What Makes a Good Team Player? Personality and Team Effectiveness

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Good team players are often defined in trait terms; that is, they are described as dependable, flexible, or cooperative. Our goal is to examine the relationship between team member personality traits and team effectiveness. However, to understand the effects of personality on team performance requires greater specificity in how personality is described and in how team effectiveness is described. A hierarchical model of team member personality is presented that defines higher-level personality traits and specific facets relevant to team performance. Next, a classification of the core teamwork dimensions underlying effective team performance is presented. Finally, predictions are derived linking team member personality facets to specific teamwork requirements.

Keywords: personality, teams, team work

As Ilgen (1999) and others have noted, modern organizations have increased their reliance on teams, and this has served to foster applied research on teams in task settings. After decades in which reviewers were forced to act as apologists for the lack of vitality and progress in this field, research on teams has returned with a vengeance. One reason for this renaissance in team research is that effort follows demand, and only recently has attention been devoted to the dynamics of team performance in applied settings. Whereas most early research on group performance took place in academic settings, much of the resent resurgence in team research has been driven by organizational requirements. This realization of the value of teams for accomplishing tasks has shifted the emphasis of research from a primary focus on team processes to a broader focus on team inputs, team outcomes, and the factors that mediate the effects of inputs on outcomes (Ilgen, Hollenbeck, Johnson, & Jundt, 2005).

One area that is of considerable theoretical and practical interest is the topic of team member personality and team effectiveness: What are the traits that define a good team player? One of the earliest investigations of the relationship between personality and team performance was undertaken by Mann (1959), who concluded his review of this literature with the expectation that this work could serve as a takeoff point for further research. However, despite some attempts along the way (e.g., Driskell, Hogan, & Salas, 1987), the next steps to examine personality and team performance were taken almost 40 years later by Barrick, Stewart, Neubert, and Mount (1998); Barry and Stewart (1997); Hollenbeck et al. (2002); Judge and Bono (2000); LePine, Hollenbeck, Ilgen, and Hedlund, 1997; Neuman and Wright (1999); and others. Broadly speaking, these studies attempt to define the relationship between "Big Five" personality traits (emotional stability, extraversion, openness to experience, agreeableness, and conscientiousness) and team performance.

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Although these results have demonstrated the relevance of team member personality to team effectiveness, there are two ways in which we wish to extend this research. First, there are specific, lower-level facets within the higherlevel Big Five traits that may have differing and even contradictory effects on team performance. For example, it is unclear whether the effect of extraversion on team performance observed by Barrick et al. (1998) stems from the effect of the assertiveness/dominance component of extraversion (i.e., extraverts are assertive) or from the sociability/affiliation component of extraversion (i.e., extraverts are sociable). Thus, one goal of the current research is to define specific personality facets within the higher-level Big Five traits that are relevant to team effectiveness.

Second, we acknowledge that team performance is multidimensional and that different personality facets may be predictive of different performance dimensions. This position is consistent with a person-team fit perspective (Hollenbeck et al., 2002) that the relationship between individual differences in personality and outcomes is contingent on the nature of the task. Therefore, we argue that to examine the impact of personality on team effectiveness requires that not only do we provide more specificity in terms of what we mean by personality, but also provide more specificity in terms of what we mean by team effectiveness. More specifically, we claim that the effects of team member personality on team effectiveness should be examined in terms of what teams do. Researchers have identified core teamwork dimensions or team functions that must be accomplished within teams. These teamwork dimensions include activities such as team management (i.e., directing and coordinating task activities), interpersonal relations (i.e., resolving conflicts and maintaining socioemotional relations), and adaptability (i.e., compensatory or backup behavior). Thus, it is quite likely that specific facets of team member personality may have differential effects on these activities that underlie effective team performance. For example, a team member that is highly sociable may be quite adept at maintaining good interpersonal relations in teams, but not necessarily adept at task management and planning. Therefore, our goal is to define the specific personality facets that are relevant to team effectiveness and link these to the core teamwork dimensions that define effective team performance.

In the following, we first attempt to elaborate the concept of a good team player by deriving a hierarchical model of team member personality that defines specific personality traits and facets that we believe are most relevant to team performance. We then present a classification of the core teamwork dimensions underlying effective team performance. Finally, we derive predictions linking team member personality facets to these teamwork requirements.

What Defines a Good Team Player?

We follow Ilgen (1999) in focusing on work teams—teams embedded in organizations that exist to accomplish tasks. In a typical work team, what Kozlowski, Gully, McHugh, Salas, and Cannon-Bowers (1996) call "action teams," and what Hollenbeck et al. (1995) term "distributed expertise teams," each team member possesses specific information or expertise to contribute to the team task. Although work teams are often hierarchically structured, our focus is on the interdependent team member. Thus, our initial goal is to describe the traits or facets that define the prototypical team player.

Although there is some divergence on how personality traits should be labeled and organized, personality theorists are in general agreement on the nature of the structure of personality. Most theorists propose a hierarchical model of personality, with broad higher-order factors or traits that subsume and organize more specific lower-level facets (cf. Saucier & Ostendorf, 1999). For example, the Big Five factor model represents a broad set of traits that are themselves a collection of many facets that have something in common. Whereas the broad higher-level constructs offer an efficient and parsimonious way of describing personality, the more specific facets can offer higher fidelity of trait descriptions and greater predictive validity (Saucier & Ostendorf, 1999; Stewart, 1999).

Figure 1 presents a hierarchical model of team member personality, defined by the Big Five trait dimensions of emotional stability, extraversion, openness, agreeableness, and conscientiousness. These traits are composed of the more specific facets that we believe are relevant to team effectiveness. In the following sections, we describe each facet and its relationship to

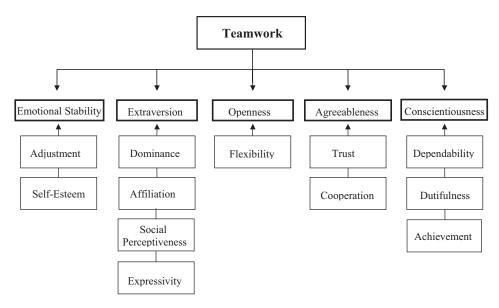


Figure 1. Hierarchical Model of Facets Related to Teamwork

team performance. In some cases, these facets are linked to team performance through existing empirical research, and in other cases, we attempt to develop that connection based on a rational extrapolation from related literature. This process is complicated somewhat by the fact that little research has been done on personality and team performance at the facet level. Where appropriate, we note facets that are similar to the facets we have defined, drawn from existing personality inventories such as the NEO-PI-R (Costa & McCrae, 1992), Hogan Personality Inventory (HPI; Hogan, 1986), the Personal Characteristics Inventory (PCI; Mount, Barrick, Laffitte, & Callans, 1999), the 16PF (Conn & Rieke, 1994), and the California Personality Inventory (CPI; Gough & Bradley, 1996). Because there is no direct correspondence between measures from different scales, these comparisons are meant solely to be illustrative.

Emotional Stability

The trait of emotional stability refers to a lack of anxiety and nervous tendencies. Those who are emotionally stable tend to be well-adjusted, calm, secure, and self-confident. Viewed from the negative pole of neuroticism, those who score low on this trait tend to be moody, anxious, paranoid, nervous, insecure, depressed, and high-strung (Barrick & Mount, 2001). In past studies of military teams, Haythorn (1953) and Greer (1955) reported that emotional stability was positively related to team effectiveness. Several researchers have claimed that emotional stability is a significant factor in teamwork or any task that requires coordinated behavior (Barrick, Mount, & Judge, 2001; Driskell et al., 1987; Mount, Barrack, & Stewart, 1998). The facets of emotional stability that we believe are most relevant to team interaction are adjustment and self-esteem.

Adjustment. Adjustment has been defined by Hogan (1986) as freedom from anxiety, depression, and somatic complaints. Watson, Clark, and Tellegen (1988) have viewed lack of adjustment as negative affect, a general dimension of subjective distress and unpleasurable engagement. Gunthert, Cohen, and Armeli (1999) described neurotic individuals as "caught in a web of negative behaviors, cognitions, and moods. . They seem to experience (perhaps generate) more interpersonal stressors, their perceptions of daily events are more negative, and their coping choices are maladaptive" (p. 1099).

Given that those low on adjustment are prone to be distressed, upset, hostile, irritable, and nervous, they are not likely to excel in interpersonal or team settings. In circumstances in which the organizational structure is out of alignment with environmental requirements, Hollenbeck et al. (2002) found that the emotional stability of team members was a critical predictor of performance. Moreover, noting that people's moods are often affected by those around them, Totterdell, Kellett, Teuchmann, and Briner (1998) found that team members reciprocated the mood of other teammates. Thus, not only are poorly adjusted team members displeasing to be around, their negative affect can spread to other team members.

In contrast to the more specific facets that we define in the following sections, we view adjustment as similar to the higher-level emotional stability or neuroticism traits as defined in various Big Five inventories. Cognate scales related to adjustment include the HPI factor of Adjustment, the PCI factor of Even Temperament, and the NEO-PI-R factor of Neuroticism.

Self-esteem. Self-esteem is generally defined as a global assessment of self-worth or of one's value as a person (Crocker & Wolfe, 2001). Those with high self-esteem view themselves in a positive light as good, worthy and successful, whereas those with low self-esteem view themselves in a more negative light as bad, unworthy, and unlikely to succeed. Judge, Locke, Durham, and Kluger (1998) defined self-esteem as composed of two core components: self-worth and self-efficacy. They further noted that the appraisal of whether one is good and competent versus no good and incompetent has significant implications for how that person will approach and carry our job responsibilities. Baumeister (1997) has noted that those high in self-esteem not only have a favorable opinion of themselves, but see themselves as competent and will work hard to succeed; whereas those low in self-esteem doubt that they will succeed and focus on avoiding failure.

Team members with high self-esteem are likely to be confident, self-assured, and positive toward others, whereas team members with low self-esteem are likely to be insecure, critical, and blame others for their mistakes. Vancouver and Ilgen (1989) found that individuals who were confident in their abilities were more likely to prefer working in a team versus working alone. Moreover, Murray, Hilmes, MacDonald, and Ellsworth (1998) argued that those low in self-esteem are insecure and tend to

project their self-doubts onto others. Cognate scales related to the self-esteem facet include the HPI facets of Self-Confidence and Identity, the PCI facet of Self-Confidence, and the NEO-PI-R facet of Competence.

Extraversion

The trait of extraversion has been viewed as a combination of assertiveness/dominance and sociability/affiliation (Judge & Bono, 2000; Lucas, Diener, Suh, Shao, & Grob, 2000). Some theorists view dominance as the primary marker of extraversion and some view sociability as the primary component of extraversion (Hough, 1992; Saucier & Ostendorf, 1999). We believe this distinction is especially relevant in considering performance in a team context, and we distinguish between the extraversion subcomponents of dominance (assertiveness, surgency) and affiliation (social interest). The specific facets of extraversion that we believe are most relevant to team interaction are dominance, affiliation, social perceptiveness, and expressiv-

Dominance. Dominance reflects striving for superiority, control, and influence over others. This specific facet has also been referred to as ascendance, assertiveness, or surgency (Watson & Clark, 1997; Costa & McCrae, 1992). Norton (1983) reported three components of dominance: (a) forcefulness (e.g., coming on strong, taking charge), (b) monopolizing (e.g., talking often and not letting others talk, and (c) involvement (e.g., taking precedence in interaction and not waiting for others). Dominance is related to authoritarianism, although most view authoritarianism as a multifaceted construct that includes not only dominance but also conservatism, conventionalism, punitiveness, and other subtraits. Dominance is also related to social dominance (see Pratto, Sidanius, Stallworth, & Malle, 1994), although social dominance is an intergroup variable reflecting an individual's preference for inequality among social groups. However, to the extent that those high on social dominance prefer intergroup relations to be unequal, hierarchical, and ordered along a superior-inferior dimension, those high on dominance prefer intragroup relations to be similarly unequal, hierarchical, and ordered along a superior-inferior dimension.

Dominant individuals have a desire to control and influence others. Dominant persons are headstrong, controlling, and combative. They tend to stand firmly to their own opinions and perspectives, they view others' opinions as a threat or challenge, and they view compromise as a concession. To the extent that interdependent team tasks often require exchange of information among team members who all hold valuable task information, the tendency to be authoritative, controlling, and unreceptive to other team members' opinions can be damaging to team interaction (Driskell & Salas, 1992). Although the dominance component of extraversion may be related to leadership (i.e., leaders need to exert power and control), effective team members need to subjugate the desire for personal ascendancy to work as part of an interdependent, mutually reliant team. Cognate scales related to the dominance facet include the HPI facet of Status-seeking (e.g., "I want people to look up to me."), the 16PF facet of Dominance (desire for control of situations and other people) and the NEO-PI-R facet of Assertiveness.

Affiliation. Affiliation refers to the individual's desire to engage in activities with other people versus being alone. Persons high on affiliation are sociable, friendly, interested in social interaction, and would generally prefer to interact with others than to be alone. Persons low on affiliation are withdrawn, reserved, aloof, and prefer solitary tasks to social interactions in which they are less comfortable. Lucas et al. (2000) define this factor, which they term "sociability," as the enjoyment of social activities and preference for being with others over being alone. Davis (1969) found that teams composed of members who preferred to work in a group interacted more and solved problems faster than teams composed of members who preferred to work alone. Wageman (1995) examined differences in preferences for autonomy, defined as the extent to which people like working with others versus working independently, and found that those with a high preference for autonomy helped other group members less and learned less from others.

Some have distinguished between low sociability (or in our terms, low affiliation), which is a nonfearful preference for being alone, and shyness, which reflects a social anxiety related to affiliating with others (Bruch, Gorsky, Collins, & Berger, 1989). In other words, low af-

filiation reflects a disinterest in affiliating or socializing with others, whereas shyness reflects a fear or distress of affiliating with others. Therefore, a low affiliative person may not necessarily be shy, but is likely to be cool, aloof, and withdrawn. Cognate scales related to the affiliation facet include the NEO-PI-R facets of Warmth (affectionate and friendly, cordial and hearty) and Gregariousness (preference for other's company), the PCI facet of Sociability, the 16PF facets of Warmth (attentive to others, likes people vs. reserved, impersonal) and Selfreliance (group-oriented, affiliative, vs. individualistic, self-sufficient), and the HPI facets of Likes People (enjoy meeting new people) and Easy-to-live-with (works well with other people).

Social perceptiveness. Zaccaro, Foti, and Kenny (1991) define social perceptiveness as sensitivity to social cues, or the capacity to recognize what others expect in social situations. Social perceptiveness has been viewed as one component of social intelligence, the other being behavioral flexibility (which is relevant to our flexibility facet). Social perceptiveness is related to social insight, social understanding, or empathy, and can be described as the awareness of motives, needs, and intentions of other group members and awareness of relations among group members. Jones and Day (1997) described two related factors of social perception (the capacity to decode others' verbal and nonverbal behaviors) and social insight (the capacity to comprehend and interpret others' behavior in a social context).

Rosnow, Skleder, Jaeger, and Rind (1994) discussed the capacity to infer the motivations behind another's social behavior, and noted that perspective-taking was a key component. Marlowe (1986) described social competence as the ability to understand the feelings, thoughts, and behaviors of others in interpersonal situations, and found empathy to be one factor comprising this construct. Thus, we would expect team members high on social perceptiveness to be more accurate in "reading" others with whom they are interacting, as well as more accurate in comprehending or interpreting relations between other team members. Those high on social perceptiveness should be more skillful at anticipating others' requirements, as they are more adept at interpreting others' needs and intentions. Golembiewski (1962) concluded that "individuals who accurately perceived the preferences of others were regarded as highly desirable, cooperative and efficient group members" (p. 257). Cognate scales related to the social perceptiveness facet include the PCI facet of Consideration and the CPI facet of Empathy (insightful regarding how others feel and think).

Expressivity. Individuals high in expressivity are interpersonally expressive and communicative, whereas those low in expressivity are more reserved, taciturn, and impassive. Emotional expressivity refers to the extent to which people outwardly display emotion (Kring, Smith, & Neale, 1994). Emotional expressivity is one component of the facet of expressivity, although as Gross and John (1998) have noted, early work on a general expressivity factor (Snyder, 1974) has become almost solely defined in recent research as emotional expressivity. However, conveying emotions is only one function of expressive behavior. Expressive behaviors serve multiple functions—to supplement and elaborate speech, accent or punctuate speech, regulate the timing and sequence of communication, and convey comprehension, confusion, agreement, and interest (Driskell & Radtke, 2003). All of these functions can serve to more fully convey information to the listener. Thus, we describe those high in expressivity as being interpersonally expressive. In a sense, this facet is the flip side of social perceptiveness. To the extent that those high in social perceptiveness are good decoders of expressive behavior, those high in expressivity are good encoders of expressive behavior.

Gross and John (1998) examined one component of expressivity, noting that those high in expressive confidence tend to exhibit high levels of expressivity in social situations, but do so in situationally appropriate ways. Gallaher (1992) defined expressiveness as involving energetic communication, with those high in expressivity exhibiting a high level of behaviors linked to communication. We believe that several aspects of expressivity are relevant to team interaction. Those low in expressivity are more difficult to read by other team members and are less likely to communicate effectively to others; thus, they are less informative. Furthermore, those low in expressivity may be seen by others as less likable (Riggio & Friedman, 1986) and less competent (DeGroot & Motowidlo, 1999). Cognate scales related to the expressivity facet include the 16PF facet of Liveliness (animated and expressive vs. restrained and taciturn) and the HPI facet of Expressive.

Openness

The trait of openness has been described as intellectance (Hogan, 1986) and openness to experience (McRae & Costa, 1997), and reflects intellectual, cultural, or creative interests. Although individual aptitude or cognitive ability of team members is clearly related to team effectiveness (Devine & Philips, 2001), within the domain of personality, group researchers generally hold that there is little direct relationship between the general trait of openness or intellectance and teamwork (see Driskell et al., 1987; Porter et al., 2003). However, some components of the openness trait are relevant, especially the facet of flexibility.

Flexibility. McRae and Costa (1997) claimed that the trait of openness is, from the negative pole, related to rigidity in behavior and unwillingness to accept change. We believe that the facet of flexibility (vs. rigidity) is critical to interdependent behavior. Paulhus and Martin (1988) have defined functional flexibility as the ability to adjust one's behavior to suit changing interpersonal situations. Paulhus and Martin focused on the interpersonal advantages of flexibility, noting that in social situations, the flexible person can be assertive or submissive, warm or cold, as the situation demands. Zaccaro, Gilbert, Thor, and Mumford (1991) defined behavioral flexibility as one component of social intelligence. This conceptualization emphasizes the problem-solving aspects of behavioral flexibility in addition to the interpersonal aspects, defining behavioral flexibility as "the ability and willingness to respond in significantly different ways to correspondingly different situational requirements" (p. 322).

Rigid persons tend to be stubborn and headstrong, view uncertainty as a threat, and generally have a low tolerance for ambiguity. Recent research has discussed the importance of adaptability to teams (Kowslowski, Gully, Nason, & Smith, 1999) and work environments (Pulakos, Arad, Donovan, & Plamondon, 2000). Pulakos et al. (2000) identified several critical dimensions of adaptive performance, including flexibility in handling uncertain task conditions, interpersonal flexibility, and flexibility in problem solving. Cognate scales related to the flexibility facet include the CPI facet of Flexibility, the HPI facet of Not Spontaneous ("It is always best to stick with a plan that works."), the NEO-PI-R facet of Openness-Actions, and the 16PF facet of Openness to Change.

Agreeableness

The trait of agreeableness is defined as kindness, trust, and warmth versus selfishness, distrust, and hostility. Persons high on agreeableness are considerate, honest, helpful, and supportive. Persons low on agreeableness are uncaring, intolerant, unsympathetic, and critical. Some researchers have claimed that agreeableness may be the best primary predictor of performance in interpersonal settings (Mount et al., 1998; Neumann & Wright, 1999). Thus, agreeableness seems to have high predictive validity for tasks that involve cooperation and that involve smooth relations with others (Barrick et al., 2001). The facets of agreeableness that we believe are most relevant to team interaction are trust and cooperation.

Gurtman (1992) defines trust as the belief that the sincerity, benevolence, and truthfulness of others can generally be relied upon. According to Judge, Erez, and Bono (1998), the opposite of trust is cynicism, the belief that others lack integrity and are "out to get you." McKnight, Cummings, and Chervany (1998) claim that the disposition to trust has two facets: (a) faith in humanity, the assumption that others are well-meaning and dependable, and (b) trusting stance, the assumption that one will achieve a better outcome by dealing with people as though they were trustworthy. Holmes and Rempel (1989) define trust as composed of several components, including dependability, or the belief that others can be counted on to be honest, reliable, and benevolent; and faith, or the conviction that others are intrinsically motivated to be responsive and caring.

We distinguish between trust (or disposition to trust) and trustworthiness or reliability, which is captured by our dependability facet. Those with dispositionally high trust believe that others are honest and well-intentioned, whereas those with low trust are suspicious and doubt the sincerity, motives, or intentions of others. Yamagishi (2001) noted that trust is not the indiscriminate belief in the goodness of others,

which may lead to gullibility, but defines general trust as a default expectation of the trustworthiness of others. Those with high trust assume that other people are trustworthy until evidence is provided indicating otherwise. Dirks (1999) noted that interpersonal trust is a hallmark of effective groups and argued that high trust should lead to greater cooperation and helping behaviors, greater task commitment, and higher effort expended on the task. Dirks found that in high-trust groups, higher motivation was channeled into more cooperative behavior and better performance. Jarvenpaa and Leidner (1999) also found that lower levels of trust were associated with lower team performance. Cognate scales related to the trust facet include the NEO-PI-R facet of Trust and the HPI facet of Trusting.

Cooperation. Van Lange, De Bruin, Otten, and Joireman (1997) have noted that some people are willing to give others the benefit of the doubt and approach them cooperatively; whereas others are inclined to approach others noncooperatively. They distinguished between those who are cooperative or prosocial (who maximize outcomes for both self and others) and those who are competitive (who maximize outcomes for self relative to others). A third group, individualists (who maximize outcomes for self with no regard for others), are closer to representing our dominance facet. Van Lange (1999) noted that cooperative persons approach others in a cooperative manner and continue to do so unless others fail to reciprocate. Thus, cooperative persons are not compliant, but will turn to noncooperative behavior only if their cooperative intentions are not reciprocated. Wagner (1995) defined collectivism as the relative importance people accord to joint or shared pursuits (vs. self interests) and found that individual differences in collectivism predicted the extent to which group members cooperated in task activities.

Kelley and Stahelski (1970) found that competitive persons are more likely to expect others to be competitive and to elicit competitive behavior from others. The fact that cooperative persons approach interaction in a cooperative manner, but may be drawn into competitive behavior by a competitive partner, suggests the dual disadvantage of having a highly competitive person in an interdependent team—they may not only act in a competitive manner, but

draw competitive behavior out in others. Cognate scales related to the cooperativeness facet include the PCI facet of Cooperation, the NEO-PI-R facet of Compliance, and the HPI facet of Competitiveness.

Conscientiousness

The trait of conscientiousness has been associated with a number of facets, including competence, order, achievement striving, and dutifulness (Costa & McCrae, 1992; Moon, 2001). Moon (2001) has noted that some researchers have emphasized the responsibility/dependability component of conscientiousness, whereas others have viewed conscientiousness in terms of achievement orientation. Moon argued that dependability or duty can be viewed as the other-centered component of conscientiousness and that achievement can be seen as the self-centered component.

Thus, conscientiousness reflects the tendency to be hardworking, prepared, and organized, to adhere to obligations and duties, to complete tasks thoroughly and on-time, and to be reliable. Persons low on conscientiousness are impulsive, irresponsible, and disordered. Whereas some studies have found the general trait of conscientiousness to be related to team effectiveness (Barrick et al., 1998; LePine et al., 1997), others have not (Barry & Stewart, 1997). The facets of conscientiousness that we believe are most relevant to team interaction are dependability, dutifulness, and achievement.

Dependability. Dependability refers to a tendency toward planfulness and discipline in carrying out tasks to completion. Those high in dependability are responsible, organized, planful, reliable, and trustworthy. Those low in dependability are irresponsible, disordered, and impulsive. Borman, White, Pulakos, and Oppler (1991) found that high dependability among military personnel led to fewer disciplinary infractions and higher performance ratings. Borman, White, and Dorsey (1995) also reported a strong relationship between dependability and both peer and supervisor performance ratings. Hough (1992) found that dependability was related to ratings of teamwork, and Barrick et al. (1998) found that work teams with higher levels of conscientiousness (broadly defined) received higher ratings of team performance.

Behavioral markers of dependability reported

by peers and supervisors in Borman et al. (1995) include "Count on for backup" and "Trust and depend on." Thus, team members high on dependability are likely to be more responsible and can be relied on to backup other team members. They are also likely to be more methodical, to accept responsibilities, set goals, and follow through with them. Cognate scales related to the dependability facet include the PCI facet of Dependability, the NEO-PI-R facet of Order, and the HPI facets of Planfulness and Not Spontaneous.

Dutifulness. Dutifulness refers to the tendency to value and adhere to obligations and duties that are held within the team. Ellemers, de Gilder, and van den Heuvel (1998) have examined a related construct of team-oriented commitment, which they defined as a sense of responsibility for team outcomes and motivation to help out teammates even if that required personal sacrifice. Moon (2001) states that "duty captures differences in individuals' proclivity to do the right thing, not only for themselves, but also, for others" (p. 535). Costa and McCrae (1992) define duty as behavior evidenced by individual adherence to ethical principles and moral obligations. If we extend this definition to the team context, then we would view duty as adhering to team principles and team obligations, and we believe that those with a high duty orientation are more likely to form an attachment to the team and the team goals (see Aube' & Rousseau, 2005).

Dutifulness may be especially important for military, sports, and other work teams that face active resistance or opposition that must be overcome to achieve the team goal (see Devine, 2002). In a series of classic studies conducted in World War II, Stouffer et al. (1949) found that what kept soldiers going in extremely hostile conditions was not political ideals or hatred of the enemy, but group obligations and duty to others. Cognate scales related to the dutifulness facet include the NEO-PI-R facet of Dutifulness.

Achievement. We believe that good team players are ambitious, achievement-oriented, and take the initiative in pursuing team goals. In performing an interdependent task, each team member must be motivated to take on those duties that lead to successful accomplishment of the task. This includes not only carrying one's share of the load, but also carrying another team

members' share if they are overburdened, as well as goal setting, team management, and leadership functions. Zander and Forward (1968) found that achievement-oriented team members were more concerned about team success, and Hough (1992) found achievement to be related to ratings of teamwork.

Cognate scales related to the achievement facet include the HPI facets of Leadership and Generates Ideas, the PCI facet of Ambition, the CPI facet of Capacity for Status (ambitious, enterprising), and the NEO-PI-R facet of Achievement Striving.

In summary, we have defined 12 core facets of team orientation that we believe are descriptive of effective team players. In brief, good team players are not controlling or domineering (low dominance). They are sociable (affiliation), perceptive and empathic (social perceptiveness), and interpersonally expressive (expressivity). They are emotionally stable (adjustment) and confident (self-esteem). They are adaptive (flexibility), trust other team members (trust) and cooperative (cooperativeness). Finally, good team players are reliable (dependability), have a strong sense of loyalty or duty to the team (dutifulness), and they work hard to achieve team goals (achievement).

The preceding classification attempts to describe the core lower-level personality facets that are relevant to team effectiveness. However, we have argued that to specify the relationship between personality and team effectiveness more precisely requires that we not only describe the Big Five traits more precisely, but also provide greater specificity in terms of what we mean by team effectiveness. In other words, teams do not just perform, they perform certain core tasks, and the extent to which these teamwork activities or requirements are carried out successfully is one determinant of overall team effectiveness. Moreover, we expect that different personality facets may be relevant to the prediction of different teamwork dimensions. In other words, we believe what has been missing in previous models is the link between team member personality and teamwork requirements. In the following section, we attempt to define the core teamwork dimensions or team functions that must be accomplished within a team context.

Teamwork Dimensions

Driven by the heightened interest in teams in applied settings, recent research has attempted to define the dimensions that underlie effective teamwork (Ilgen, 1999). McIntyre and Salas (1995) described a series of studies that adopted a critical incident approach to identifying critical teamwork activities. Researchers worked with real-world teams, including naval shipboard teams and aircrews, to identify critical activities characterizing effective and ineffective teams (Franz, Prince, Cannon-Bowers, & Salas, 1990; Morgan, Glickman, Woodard, Blaiwes, & Salas, 1986). These core teamwork dimensions were further elaborated by Baker and Salas (1992) to include performance monitoring and feedback, communication, coordination, and adaptability.

Fleishman and Zaccaro (1992) developed a taxonomic classification of team performance functions. Building on earlier work on the structure of human performance (Fleishman & Quantance, 1984), these researchers attempted to describe the common team functions that underlie team performance. Major team functions identified include orientation functions (e.g., exchanging information), coordination functions (e.g., coordination and sequencing of activities), monitoring functions (e.g., performance monitoring and error correction), and motivational functions (e.g., maintenance of norms, resolving conflicts).

Cannon-Bowers, Tannenbaum, Salas, and Volpe (1995) integrated these research efforts and proposed that the core teamwork functions could be conceptualized as eight broad dimensions (See Table 1). According to Cannon-Bowers et al. (1995), the following teamwork dimensions are a prerequisite for effective team performance across a variety of types of tasks and teams.

Adaptability

Adaptability refers to adjustment of task strategies or team behaviors in response to changes in the team or task environment. Adaptability may include mutual adjustment among team members and reallocation of resources. Porter et al. (2003) have emphasized the importance of backup behavior,

Table 1
Teamwork Dimensions (Adapted from Cannon-Bowers et al., 1995)

Dimension	Definition	Subskills
Adaptability	Team members use information from the task environment to adjust strategies through the use of flexibility, compensatory behavior, and reallocation of resources.	Flexibility Compensatory or back-up behavior Providing assistance
Shared situational awareness	Team members develop shared knowledge of the team's internal and external environment.	Shared orientation Team awareness
Performance monitoring and feedback	Team members give, seek, and receive task-clarifying feedback.	Performance monitoring Providing feedback Error correction
Team management	Team members direct and coordinate task activities, assign tasks, plan and organize, and motivate other team members.	Resource management Motivation Planning and goal setting
Interpersonal relations	Team members optimize interpersonal interactions by resolving conflicts, use of cooperation, and building morale.	Conflict resolution Cooperation Morale building
Coordination	Team members organize team resources, activities, and responses to ensure complete and timely completion of tasks.	Task organization Response coordination Timing and activity pacing
Communication	Team members exchange information efficiently.	Seeking or requesting information Providing information Acknowledgement and confirmation
Decision making	Team members integrate or pool information, identify alternatives, select solutions, and evaluate consequences.	Assessment Evaluation Problem solving

which is compensatory behavior to support other team members who are overloaded or experiencing difficulty. Hackman and Morris (1978) have noted that one of the few universally effective group strategies is adaptability.

Shared Situational Awareness

Team members must develop a shared situational awareness, also referred to as mutual knowledge (Cramton, 2001; Thompson & Coovert, 2003) or common ground (Clark & Brennan, 1991). Team members possess contextual task and team information that must be communicated to and understood by other team members. Cramton (2001) noted that mutual knowledge may suffer when team members fail to communicate unique information that they possess, fail to distribute information evenly among team members, or fail to correct misunderstand-

ings. Some research has shown that the accuracy and similarity of shared mental models among team members predicts the quality of team processes and performance (Marks, Zaccaro, & Mathieu, 2000; Mathieu, Heffner, Goodwin, Salas, & Cannon-Bowers, 2000; Thompson & Coovert, 2003).

Performance Monitoring and Feedback

Performance monitoring and feedback behaviors include monitoring other team member's contributions as well as monitoring team progress, identifying errors, providing constructive feedback, and offering advice for performance improvement. Members of effective teams must be familiar with each other's roles and accept responsibility for providing and accepting feedback (McIntyre & Salas, 1995).

Team Management

Team management behaviors include directing and coordinating the task activities of other team members, assigning tasks, and motivating other team members. These are primarily task behaviors oriented toward instrumental goals. One critical management task, planning, is often overlooked in teams (Hackman & Morris, 1978), although research has clearly demonstrated the value of planning (Janicik & Bartel, 2003; Weingart, 1992) and pretask briefings (Marks et al., 2000) to team performance.

Interpersonal Relations

Team members optimize interpersonal relations by resolving conflicts, encouraging cooperative behavior, and building team morale. These are primarily socioemotional behaviors oriented toward smooth interpersonal relations. McIntyre and Salas (1995) noted that positive or supporting team behaviors are not always apparent in team interactions—tasks demands may require terse, formal communications at times—but that a positive team environment supports these task activities. Moreover, research has shown that cohesive groups tend to agree more readily (Lott & Lott, 1961), report greater satisfaction with the group (Curtis & Miller, 1986), and in general outperform less cohesive groups (Mullen & Copper, 1994).

Coordination

In one of the earliest studies of group performance, Shaw (1932) attributed the effectiveness of groups to the capability of group members to exchange and coordinate information. Janicik and Bartel (2003) noted that effective coordination, knowing who is going to do what, when, and with whom, is critical to team performance. Behaviors that support effective coordination include matching team member resources to task requirements, regulating the pace of team activities, and coordinating the response and sequencing of team member activities (Fleishman & Zaccaro, 1992).

Communication

Communication is the primary vehicle through which task groups accomplish their goals (Marks et al., 2000). Team members must exchange ideas and information in a clear and timely manner. Research suggests that effective team performance is related to the quantity and quality of communications—effective teams communicate more and better than less effective teams (Foushee, 1982; Kanki, Lozito, & Foushee, 1989; Marks et al., 2000). Effective communication behaviors include exchanging information in a timely manner, acknowledgment of information, double-checking that the intent of messages was received (closed-loop communication), clarifying ambiguity, and the appropriate use of verbal and nonverbal cues (Kanki & Smith, 2001; Stout, Salas, & Fowlkes, 1997).

Decision Making

Team decision making involves problem identification and assessment, information exchange, generation and evaluation of solutions, implementation, and evaluation of consequences (Forsyth, 1990; Hirokawa, 1980). Barriers to effective team decision making may include failure to adequately assess problems (Moreland & Levine, 1992), failure to consider others' input (Driskell & Salas, 1992), failure to disclose uniquely held information (Stasser & Titus, 1995), and undue influence from a single team member (Foushee & Helmreich, 1988).

Predictions

The preceding classification of core teamwork dimensions allows us to take the next step in linking team member personality and team requirements. In the following, we predict the effects of the specific personality facets defined in Figure 1 on specific core teamwork dimensions. These predictions are summarized in Table 2. Note that when we are able to make a strong positive or negative prediction based on either existing research or on a logical extension of existing research, these predictions are marked as "+" or "-" respectively. In other cases, we feel that the relationship between a particular team member facet and a specific teamwork dimension is weaker or unsupported, and thus we note these predictions as intermediate and indicated as " \sim ".

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 Table 2

 Effects of Team Member Personality Facets on Teamwork Dimensions

				Teamwork	Teamwork dimensions			
Team member facets	Adaptability	Shared situational awareness	Performance monitoring and feedback	Team management	Interpersonal relations	Coordination	Communication	Decision
Emotional stability								
Adjustment	+	+	+	+	+	+	+	+
Self-esteem	+	}	}	+	+	}	}	}
Extraversion								
Dominance	}	I	}	}	I	}	I	Ι
Affiliation	+	+	+	I	+	I	+	I
Social perceptiveness	+	+	}	≀	+	}	+	+
Expressivity	+	+	}	≀	+	}	+	+
Openness								
Flexibility	+	+	+	+	+	+	+	+
Agreeableness								
Trust	≀	≀	+	≀	+	}	+	+
Cooperation	+	+	}	≀	+	≀	+	≀
Conscientiousness								
Dependability	+	≀	+	+	≀	+	+	}
Dutifulness	≀	+	+	≀	+	}	₹	?
Achievement	+	+	+	+	}	+	+	+

Note. + denotes positive prediction; - denotes negative prediction; ~ denotes intermediate prediction.

Adjustment

We predict that adjustment will have a positive effect on all behaviors that are performed in a team environment. Although team tasks may differ in the degree of cooperation required (see Shaw, 1981), an essential feature that defines a team is interdependent behavior (Salas, Dickinson, Converse, & Tannenbaum, 1992). Team members who are ill-tempered, distressed, and emotionally unstable are disruptive of any type of coordinated or interdependent behavior (cf. Barrick et al., 1998; Barrick & Mount, 2001). Moreover, George (1990) found that the positive/negative affectivity of team members was related to the extent to which teams engaged in prosocial behaviors, and Barsade (2002) found that team members' positive affect led to greater cooperation, conflict management, and team performance. Therefore, in Table 2, we follow the lead of Barrick et al. (1998) and others, and predict that adjustment is critical to any task or teamwork activity that requires coordinated activity.

Self-Esteem

One factor that distinguishes self-esteem from adjustment is that adjustment reflects general emotional instability or negative affect, and self-esteem involves the self as a reference point (Brown & Marshall, 2001). Thus, those high on self-esteem are confident and self-assured, whereas those low on self-esteem appear hopeless and critical. Research indicates that selfesteem affects interpersonal relationships (Murray et al., 1998) and is generally related to job satisfaction (Judge et al., 1998), and thus we predict that self-esteem will be positively related to interpersonal relations. Further, Erez and Judge (2001) found that self-esteem was related to goal setting and motivation, and thus we predict that self-esteem will be positively related to team management activities. Given that those high in self-esteem tend to maintain effort in the face of failure (Dodgson & Wood, 1998), we predict that self-esteem will be positively related to adaptability. We believe that self-esteem will have less direct or more intermediate effects on shared situational awareness, performance monitoring and feedback, coordination, communication, and decision making.

Dominance

We predict that high dominance will have a negative effect on shared situational awareness, interpersonal relations, communication, and decision making. Dominant team members, who view interaction along a superior/inferior dimension, are likely to have a different perspective on team tasks and relationships than other team members (shared situational awareness). Dominant team members also tend to engender less positive interpersonal relations (Driskell, Olmstead, & Salas, 1993), exhibit more ineffective communication behaviors (Yukl & Falbe, 1990), and are less likely to attend to the task inputs of other team members in decision making (Driskell & Salas, 1992). We predict that high dominance will have intermediate effects on adaptability, performance monitoring and feedback, team management, and coordination. Team members who are dominant and controlling may be less flexible but perhaps more prone to backup other team members' behavior as a means of control (adaptability), they may be more prone to monitor others' behavior as a precursor to control (performance feedback and monitoring), and the dominant team member's need to direct and influence others may support some instrumental management functions (team management).

Affiliation

Given that those low on affiliation tend to help or assist others less (Wageman, 1995) and in general may choose to interact less (Davis, 1969), we predict those who are more sociable and affiliative are more likely to assist and support other team members (adaptability), share experiences with other team members (shared situational awareness), seek and receive feedback from others (performance monitoring and feedback), engage in socioemotional activities (interpersonal relations), and talk more and exchange information with other team members (communication). We believe that high affiliation, because it may interfere with instrumental task activities (see Driskell, Hogan, & Salas, 1987), may have negative effects on team management, coordination, and decision making. In fact, Barry and Stewart (1997) have noted that extraverts "have a propensity to seek pleasurable social interactions at the expense of efficient management of task demands" (p. 66).

Social Perceptiveness

We view social perceptiveness as the capacity to accurately gather and process information about others (Costanzo, 1992), and argue that some people are poor decoders of social information (Lieberman & Rosenthal, 2001). Moreover, Nickerson (1999) has noted that those who are less adept at inferring others' thoughts and feelings may be less apt to develop the shared knowledge or transactive memory required in interdependent teams. We predict that those who are more adept at reading and interpreting others' intentions and feelings are more likely to identify when other team members are overloaded or require assistance (adaptability), develop common ground with other team members (shared situational awareness), be more adept at conflict resolution and social tasks (interpersonal relations), be more accurate in interpreting or receiving communications from others (communication), and be more skilled at perceiving others' opinions and inputs in decision making (decision making). We believe that social perceptiveness will have intermediate effects on performance monitoring and feedback, team management, and coordination.

Expressivity

We believe that those who are interpersonally expressive are likely to be viewed as more positive and likable (Riggio & Friedman, 1986), and are likely to be more energetic and effective communicators (DeGroot & Motowidlo, 1999; Gallaher, 1992). Moreover, Ambady, Hallahan, and Rosenthal (1995) have noted that some people are more "legible" that others, that expressivity is related to accuracy in transmitting nonverbal information to others. We predict that those who are interpersonally expressive are easier to read and adapt to (adaptability), more likely to communicate contextual information to others (shared situational awareness), likely to be viewed more positively (interpersonal relations), communicate more effectively (communication) and are more likely to express their feelings and opinions effectively in decision making (decision making). We believe that expressivity will have intermediate effects on performance monitoring and feedback, team management, and coordination.

Flexibility

We noted that flexibility is advantageous in terms of interpersonal relations (Paulhus & Martin, 1988), as well as in instrumental or problem-solving situations (Zaccaro et al., 1991). In fact, because different abilities and procedures are required for different types of tasks, some have suggested that perhaps the only universally effective task strategy may be the capacity to change or adjust to different conditions (Hackman & Morris, 1978; Shiflett, 1972). Thus, we view flexibility as relevant to all teamwork behaviors.

Trust

Following Dirks (1999), we propose that high trust leads to greater commitment, greater effort, and greater cooperation. We believe that high-trust team members are more likely to seek and receive feedback from others (performance monitoring and feedback), engage in activities to resolve conflicts and ensure smooth interpersonal relations among team members (interpersonal relations), communication more openly (communication), and pool information in decision making (decision making). We expect that trust will have intermediate effects on adaptability, shared situational awareness, coordination, and team management.

Cooperation

Those who are cooperative place the demands and interests of the group over personal desires (Wagner, 1995). We believe that team members who pursue cooperative or group interests versus self interests are more likely to share contextual team and task information with other team members (shared situational awareness), provide backup support to other team members (adaptability), perform actions to address socioemotional requirements (interpersonal relations), and exchange information with other team members (communication). We expect that cooperation will have intermediate effects on decision making, performance monitoring and feedback, coordination, and team management because, as LePine and Van Dyne (2001) have noted, whereas cooperative persons value smooth interpersonal functioning, they may be less prone to exhibit the more directive task behaviors required of these activities.

Dependability

Ashton (1998) found that responsibility was negatively related to delinquent workplace behaviors, and Borman et al. (1995) found that dependability was related to higher performance ratings by both supervisors and peers. We predict that team members who are reliable and dependable can be counted on to backup other team members' behaviors (adaptability), monitor team progress and provide feedback (performance monitoring and feedback), plan and manage team activities (team management), regulate the pace and coordination of team activities (coordination), and exchange information in a timely manner (communication). We believe that dependability will have intermediate effects on shared situational awareness, interpersonal relations, and decision making. In the case of interpersonal relations, although those who are more dependable are more likely to follow social protocol (Witt & Ferris, 2003), those who are more rule-bound can be perceived as rigid and inflexible (Hogan, 1986). Moreover, being organized and cautious may detract from some aspects of decision making, such as idea generation, and enhance other aspects, such as the evaluation of alternatives.

Dutifulness

Research suggests that those who hold a greater sense of duty, loyalty, and sacrifice for the team tend to engender greater group cohesiveness (Prapavessis & Carron, 1997), are viewed more favorably by coworkers (Ellemers et al., 1998), and are more likely to act in the best interests of the group (Moon, 2001). We predict that those who have a stronger sense of duty are more likely to share common perspectives on the team and the task (shared situational awareness), contribute to team pride and morale (interpersonal relations), and perform supportive activities related to team goal achievement (performance monitoring and feedback). We believe that dutifulness will have intermediate effects on adaptability, team management, coordination, communication, and decision making.

Achievement

We believe that team members who are achievement oriented are likely to be more motivated to pursue group goals and to ensure group success (Hough, 1992; Zander & Forward, 1968). We predict that team members who are achievement-oriented, hardworking, proactive, and take the initiative in team activities will be more likely to adjust to other team members' behaviors (adaptability), develop common ground with other team members (shared situational awareness), monitor team progress and provide feedback (performance monitoring and feedback), participate in the direction and coordination of task activities (team management), manage the pace and sequencing of team activities (coordination), communicate more (communication), and participate more actively in decision making (decision making). We expect that achievement will have intermediate effects on interpersonal relations whereas achievement orientation is not directly supportive of social relations (Barry & Stewart, 1997), team members who work harder for the team should support team morale.

Discussion

We begun by asking a basic question: What makes a good team player? We then attempted to provide a foundation for addressing that question, which then became: What specific traits define a good team player in relation to the activities required for effective teamwork? We described the personality facets that we believe are most relevant to team performance, and then derived predictions linking these facets to core teamwork dimensions. This approach offers several benefits. First, this approach extends previous research on personality and team performance by offering greater precision in specifying the role that team member personality plays in team effectiveness. Second, this framework provides a foundation for further empirical testing and validation of predictions. Third, this approach suggests useful avenues for selection and training interventions to enhance team effectiveness.

There are several general conclusions that can be drawn regarding team member personality as elaborated in this model. First, at a general level, this model is consistent with existing research on personality and team effectiveness. The higher-level traits of emotional stability, extraversion, openness, agreeableness, and conscientiousness have all been related to team effectiveness at a broad level (cf. Barrick et al., 1998; Barry & Stewart, 1997; Hollenbeck et al., 2002; LePine et al., 1997; Neuman & Wright, 1999). However, as we noted previously, we do not know based on existing research if any purported relationship between, for example, conscientiousness and team effectiveness may be attributable to the dependability component of conscientiousness (i.e., good team players are reliable) or to the achievement component of conscientiousness (i.e., good team players are hardworking). Accordingly, we extended our examination of personality and team performance to incorporate specific personality facets that we believe are related to team effectiveness, and to incorporate specific dimensions of teamwork. We have defined one facet, dominance, by its negative pole, because research suggests that those who are dominant and controlling can be an anathema to interdependent team interaction (Driskell & Salas, 1992; Driskell et al., 1993). However, the team member facets that are predicted to be critical across all teamwork dimensions are adjustment and flexibility. We concur with Barrick and Mount (2001) that adjustment is fundamentally important to interdependent interaction, and we concur with Hackman and Morris (1978) that flexibility is virtually universally advantageous. There are several facets, such as self-esteem or dutifulness, that are predicted to affect a more narrow range of teamwork activities. This does not imply that these facets are less important, just that their impact is more specific. Moreover, this greater specificity in describing personality and team effectiveness allows us to examine both the "bright side" and the "dark side" of personality—whereas affiliation may have a positive impact on maintaining interpersonal relations in teams, it may have a negative impact on the more instrumental activities involved in team management.

Second, the predictions that are derived from this model, shown in Table 2, are clearly speculative. We have attempted to bring to bear the weight of existing research, but as Barry and Stewart (1997) have noted, "relatively few studies have empirically examined the role of personality characteristics in task-oriented groups" (p. 65). Although recent research efforts have rectified this situation somewhat, we faced the additional difficulty that very few existing research studies specify personality to the facet level and very few existing studies specify team effectiveness to the teamwork dimensions level. Not surprisingly, we do not have a wealth of data to draw on. On the positive side, Table 2 presents a framework that calls out for additional research, and each of the relationships shown in Table 2 should be verified in further empirical studies.

Third, the hierarchical model of team orientation shown in Figure 1 was derived by the desire to specify the link between Big Five personality traits and team effectiveness. Although the higher level traits identified by various Big Five models generally resemble one another, there are some distinctions among different models. For example, Hogan (1986) has presented a six-factor model of personality, separating extraversion into separate traits of sociability (outgoing, affiliative) and ambition (surgency, dominance). Furthermore, as Lucas and Diener (2001) have noted, the facets that compose the higher-level traits often differ in different models. For example, McCrae and Costa (1997) claim that flexibility/rigidity is related to the higher-level trait of openness to experience; Hogan (1986) places flexibility within the higherlevel conscientiousness trait; whereas others note that rigidity may be related to neuroticism or poor adjustment (Mumford, Baughman, Threlfall, Uhlman, & Costanza, 1993). Judge, Martocchio, and Thoresen (1997) note that some facets load equally on several higher level traits. We are not able to resolve these issues but have attempted to derive a model of team member personality that is consistent with existing personality models.

This approach further calls attention to the issue of trait bandwidth and the value of broad traits versus narrow traits. Stewart (1999) has stated that broad traits are applicable in several circumstances, including when the criterion itself is broad or diffuse. However, Barrick et al. (2001) also have noted that sometimes a broad predictor and a broad criterion can mask underlying relationships. For example, we posed the

question of whether conscientiousness may be related to team performance in existing research because of the lower-level facet of achievement or because of the lower-level facet of dependability that both comprise conscientiousness in many Big Five models. Narrow facets may allow more accurate prediction when they theoretically align with more specific behaviors, and Barrick et al. (2001); Schneider, Hough, and Dunnette (1996); Dudley, Orvis, Lebiecki, and Cortina (2006) and others have noted the value of linking lower-level predictors with lowerlevel criteria. Moreover, by defining the core teamwork dimensions that underlie team performance, we are able to make informed hypotheses regarding the specific personality facets that are predictive of these performance dimensions.

At same time, our approach is limited in a number of ways. Although the most current and influential formulation of individual differences in personality is the Big Five trait approach that we have adopted, it is certainly not the only useful model of personality, nor does it capture all there is to say about personality. We concur with McAdams and Pals (2006), who note that although the Big Five model is arguably the most recognizable contribution personality psychology has to offer, understanding personality in a more finely grained sense requires going beyond the personality trait concept to include other motivational, social-cognitive, and developmental concerns. Our approach, then, takes advantage of the current body of empirical research on traits within the Big Five framework, and at the same time is restricted by the narrowed focus of the trait approach.

We have attempted to address the question of what type of person makes a good team player (or more specifically, what specific facets of personality are relevant to specific teamwork dimensions). We assume, in general, that team members who possess these personality facets will be more effective under specified conditions than those who do not. However, we have not addressed the more complex question of how personality facets combine. For example, the impact of expressivity is likely to be considerably different if coupled with high adjustment than if coupled with low adjustment (Friedman & Miller-Herringer, 1991). Furthermore, we have not addressed the more complex question of team composition, or how team members possessing specific personality facets

combine. There are several ways of operationalizing team composition. An additive approach examines the amount or average level of a trait among team members; for example, LePine (2003) has argued that a team composed of too many highly dependable members may exert undue pressure on those who offer alternative viewpoints. A compensatory approach examines the heterogeneity or variability of traits among team members; for example, Barry and Stewart (1997) have observed that finding benefits of sociability at the individual team member level does not necessarily argue for creating a work team full of them. A disjunctive approach examines the highest or lowest trait score for the team; for example, Totterdell et al.'s (1998) work on mood linkage and negative affect suggests that having one team member low on adjustment can impact the entire group. Clearly, composition matters, and although we do not address these issues in the current formulation of our model, questions of team composition and heterogeneity are important and require further examination. Finally, we know that individual factors often interact with other group-level or structural factors to impact performance—in fact, Hollenbeck et al. (2002) have proposed a person-team fit approach that emphasizes the importance of task and organizational factors. For example, conscientiousness may be less relevant to team performance to the extent that backup or compensatory behaviors are institutionalized in task procedures. Nevertheless, we believe there is considerable value in developing a comprehensive model at the individual team member level that can serve as a basis for further elaboration to address these and other related questions.

In the model presented, we view the focal team member as "one among equals." In other words, the team setting we have specified is one in which each team member has specific expertise useful to the team, and the team has to interdependently achieve a team outcome. We have described the core traits that we believe define the effective team member, but not necessarily the effective team leader. For example, we noted earlier that dominance may be problematic among team members but useful in a team leader role. Moreover, it is likely that effective leadership may require dominance and affiliation, among other traits. By anecdotal accounts, General George Patton was a high dom-

inant-low affiliation leader. There is no question that he was a great general, but he may have been somewhat lacking in interpersonal relations (his widely reported response to a hospitalized soldier who said he did not think he could take it anymore was to slap him with his gloves). General Douglas MacArthur, who we would envision as a high dominance-high affiliation leader, may represent a more effective leader prototype for modern times.

Finally, we believe this model suggests a number of practical applications. For the purpose of selecting good team players, the type of classification presented in Table 2 should prove to be useful, subject to further empirical confirmation. However, in real-world settings, teams are often intact and selection or replacement of team members may not be a relevant option. For such existing teams, the model presented in Table 2 suggests an approach to assessing existing team member capabilities and targeting training to support behaviors that may be deficient. For example, if assessment indicates a low score on trust for a specific team member, we propose that this will most likely be manifested in activities related to performance monitoring and feedback, interpersonal relations, and decision making (i.e., scanning across the appropriate row of Table 2). Efforts to implement training for this team member should focus on these dimensions. This model should also be useful for diagnosis of team deficiencies. If assessment of team processes indicates poor team management, then (scanning down the appropriate column of Table 2), we can derive what team member facets are relevant to these activities. Even if selection is not possible, team members can be assigned to specific roles on the team to maximize the fit between individual capabilities and teamwork requirements.

Further research is needed to examine the malleability of traits and the value of training to develop more effective team members. One question that is of significant practical importance is: Can you train someone who is dispositionally competitive to be more cooperative? Judge et al. (1998) noted that the fact that traits show considerable temporal stability does not mean that they cannot be changed. Moreover, the success with which well-developed training programs have led to improved teamwork in applied settings (e.g., Smith-Jentsch, Salas, & Brannick, 2001) suggests the utility of this approach.

Further research should also address issues related to assessment. Typically, assessment of personality is almost exclusively self-report, via endorsement of descriptive statements. This may be problematic under some circumstances for the assessment of teamwork. Although our society is not as collectivist as some, few would want to be seen as a poor team player. Moreover, in organizations that have placed a public value on teamwork (e.g., the military has a particularly strong team culture), the individual who would endorse the item "I prefer to work alone" may not only be nonaffiliative but also oblivious to organizational preferences. Questions related to faking as well as research on alternative approaches to self-report should receive further attention.

It is somewhat traditional to conclude by bemoaning the state of progress in the field. However, we are pleased to announce that the study of personality and team performance is burgeoning. Our goal was to contribute to and extend this research in two ways. First, our model extends current work on trait prediction of team performance by linking lower-level facet predictors with lower-level teamwork behaviors. Second, by linking team member personality characteristics to teamwork dimensions, this model provides a foundation for application and testing of this approach for purposes of selection, training, and team design.

References

Ambady, N., Hallahan, M., & Rosenthal, R. (1995). On judging and being judged accurately in zero-acquaintance situations. *Journal of Personality and Social Psychology*, 69, 518–529.

Ashton, M. C. (1998). Personality and job performance: The importance of narrow traits. *Journal of Organizational Behavior*, 19, 289–303.

Aube', C. & Rosseau, V. (2005). Team goal commitment and team effectiveness: The role of task interdependence and supportive behaviors. *Group Dynamics*, 9, 189–204.

Baker, D. P., & Salas, E. (1992). Principles for measuring teamwork skills. *Human Factors*, 34, 469–475.

Barrick, M. R., & Mount, M. K. (2001). Select on conscientiousness and emotional stability. In E. A. Locke (Ed.), *Handbook of principles of organiza*tional behavior (pp. 15–28). Malden, MA: Blackwell.

- Barrick, M. R., Mount, M. K., & Judge, T. A. (2001). Personality and performance at the beginning of the new millennium: What do we know and where do we go next? *International Journal of Selection and Assessment*, 9, 9–30.
- Barrick, M. R., Stewart, G. L., Neubert, M. J., & Mount, M. K. (1998). Relating member ability and personality to work-team processes and team effectiveness. *Journal of Applied Psychology*, 83, 377–391.
- Barry, B., & Stewart, G. L. (1997). Composition, process, and performance in self-managed groups: The role of personality. *Journal of Applied Psychology*, 82, 62–78.
- Barsade, S. G. (2002). The ripple effects: Emotional contagion and its influence on group behavior. Administrative Science Quarterly, 47, 644–675.
- Baumeister, R. F. (1997). Identify, self-concept, and self-esteem: The self lost and found. In R. Hogan,
 J. Johnson, & S. Briggs (Eds.), *Handbook of personality psychology* (pp. 681–710). San Diego,
 CA: Academic Press.
- Borman, W. C., White, L. A., & Dorsey, D. W. (1995). Effects of ratee task performance and interpersonal factors on supervisor peer performance ratings. *Journal of Applied Psychology*, 80, 168– 177.
- Borman, W. C., White, L. A., Pulakos, E. D., & Oppler, S. H. (1991). Models of supervisory job performance ratings. *Journal of Applied Psychol*ogy, 76, 863–872.
- Brown, J. D., & Marshall, M. A. (2001). Self-esteem and emotion: Some thoughts about feelings. *Per-sonality and Social Psychology Bulletin*, 27, 575–584.
- Bruch, M. A., Gorsky, J. M., Collins, T. M., & Berger, P. A. (1989). Shyness and sociability reexamined: A multicomponent analysis. *Journal of Personality and Social Psychology*, 57, 904–915.
- Cannon-Bowers, J. A., Tannenbaum, S. I., Salas, E., & Volpe, C. E. (1995). Defining competencies and establishing team training requirements. In R. Guzzo and E. Salas (Eds.), *Team effectiveness and decision making in organizations*, (pp. 333–380). San Francisco: Jossey-Bass.
- Clark, H. H., & Brennan, S. E. (1991). Grounding in communication. In: L. B. Resnick, J. M. Levine, &
 S. D. Teasley (Eds.), *Perspectives on socially shared cognition* (pp. 127–149). Washington, DC: American Psychological Association.
- Conn, S. R., & Rieke, M. L. (1994). The 16PF fifth ed. technical manual. Champagne, IL: Institute for Personality and Ability Testing, Inc.
- Costa, P. T., & McCrae, R. R. (1992). Revised NEO Personality Inventory (NEO-PI-R) and Five Factor Inventory (NEO-FFI) professional manual. Odessa, FL: Psychological Assessment Resources.

- Costanzo, M. (1992). Training students to decode verbal and nonverbal cues: Effects on confidence and performance. *Journal of Educational Psychol*ogy, 84, 308–313.
- Cramton, C. D. (2001). The mutual knowledge problem and its consequences for dispersed collaboration. *Organizational Science*, 12, 346–371.
- Crocker, J., & Wolfe, C. T. (2001). Contingencies of self-worth. *Psychological Review*, 108, 593–623.
- Curtis, R. C., & Miller, K. (1986). Believing another likes or dislikes you: Behaviors making the beliefs come true. *Journal of Personality and Social Psychology*, 51, 284–290.
- Davis, J. H. (1969). Group performance. Reading, MA: Addison Wesley.
- DeGroot, T., & Motowidlo, S. J. (1999). Why visual and vocal interview cues can affect interviewer's judgments and predict job performance. *Journal of Applied Psychology*, 84, 986–993.
- Devine, D. J. (2002). A review and integration of classification systems relevant to teams in organizations. *Group Dynamics*, 6, 291–310.
- Devine, D. J., & Philips, J. L. (2001). Do smarter teams do better: A Meta-analysis of cognitive ability and team performance. Small Group Research, 32, 507–532.
- Dirks, K. T. (1999). The effects of interpersonal trust on work group performance. *Journal of Applied Psychology*, 84, 445–455.
- Dodgson, P. G., & Wood, J. V. (1998). Self-esteem and the cognitive accessibility of strengths and weaknesses after failure. *Journal of Personality* and Social Psychology, 75, 178–197.
- Driskell, J. E., Hogan, R., & Salas, E. (1987). Personality and group performance. In C. Hendrick (Ed.), Review of Personality and Social Psychology (Vol. 9, pp. 91–112). Newbury Park, CA: Sage.
- Driskell, J. E., Olmstead, B., & Salas, E. (1993). Task cues, dominance cues, and influence in task groups. *Journal of Applied Psychology*, 78, 51–60.
- Driskell, J. E., & Radtke, P. H. (2003). The effect of gesture on speech production and comprehension. *Human Factors*, 45, 445–454.
- Driskell, J. E., & Salas, E. (1992). Collective behavior and team performance. *Human Factors*, 34, 277–288.
- Dudley, N. M., Orvis, K. A., Lebiecki, J. E., & Cortina, J. M. (2006). A meta-analytic investigation of conscientiousness in the prediction of job performance: Examining the intercorrelations and the incremental validity of narrow traits. *Journal of Applied Psychology*, 91, 40–57.
- Ellemers, N., de Gilder, & van den Heuvel, H. (1998). Career-oriented versus team-oriented commitment and behavior at work. *Journal of Applied Psychology*, 83, 717–730.

- Erez, A., & Judge, T. A. (2001). Relationship of core self-evaluations to goal setting, motivation, and performance. *Journal of Applied Psychology*, 86, 1270–1279.
- Fleishman, E. A., & Quaintance, M. K. (1984). Taxonomies of human performance. New York: Academic Press.
- Fleishman, E. A., & Zaccaro, S. J. (1992). Toward a taxonomy of team performance functions. In R. W. Swezey & E. Salas (Eds.), *Teams: Their training* and performance (pp. 31–56). Norwood, NJ: Ablex.
- Forsyth, D. R. (1990). *Group dynamics*. Pacific Grove, CA: Brooks/Cole.
- Foushee, H. C. (1982). The role of communications, socio-psychological, and personality factors in the maintenance of crew coordination. *Aviation, Space, and Environmental Medicine, 53,* 1062–1066.
- Foushee, H. C., & Helmreich, R. L. (1988). Group interaction and flight crew performance. In E. L. Weiner & D. C. Nagel (Eds.), *Human Factors in Aviation*, (pp. 189–228). San Diego, CA: Academic Press.
- Franz, T. M., Prince, C., Cannon-Bowers, J. A., & Salas, E. (1990). The identification of aircrew coordination skills. Proceedings of the 12th symposium on psychology in the Department of Defense (pp. 97–101). Springfield, VA: National Technical Information Service.
- Friedman, H. S., & Miller-Herringer, T. (1991). Nonverbal display of emotion in public and in private: Self-monitoring, personality, and expressive cues. *Journal of Personality and Social Psychology*, 61, 766–775.
- Gallaher, P. E. (1992). Individual differences in nonverbal behavior: Dimensions of style. *Journal of Personality and Social Psychology*, 63, 133–145.
- George, J. M. (1990). Personality, affect, and behavior in groups. *Journal of Applied Psychology*, 75, 107–116.
- Golembiewski, R. T. (1962). *The small group: An analysis of research concepts and operations*. Chicago: University of Chicago Press.
- Gough, H. G., & Bradley, P. (1996). CPI manual (3rd ed.). Palo Alto, CA: Consulting Psychologists Press.
- Greer, F. L. (1955). Small group effectiveness (Institute Report No. 6). Philadelphia: Institute for Research on Human Relations.
- Gross, J. J., & John, O. P. (1998). Mapping the domain of expressivity: Multimethod evidence for a hierarchical model. *Journal of Personality and Social Psychology*, 74, 170–191.
- Gunthert, K. C., Cohen, L. H., & Armeli, S. (1999). The role of neuroticism in daily stress and coping. *Journal of Personality and Social Psychology*, 77, 1087–1100.

- Gurtman, M. B. (1992). Trust, distrust, and interpersonal problems: A circumplex analysis. *Journal of Personality and Social Psychology*, 62, 989–1002.
- Hackman, J. R., & Morris, C. G. (1978). Group tasks, group interaction process, and group performance effectiveness: A review and proposed integration. In L. Berkowitz, (Ed.), *Group processes* (pp. 1–55). New York: Academic Press.
- Haythorn, W. (1953). The influence of individual members on the characteristics of small groups. *Journal of Abnormal and Social Psychology*, 48, 276–284.
- Hirokawa, R. Y. (1980). A comparative analysis of communication patterns within effective and ineffective decision-making groups. *Communication Monographs*, 47, 312–321.
- Hogan, R. (1986). Hogan personality inventory. Minneapolis, MN: National Computer Systems.
- Hollenbeck, J. R., Ilgen, D. R., Sego, D. J., Hedlund, J., Major, D. A., & Phillips, J. (1995). The multilevel theory of team decision making: Decision performance in teams incorporating distributed expertise. *Journal of Applied Psychology*, 80, 292– 316.
- Hollenbeck, J. R., Moon, H., Ellis, A. P. J., West, B., Ilgen, D., Sheppard, L., et al. (2002). Structural contingency theory and individual differences: Examination of external and internal person-team fit. *Journal of Applied Psychology*, 87, 599–606.
- Holmes, J. G., & Rempel, J. K. (1989). Trust in close relationships. In C. Hendrick (Ed.), Review of personality and social psychology, Vol. 10 (pp. 187– 220). Beverly Hills, CA: Sage.
- Hough, L. M. (1992). The "Big Five" personality variables: Construct confusion-Description versus prediction. *Human Performance*, 5, 139–155.
- Ilgen, D. R. (1999). Teams embedded in organizations. *American Psychologist*, *54*, 129–139.
- Ilgen, D. R., Hollenbeck, J. R., Johnson, M., & Jundt, D. (2005). Teams in organizations: From inputprocess-output models to IMOI models. *Annual Review of Psychology*, 56, 517–543.
- Janicik, G. A., & Bartel, C. A. (2003). Talking about time: Effects of temporal planning and time awareness norms on group coordination and performance. *Group Dynamics*, 7, 122–134.
- Jarvenpaa, S. L., & Leidner, D. E. (1999). Communication and trust in global virtual teams. *Organizational Science*, 10, 791–815.
- Jones, K., & Day, J. D. (1997). Discrimination of two aspects of cognitive-social intelligence from academic intelligence. *Journal of Educational Psychology*, 89, 486–497.
- Judge, T. A., & Bono, J. E. (2000). Five-factor model of personality and transformational leadership. *Journal of Applied Psychology*, 85, 751–765.
- Judge, T. A., Erez, A., & Bono, J. E. (1998). The power of being positive: The relationship between

- positive self-concept and job performance. *Human Performance*, 11, 167–187.
- Judge, T. A., Locke, E. A., Durham, C. C., & Kluger, A. N. (1998). Dispositional effects on job and life satisfaction: The role of core evaluations. *Journal* of Applied Psychology, 83, 17–34.
- Judge, T. A., Martocchio, J. J., & Thoresen, C. J. (1997). Five-factor model of personality and employee absence. *Journal of Applied Psychol*ogy, 82, 745–755.
- Kanki, B. G., Lozito, S. C., & Foushee, H. C. (1989). Communication indices of crew coordination. Aviation, Space and Environmental Medicine, 60, 56–60.
- Kanki, B. G., & Smith, G. M. (2001). Training aviation communication skills. In E. Salas, C. A. Bowers, & E. Edens (Eds.), *Improving teamwork in organizations* (pp. 95–127). Mahwah, NJ: Erlbaum.
- Kelley, H., & Stahelski, A. (1970). Social interaction bases of cooperators' and competitors' beliefs about others. *Journal of Personality and Social Psychology*, 16, 66–91.
- Kowslowski, S. W. J., Gully, S. M., Nason, E. R., & Smith, E. M. (1999). Developing adaptive teams: A theory of compilation and performance across levels and time. In D. R. Ilgen & E. D. Pulakos (Eds.), The changing nature of work performance: Implications for staffing, motivation, and development (pp. 240–294). San Francisco: Jossey-Bass.
- Kozlowski, S. W. J., Gully, S. M., McHugh, P. P., Salas, E., & Cannon-Bowers, J. A. (1996). A dynamic theory of leadership and team effectiveness: Developmental and task contingent leader roles. *Research in Personnel and Human Resources Management*, 14, 253–305.
- Kring, A. M., Smith, D. A., & Neale, J. M. (1994). Individual differences in dispositional expressiveness: Development and validation of the emotional expressivity scale. *Journal of Personality and Social Psychology*, 66, 934–949.
- LePine, J. A. (2003). Team adaptation and postchange performance: Effects of team composition in terms of members' cognitive ability and personality. *Journal of Applied Psychology*, 88, 27–39.
- LePine, J. A., Hollenbeck, J. R., Ilgen, D., & Hedlund, J. (1997). Effects of individual differences on the performance of hierarchical decision-making teams: Much more than *g. Journal of Applied Psychology*, 82, 803–811.
- LePine, J. A., & Van Dyne, L. V. (2001). Voice and cooperative behavior as contrasting forms of contextual performance: Evidence of differential relationships with Big Five personality characteristics and cognitive ability. *Journal of Applied Psychol*ogy, 86, 326–336.

- Lieberman, M. D., & Rosenthal, R. (2001). Why introverts can't always tell who likes them: Multitasking and nonverbal decoding. *Journal of Personality and Social Psychology*, 80, 294–310.
- Lott, A. J., & Lott, B. E. (1961). Group cohesiveness, communication level, and conformity. *Journal of Abnormal and Social Psychology*, 62, 408–412.
- Lucas, R. E., & Diener, E. (2001). Understanding extroverts' enjoyment of social situations: The importance of pleasantness. *Journal of Personality* and Social Psychology, 81, 343–356.
- Lucas, R. E., Diener, E., Suh, E. M., Shao, L., & Grob, A. (2000). Cross-cultural evidence for the fundamental features of extraversion. *Journal of Personality and Social Psychology*, 79, 452–468.
- Mann, R. D. (1959). A review of the relationships between personality and performance in small groups. *Psychological Bulletin*, 56, 241–270.
- Marks, M. A., Zaccaro, S. J., & Mathieu, J. E. (2000). Performance implications of leader briefings and team-interaction training for team adaptation to novel environments. *Journal of Applied Psychol*ogy, 85, 971–986.
- Marlowe, H. A. (1986). Social intelligence: Evidence for multidimensionality and construct independence. *Journal of Educational Psychology*, 78, 52– 58.
- Mathieu, J. E., Heffner, T. S., Goodwin, G. F., Salas, E., & Cannon-Bowers, J. A. (2000). The influence of shared mental models on team process and performance. *Journal of Applied Psychology*, 85, 273–283.
- McAdams, D. P., & Pals, J. L. (2006). A new Big Five: Fundamental principles for an integrative science of personality. *American Psychologist*, 61, 204–217.
- McCrae, R. R., & Costa, P. T. (1997). Conceptions and correlates of openness to experience. In R. Hogan, J. Johnson, & S. Briggs (Eds.), Handbook of Personality Psychology (pp. 825–847). San Diego, CA: Academic Press.
- McIntyre, R. M., & Salas, E. (1995). Measuring and managing for team performance: Lessons from complex environments. (In R. A. Guzzo, E. Salas, & Associates (Eds.), *Team effectiveness and decision making in organizations* (pp. 9–45). San Francisco: Jossey-Bass.)
- McKnight, D. H., Cummings, L. L., & Chervany, N. L. (1998). Initial trust formation in new organizational relationships. Academy of Management Review, 23, 473–490.
- Moon, H. (2001). The two faces of conscientiousness: Duty and achievement-striving within escalation of commitment dilemmas. *Journal of Applied Psychology*, 86, 533–540.
- Moreland, R. L., & Levine, J. M. (1992). Problem identification by groups. In S. Worchel, W. Wood,

- & J. A. Simpson (Eds.), Group process and productivity (pp. 17–47). Newbury Park, CA: Sage.
- Morgan, B. B., Glickman, A. S., Woodard, E. A.,
 Blaiwes, A., & Salas, E. (1986). Measurement of team behaviors in a Navy environment (NTSC Tech. Rep. No. No. 86–014). Orlando, FL: Naval Training Systems Center.
- Mount, M. K., Barrick, M. R., Laffitte, L. J., & Callans, M. C. (1999). Personal Characteristics Inventory User's Manual. Libertyville: IL: Wonderlic Consulting.
- Mount, M. K., Barrick, M. R., & Stewart, G. L. (1998). Five-factor model of personality and performance in jobs involving interpersonal interactions. *Human Performance*, 11, 145–165.
- Mullen, B., & Copper, C. (1994). The relation between group cohesiveness and performance: An integration. *Psychological Bulletin*, *115*, 210–227.
- Mumford, M. D., Baughman, W. A., Threlfall, K. V., Uhlman, C. E., & Costanza, D. P. (1993). Personality, adaptability, and performance: Performance on well-defined and ill-defined problem-solving tasks. *Human Performance*, 6, 241–285.
- Murray, S. L., Hilmes, J. G., MacDonald, G., & Ellsworth, P. C. (1998). Through the looking glass darkly: When self-doubts turn into relationship insecurities. *Journal of Personality and Social Psychology*, 75, 1459–1480.
- Neuman, G. A., & Wright, J. (1999). Team effectiveness: Beyond skills and cognitive ability. *Journal* of Applied Psychology, 84, 376–389.
- Nickerson, R. S. (1999). How we know—And sometimes misjudge—What others know: Imputing one's own knowledge to others. *Psychological Bulletin*, 125, 737–759.
- Norton, R. (1983). Communicator style: Theory, applications, and measures. Beverly Hills, CA: Sage.
- Paulhus, D. L., & Martin, C. L. (1988). Functional flexibility: A new conception of interpersonal flexibility. *Journal of Personality and Social Psychol*ogy, 55, 88–101.
- Porter, C., Hollenbeck, J. R., Ilgen, D. R., Ellis, A., West, B. J., & Moon, H. (2003). Backing up behaviors in teams: The role of personality and legitimacy of need. *Journal of Applied Psychol*ogy, 88, 391–403.
- Prapavessis, H., & Carron, A. V. (1997). Sacrifice, cohesion, and conformity to norms in sport teams. *Group Dynamics*, *1*, 231–240.
- Pratto, F., Sidanius, J., Stallworth, L. M., & Malle, B. F. (1994). Social dominance orientation: A personality variable predicting social and political attitudes. *Journal of Personality and Social Psychol*ogy, 67, 741–763.
- Pulakos, E. D., Arad, S., Donovan, M. A., & Plamondon, K. E. (2000). Adaptability in the work-place: Development of a taxonomy of adaptive

- performance. Journal of Applied Psychology, 85, 612-624.
- Riggio, R., & Friedman, H. (1986). Impression formation: The role of expressive behavior. *Journal* of Personality and Social Psychology, 50, 421– 427.
- Rosnow, R. L., Skleder, A. A., Jaeger, M. E., & Rind, B. (1994). Intelligence and the epistemics of interpersonal acumen: Testing some implications of Gardner's theory. *Intelligence*, 19, 93–116).
- Salas, E., Dickinson, T. L., Converse, S. A., & Tannenbaum, S. I. (1992). Toward an understanding of team performance and training. In R. W. Swezey & E. Salas (Eds.), *Teams: Their training and performance* (pp. 3–29). Norwood, NJ: Ablex.
- Saucier, G., & Ostendorf, F. (1999). Hierarchical subcomponents of the big five personality factors: A cross-cultural replication. *Journal of Personality* and Social Psychology, 76, 613–627.
- Schneider, R. J., Hough, L. M., & Dunnette, M. D. (1996). Broadsided by broad traits: How to sink science in five dimensions or less. *Journal of Or*ganizational Behavior, 17, 639–655.
- Shaw, Marjorie, E. (1932). A comparison of individuals and small groups in the rational solution of complex problems. *American Journal of Psychology*, 44, 491–504.
- Shaw, Marvin, E. (1981). Group dynamics: The psychology of small group behavior. New York: McGraw-Hill.
- Shiflett, S. C. (1972). Group performance as a function of task difficulty and organizational interdependence. Organizational Behavior and Group Performance, 7, 442–456.
- Smith-Jentsch, K. A., Salas, E., & Brannick, M. T. (2001). To transfer or not to transfer? Investigating the combined effects of trainee characteristics, team leader support, and team climate. *Journal of Applied Psychology*, 86, 279–292.
- Snyder, M. (1974). The self-monitoring of expressive behavior. *Journal of Personality and Social Psychology*, 30, 526–537.
- Stasser, G., & Titus, W. (1995). Effects of information load and percentage of shared information on the dissemination of unshared information during group discussion. *Journal of Personality and Social Psychology*, 48, 1467–1478.
- Stewart, G. L. (1999). Trait bandwidth and stages of job performance: Assessing differential effects of conscientiousness and its subtraits. *Journal of Applied Psychology*, 84, 959–968.
- Stouffer, S. A., Lumsdaine, A. A., Lumsdaine, M. H., Williams, R. M., Smith, M. B., Janis, I. L., et al. (1949). *The American soldier: Combat and its aftermath*. Princeton, NJ: Princeton University Press.
- Stout, R. J., Salas, E., & Fowlkes, J. E. (1997). Enhancing teamwork in complex environments

- through team training. *Group Dynamics*, 1, 169–182.
- Thompson, L. F., & Coovert, M. D. (2003). Teamwork online: The effects of computer conferencing on perceived confusion, satisfaction, and postdiscussion accuracy. *Group Dynamics*, 7, 135–151.
- Totterdell, P., Kellett, S., Teuchmann, K., & Briner, R. B. (1998). Evidence of mood linkage in work groups. *Journal of Personality and Social Psychol*ogy, 74, 1504–1515.
- Vancouver, J. B., & Ilgen, D. R. (1989). Effects of interpersonal orientation and the sex-type of the task on choosing to work alone or in groups. *Jour*nal of Applied Psychology, 74, 927–934.
- Van Lange, P. (1999). The pursuit of joint outcomes and equality in outcomes: An integrative model of social value orientation. *Journal of Personality* and Social Psychology, 77, 337–349.
- Van Lange, P., De Bruin, E., Otten, W., & Joireman, J. A. (1997). Development of prosocial, individualistic, and competitive orientations: Theory and preliminary evidence. *Journal of Personality and Social Psychology*, 73, 733–746.
- Wageman, R. (1995). Interdependence and group effectiveness. Administrative Science Quarterly, 40, 145–180.
- Wagner, J. A. (1995). Studies of individualism-collectivism: Effects on cooperation in groups. Academy of Management Journal, 38, 152–172.
- Watson, D., & Clark, L. A. (1997). Extraversion and its positive emotional core. In R. Hogan, J. Johnson, & S. Briggs (Eds.), *Handbook of personality* psychology (pp. 767—793). San Diego, CA: Academic Press.
- Watson, D., Clark, L. A., & Tellegen, A. (1988). Development and validation of brief measures of

- positive and negative affect: The PANAS scales. *Journal of Personality and Social Psychology, 54*, 1063–1070.
- Weingart, L. R. (1992). Impact of group goals, task component complexity, effort, and planning on group performance. *Journal of Applied Psychol*ogy, 77, 682–693.
- Witt, L. A., & Ferris, G. R. (2003). Social skill as moderator of the conscientiousness-performance relationship: Convergent results across four studies. *Journal of Applied Psychology*, 88, 809–821.
- Yamagishi, T. (2001). Trust as a form of social intelligence. In K. Cook (Ed.), *Trust in society* (pp. 121–147). New York: Russell Sage Foundation.
- Yukl, G., & Falbe, C. M. (1990). Influence tactics and objectives in upward, downward, and lateral influence attempts. *Journal of Applied Psychol*ogy, 75, 132–140.
- Zaccaro, S. J., Foti, R. J., & Kenny, D. A. (1991). Self-monitoring and trait-based variance in leader-ship: An investigation of leader flexibility across multiple group situations. *Journal of Applied Psychology*, 76, 308–315.
- Zaccaro, S. J., Gilbert, J. A., Thor, K. K., & Mumford, M. D. (1991). Leadership and social intelligence: Linking social perceptiveness and behavioral flexibility to leader effectiveness. *Leadership Quarterly*, 2, 317–342.
- Zander, A., & Forward, J. (1968). Position in group, achievement orientation, and group aspirations. *Journal of Personality and Social Psychology*, 8, 282–288.

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