in subsequent analyses. In order to control for these effects we also examined partial correlations (controlling for size and organization) to assess the relationships reported in Table 2. However, only the zero-order correlations are reported, as the partial correlations were not significantly different in either a statistical or a practical sense.

The correlation coefficients reported in Table 2 indicate support for Hypotheses 1 and 2 relating GMA and conscientiousness to productivity. Work teams with higher mean levels of GMA received higher supervisor ratings for team performance (r = .23; 90% confidence interval [CI] is .01 ≤ .23 ≤ .45), and work teams with higher mean levels of conscientiousness received higher supervisor ratings for team performance (r = .26; 90% CI is .04 ≤ .26 ≤ .48).

Hypotheses 3a and 3b were not supported, as mean and minimum scores on agreeableness were not clearly associated with team viability (rs = .16 and .20, respectively; 90% CI is −.02 ≤ .20 ≤ .42). However, there was strong support for Hypotheses 4a and 5a. Work teams with higher mean levels of extraversion and emotional stability received higher ratings of team viability (rs = .30 and .32, respectively; 90% CI is .09 ≤ .30 ≤ .51). Contrary to expectations, the variance for extraversion (Hypothesis 4b) and minimum score on emotional stability (Hypothesis 5b) were not related to team viability (rs = −.01 and .13, respectively; 90% CI is −.10 ≤ .13 ≤ .36).

Table 2 also illustrates that, as hypothesized (Hypothesis 6), social cohesion does correlate with team viability (r = .40; 90% CI is .21 ≤ .40 ≤ .60). Moreover, the relevant methods of operationalizing agreeableness, extraversion, and emotional stability are highly correlated with social cohesion (rs range from .32 to .53; 90% CI is .11 ≤ .32 ≤ .53). In accordance with expectations, relationships with the other indicators of group process

Table 1

Zero-Order Correlations for Team Composition Variables, Operationalized Using the Mean, Variance, Minimum, and Maximum Methods (N = 51)

Variable	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
GMA																			
1. Mean	—																		
2. Variance	.22	—																	
3. Minimum	.49*	-.37*	—																
4. Maximum	.57*	.59*	-.04	—															
Conscientiousness																			
5. Mean	.17	-.04	.00	.12	—														
6. Variance	-.05	.07	-.02	-.09	-.29*	—													
7. Minimum	.11	-.03	.33*	-.13	.34*	-.75*	—												
8. Maximum	.14	.09	-.15	.24*	.62*	.20	-.05	—											
Agreeableness																			
9. Mean	-.08	.04	-.32*	-.13	.34*	-.10	.14	.26*	—										
10. Variance	.08	-.19	.33*	-.03	.14	-.01	.15	.11	-.62*	—									
11. Minimum	.02	.13	-.02	-.23*	.10	-.15	.27*	-.17	.71*	-.73*	—								
12. Maximum	-.08	-.21	-.34*	.16	.45*	.14	-.23*	.69*	.21	.19	-.27*	—							
Extraversion																			
13. Mean	.28*	-.21	.39*	.09	.02	-.28*	.21	-.21	-.16	.21	.01	-.36*	—						
14. Variance	.07	-.20	.13	-.07	.04	.27*	-.08	.08	.06	-.02	.09	-.11	.19	—					
15. Minimum	.16	.00	.35*	-.19	-.01	-.37*	.51*	-.30*	-.08	.24*	.21	-.42*	.72*	-.31*	—				
16. Maximum	.26*	-.18	.07	.25*	.01	.01	-.14	-.02	-.06	.05	-.01	-.09	.65*	.54*	.17	—			
Emotional stability																			
17. Mean	-.02	-.08	.08	-.09	.22	-.39*	.33*	-.20	.23*	-.18	.31*	-.47*	.54*	.02	.45*	.26*	—		
18. Variance	.22	-.12	.30*	.07	.05	-.14	.20	-.06	-.18	.45*	-.19	.14	.22	-.03	.25*	.12	-.21	—	
19. Minimum	-.10	.00	.26*	-.41*	-.10	-.10	.34*	-.29*	.08	-.16	.37*	-.62*	.14	.06	.34*	-.13	.53*	-.55*	—
20. Maximum	-.01	-.24*	-.12	.09	-.05	.04	-.24*	.07	.23*	-.15	-.01	.06	.25*	.26*	-.12	.49*	.24*	.27*	-.21

Note. GMA = general mental ability. The 90% confidence interval for correlations ≥ .22 does not include zero.

* $p < .05$ (one-tailed).

Table 2

Means, Standard Deviations, and Correlations Between Team Composition Variables and Team Process and Team Outcome Variables (N = 51)

Variable	M	SD	Team viability $r_{x,y}$	Team performance $r_{x,y}$	Social cohesion $r_{x,y}$	Team conflict $r_{x,y}$	Flexibility $r_{x,y}$	Communication $r_{x,y}$	Workload sharing $r_{x,y}$
1. Team viability	3.97	0.76	—						
2. Team performance	3.52	0.43	.48*	—					
Process measures									
3. Social cohesion	3.66	0.42	.40* (H6)	.27*	—				
4. Team conflict	2.75	0.54	−.40*	−.39*	−.90*	—			
5. Team flexibility	3.74	0.50	.28*	.23*	.58*	−.42*	—		
6. Communication	3.48	0.38	.38*	.26*	.85*	−.89*	.42*	—	
7. Workload sharing	3.08	0.59	.25*	.33*	.74*	−.78*	.44*	.67*	—
8. GMA									
M	21.72	2.83	.28*	.23* (H1)	−.01	−.08	−.23*	.07	−.10
Variance	30.77	13.3	.05	.22	.02	−.28*	−.19	.23*	.12
Minimum	13.16	3.91	.13	.02	.04	−.13	−.15	.25*	−.08
Maximum	30.06	3.99	−.06	.03	−.24*	.16	−.38*	−.20	−.32*
9. Conscientiousness									
M	2.60	0.12	.20	.26* (H2)	.00	−.09	−.04	−.12	.21
Variance	0.08	0.05	−.15	−.33*	.03	.14	.00	−.06	−.04
Minimum	2.13	0.28	.20	.34*	.14	−.39*	.06	.29*	.30*
Maximum	2.93	0.10	.08	.01	−.08	.04	−.09	−.25*	.15
10. Agreeableness									
M	2.50	0.11	.16 (H3a)	.34*	.32* (H7)	−.38*	.25*	.18	.56*
Variance	0.14	0.10	−.07	−.08	−.23*	.28*	.07	−.30*	−.33*
Minimum	1.89	0.23	.20 (H3b)	.32*	.38* (H7)	−.51*	.15	.50*	.62*
Maximum	2.95	0.09	−.18	−.06	−.39*	.39*	−.21	−.63*	−.09
11. Extraversion									
M	1.97	0.19	.30* (H4a)	.12	.36* (H7)	−.24*	.38*	.43*	.07
Variance	0.13	0.07	−.01 (H4b)	.02	.35* (H7)	−.13	.10	.17	.21
Minimum	1.47	0.23	.31*	.26*	.24*	−.32*	.43*	.43*	.23*
Maximum	2.53	0.24	.19	−.02	.33*	−.03	.27*	.18	.01
12. Emotional stability									
M	2.21	0.14	.32* (H5a)	.24*	.53* (H7)	−.42*	.41*	.48*	.33*
Variance	0.23	0.13	.07	.12	−.04	.01	.09	−.07	−.05
Minimum	1.48	0.31	.13 (H5b)	.03	.34* (H7)	−.40*	.23*	.50*	.33*
Maximum	2.83	0.15	.12	−.11	.18	.04	.37*	.00	.05
13. Control variables									
Team size	12.78	7.84	.16	.10	−.07	.28	.14	−.28*	−.41*
Company 2	0.37	0.49	−.04	.09	−.15	.13	−.17	−.16	−.13
Company 3	0.12	0.33	.00	.14	.15	.10	.27*	−.03	−.18
Company 4	0.10	0.30	.13	−.01	.36*	−.44*	.38*	.57*	.43*

Note. GMA = general mental ability; H = hypothesis. The 90% confidence interval for correlations ≥ .23 does not include zero. N = 51 work teams.
* p < .05 (one-tailed).

(i.e., conflict, flexibility, communication, sharing) were highly correlated with social cohesion. The relationships between these variables and team-composition measures were also generally similar to those found for cohesion. We therefore focused the bulk of our process analysis on social cohesion.

Because recent research has found curvilinear relationships between personality and team performance (Barry & Stewart, 1997), we also tested for curvilinear effects across all characteristics. These effects were examined via hierarchical regression analyses (Cohen & Cohen, 1983). No curvilinear effects were found for any team-composition characteristics when predicting either team performance or team viability.

Other zero-order correlations from Table 2 of note include the variance and minimum scores for conscientiousness, which were related to team performance (rs = −.33 and .34, respectively; 90% CI is −.12 ≤ −.33 ≤ −.54). Furthermore, the mean level and minimum score of agreeableness, as well as the minimum score for extraversion and mean score for emotional stability, were also related to team performance (rs = .34, .32, .26, and .24, respectively; 90% CI is .02 ≤ .24 ≤ .46). Higher scores for the mean of GMA and minimum scoring extravert in the work team were also associated with greater team viability (rs = .28 and .31, respectively; 90% CI is .07 ≤ .28 ≤ .49). Finally, the maximum score of GMA, variance and maximum on agreeableness, and minimum and maxi-

mum scores for extraversion were related to social cohesion ($rs = -.24$, $-.23$, $-.39$, $.24$, and $.33$; 90% CI is $-.02 \leq -.23 \leq -.44$).

The mediation hypothesis for the process indicator of social cohesion was tested following the procedure of Baron and Kenny (1986). However, before mediation can be assessed, there must be a relationship between the independent variables and the criterion—team viability in this case. Contrary to our expectations, mediation was not possible with agreeableness, with variance on extraversion, or with the minimum score on emotional stability. As shown by the results from Table 2, the possibility of mediation among hypothesized relations therefore existed for only the mean levels of extraversion and emotional stability. The results for these two sets of regressions are presented in Table 3. As shown, the relevant personality traits were significantly related to the mediator variable—social cohesion (see Model 1 results). Furthermore, as shown, the mediator variable was significantly related to the criterion of team viability, even when the independent variable was included in the equation (see Model 3 results). The beta for extraversion was attenuated by about 28% when cohesion was included with the independent variable in the regression equations, while the beta for emotional stability was attenuated by approximately 46% (compare betas for the personality traits in Models 2 and 3). Taken together, these results show support for Hypothesis 7 by suggesting that social cohesion partially mediates the relationships between team viability and the traits of extraversion and emotional stability (both using the mean method).

Discussion

Although it is widely recognized that teams are important to organizational effectiveness, and the number of organizations using teams is increasing, surprisingly little is known about the relationship between team composition variables and team effectiveness in actual work settings. This is particularly true when trait variables are used as indicators of team composition. The present study addresses this issue and also provides some insight into the way ability and personality are related to team viability through an indicator of team processes (social cohesion).

Before discussing the process issues, a few comments are in order about the zero-order correlations between team-composition variables and team outcomes. With respect to ability and conscientiousness, these findings extend those reported at the individual level of analysis (Barrick & Mount, 1991; Schmidt et al., 1981) to the team level of analysis: Conscientious teams (mean, variance, and minimum methods) and high cognitive-ability teams (mean method) perform better (as rated by the supervisor) than teams that are less conscientious and lower in cognitive ability. Results also indicate that teams that are more agreeable (mean method) and more emotionally stable (mean method) are likely to have higher perfor-

Table 3

Regression Results for Testing Whether Social Cohesion Mediates the Relationship Between Personality and Team Viability (N = 51)

Model (dependent variable)	b	ΔR^2	Total R^2	df
Extraversion model 1 (social cohesion)				
Controls		.097*	.097*	4, 46
Extraversion (M)	0.582*	.120*	.217*	5, 45
Extraversion model 2 (team viability)				
Controls		.131*	.131*	4, 46
Extraversion (M)	1.217*	.057*	.188*	5, 45
Extraversion model 3 (team viability)				
Controls		.131*	.131*	4, 46
Social cohesion	0.682*	.125*	.256*	6, 44
Extraversion (M)	0.875	.045	.301*	6, 44
Emotional stability model 1 (social cohesion)				
Controls		.097*	.097*	4, 46
Emotional stability (M)	1.294*	.213*	.310*	5, 45
Emotional stability model 2 (team viability)				
Controls		.131*	.131*	4, 46
Emotional stability (M)	1.779*	.079*	.210*	5, 45
Emotional stability model 3 (team viability)				
Controls		.131*	.131*	4, 46
Social cohesion	0.629*	.140*	.271*	6, 44
Emotional stability (M)	0.965	.024	.295*	6, 44

Note. b = unstandardized regression coefficients.
* $p < .05$ (one-tailed), for t values (for unstandardized regression coefficients) or F values (for overall model).

mance. Furthermore, teams that do not have any particularly disagreeable or introverted members (i.e., have high scores on the minimum method) were found to be higher performing teams. These findings are somewhat different from those reported at the individual level where these traits have not been found to be consistent predictors of job performance (Barrick & Mount, 1991), suggesting that these traits may be important for predicting the effectiveness of teams performing additive tasks in actual work settings.

Zero-order correlations also show that the second team outcome measure, team viability, is predicted by a somewhat different set of team-composition variables. That is, when the outcome of interest is the team's capability to remain together, teams that have higher cognitive ability (mean method), are more extraverted (mean and minimum method), and are more emotionally stable (mean method) are more likely to stay together in the future. Given the importance of work teams and their increasing frequency in organizational settings, these results have important implications for how ongoing work teams should be staffed.

Our mediator analyses also suggest that some of the personality measures (extraversion and emotional stability; mean method of operationalization) have an indirect relationship to team viability through their relationship with social cohesion. This implies that a team possessing higher aggregate mean levels of extraversion and emotional stability are more likely to experience positive intragroup interactions and thereby become more socially cohesive, which in turn enhances the team's capability to maintain itself.

Turning to a comparison of the methods of operationalizing team composition variables, we found that scores derived by the four different methods of operationalizing (i.e., mean, variance, minimum, and maximum) the same team-composition trait (whether GMA or a FFM personality construct) were only moderately correlated, implying that each operationalization captures unique information about team composition. This highlights the importance of choosing a theoretically appropriate method of combining individual-level characteristics into a team-level construct. A review of the correlations reported in Table 2 also reveals some interesting insights from the different methods of operationalization.

One intriguing finding is the negative relationship between variance in conscientiousness and team performance. Although higher mean levels of conscientiousness are desirable, this result suggests that a mix of both conscientious and not-so-conscientious members tends to lower performance. This may be because, in such teams, members who are highly conscientious not only must perform their own tasks but also must perform or re-do the tasks of low-conscientious members. It may also be be-

cause such diversity leads to feelings of contribution inequity, which is somewhat supported by the correlations between the minimum-score operationalization of conscientiousness and group-process indicators. Teams with a higher minimum score—those teams without a very low-conscientious member—report less conflict, more communication, and more workload sharing. This effect would not be apparent through an examination of only the mean-score operationalization.

Another interesting finding is the relatively robust relationships associated with the minimum score of agreeableness, extraversion, and emotional stability. Similar to conscientiousness, including a team member who lacks desirable interpersonal traits can negatively affect team processes and performance. For example, inclusion of a single member who is highly disagreeable (reflected in a low minimum score for the team) is associated with lower performance, less cohesion, more conflict, less open communication, and less sharing of the workload. Because a low individual score will reduce the mean score, this effect is somewhat reflected in the mean-score operationalization. However, examination of the minimum-score operationalization clearly demonstrates the effect of a single disagreeable member, which is important because it illustrates the potentially strong effect one person can have on team performance. Such results underscore the importance of rigorous selection in work teams.

Although different operationalizations provide unique information, we found that the mean method and the minimum method were the most important predictors of team success for several individual-difference measures in this study. This is consistent with the additive and conjunctive nature of the tasks that the teams performed, demonstrating the need to account for task type when determining appropriate team-level operationalizations.

The importance of accounting for task type can also be illustrated by contrasting the present results with those of another recent study that examined relationships between personality composition and team performance. Barry and Stewart (1997) reported a curvilinear relationship between team performance and the proportion of extraverts in student teams performing disjunctive problem-solving tasks. This finding is not surprising, as the teams in their study worked on tasks that required the team to adopt a single problem solution. However, a similar effect for extraversion (using the variance method) was not found here, which is again not surprising because the additive tasks allowed all team members to contribute to the team's output even if they did not fill complementary roles. Future studies regarding team-level personality and team processes and effectiveness should therefore be careful to account for group tasks when developing hypotheses.

A few limitations of our study should be taken into

account when interpreting the results. First, although data were obtained from over 600 employees, the relevant sample for our analyses is 51 teams, suggesting that statistical power is relatively weak. In general this is a difficulty with research pertaining to teams and may explain why we were unable to find support for some hypotheses. Second, we looked at the mediation effect for only one process indicator, social cohesiveness. The high degree of collinearity associated with this and other indicators of intragroup processes prevented us from simultaneously testing for multiple mediators. It should also be noted that individual-trait measures and process measures were both collected from employee responses. This leaves open the possibility that significant relationships between these variables are the result of common-response bias; however, because the measures concern different levels of analysis (individual and team) the likelihood of such a confound is minimized. Third, our study used data from four different organizations. Internal validity may be compromised if critical factors within the organizations differ. Fortunately, analyses suggest that the organizations are very similar. Also, controlling for organizational differences did not seem to affect the results reported in Tables 2 and 3. Fourth, our study does not account for several contextual variables that may affect relationships of ability and personality to team outcomes. Examples of important variables to use in future studies include reward structure and resource availability (see Gladstein, 1984).

Taking the limitations into account, this study does appear to have implications both for how team members should be selected to maximize team effectiveness and for the development of a theory of work-team performance. One important practical implication is that selecting team members with higher levels of GMA, conscientiousness, agreeableness, and emotional stability may enhance team performance on additive tasks. Team viability may also be enhanced to the extent that aggregate levels of team-member extraversion and emotional stability lead to higher levels of social cohesion. Analyses related to the minimum score also illustrate the critical effect of a single individual on overall team performance, as including just one person who is low on agreeableness, conscientiousness, or extraversion can result in strained internal processes and decreased overall performance. This also highlights the necessity of choosing theoretically appropriate methods of operationalizing team-composition variables.

In summary, our findings are consistent with well-established research regarding GMA, conscientiousness, and individual performance, as teams with higher cognitive ability and conscientiousness were judged to be better performers than teams that were lower on GMA and conscientiousness. Yet, our study goes beyond this and suggests that interpersonally oriented personality characteris-

tics, such as agreeableness, extraversion, and emotional stability, can also be important predictors of team effectiveness. Although agreeableness and emotional stability have not been found to consistently relate to performance for individuals, our results suggest that they (along with extraversion) can be important team-level constructs that predict team performance and team viability. The mediator analysis also demonstrated that part of the effect for some of these interpersonally oriented personality variables on team viability comes through social cohesiveness. Composing teams with members who develop positive social interactions and thereby experience synergistic cohesion thus enhances work-team performance. Taken together, the results of this study highlight the importance of choosing appropriate methods of operationalizing composition variables, as different operationalizations can lead to divergent conclusions.

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