Beauchamp, M.B., Jackson, B., & Lavallee, D. (2008). Personality processes and intra-group dynamics in sports teams. In M.R. Beauchamp and M. Eys (Eds.), *Group dynamics in sport and exercise psychology: Contemporary themes* (pp. 25-41). London: Routledge.

Introduction

Sixty years ago, Kurt Lewin (1947) published an article in the first issue of the journal, *Human Relations*, entitled “Frontiers in group dynamics: Concept, method and reality in social science.” In this article, Lewin was particularly concerned with engaging in social change, and emphasized that “in social research the experimenter has to take into consideration such factors as the personality of individual members” (p. 9). Leaders and sports coaches are often heard commenting that group functioning is facilitated or debilitated by the presence or absence of certain personnel, and so it would seem entirely logical to understand how group composition and members’ personality characteristics are related to conjoint functioning. Just over three decades after Lewin’s seminal paper another prominent group dynamics theorist, Marvin Shaw (1981) similarly asserted that “personality characteristics of group members play an important role in determining their behavior in groups. The magnitude of the effect of any given characteristic is small but taken together the consequences for group processes are of major significance” (p. 208).

In spite of the historical impetus behind understanding the role of personality in group functioning, the study of personality within group dynamics research in sport and exercise psychology has been considerably limited. Indeed, the personality “construct” has been viewed with a great deal of skepticism regarding its predictive utility in explaining physical activity and achievement behavior (Morgan, 1980; Vealey, 2002). One likely reason for this skepticism can be traced to research in the 1960s and 1970s that sought to determine whether individual athletic performance could be predicted by particular traits and whether a specific personality profile existed for the elite athlete (Ogilvie, 1968; Tutko, Lyon, & Ogilvie, 1969). In the years that followed Tutko et al.’s (1969) publication of the *Athlete Motivation Inventory* (AMI), which was purported to predict athletic success based on a set of global personality traits, over 1,000 studies were conducted on the relationship between personality and sport performance (Fisher, 1984). While several of these studies found personality traits to be associated with athletic success (e.g., Morgan, Brown, Raglin, O'Connor, & Ellickson, 1987), the specific associations varied so considerably that it made generalizations difficult (Vealey, 2002). This has led the sport and exercise psychology community to conclude that the findings linking personality characteristics with athletic performance are inconclusive (Van den Auwelle, Nys, Rzewnicki & Van Mele, 2001).

In sport, performance is determined by a number of factors that include (but are not limited to) skill level, physical conditioning, and genetics. In addition, some psychological variables such as self-efficacy beliefs (Bandura, 1997) have been found to be directly predictive of sports performance (e.g., Moritz, Feltz, Farbach, & Mack, 2000). However, to dismiss the personality construct on the grounds that specific personality characteristics have not been found to be consistently predictive of individual athletic performance is, from a group dynamics perspective, limited on three main grounds. First, although personal athletic prowess may not directly (and linearly) be determined by specific personality traits, personality variables have been found to be associated with other (i.e., non-performance) interdependent outcomes (e.g., empathy provision, leadership emergence/effectiveness) that may have implications for interdependent functioning. Second, when personality is examined at the group-level in the form of *group personality composition* (Barrick, Stewart, Neubert, & Mount, 1998), the distribution of different personalities may indeed influence interdependent behaviors related to group functioning and integration. Third, rather than seek to identify which personality characteristics are directly associated with individual athlete performance, a different paradigm of personality assessment and research exists which suggests that if members of interdependent teams can better understand themselves and the personalities of their team-mates then this greater awareness can be used to enhance intra-team dynamics.

The overall purpose of this chapter is to review the personality literature with a specific focus on understanding the role that personality can play within team functioning in sport contexts. Personality is defined as “a dynamic and organized set of characteristics possessed by a person that uniquely influences his or her cognitions, motivations, and behaviors in various situations” (Ryckman, 2000, p.5), and it is the combination of these characteristics that gives each individual their uniqueness. In this chapter we will focus on two major conceptualizations of personality that have received considerable research attention in the group dynamics literature, the *trait*-based (Eysenck, 1952, 1991; McCrae & Costa, 1990, 1997) and *type*-based (Jung, 1921/1971; Myers & Myers, 1995) approaches to the personality construct.

In many disciplines of psychology (outside the sport and exercise field) the study of personality has made a strong comeback in the last two decades (McAdams & Pals, 2006), in particular, in areas as varied as interpersonal counseling (Allen & Brock, 2000; Quenk, 2000), leadership (Judge, Bobo, Ilies, & Gerhardt, 2002; Hogan & Kaiser, 2005), and team-building (McCaulley, 2000; Tett & Burnett, 2003). In a similar regard, we believe that the study of personality does have an important role to play within sport and exercise psychology, and from a group dynamics perspective may provide invaluable insight into how team members both influence and are influenced by those around them. In this chapter, we present a number of personality-based considerations that have yet to be applied to the group dynamics literature in sport, and also present an integrated framework to inform team development interventions in sport psychology.

Theory and Research

Personality Traits, Interpersonal Processes, and Group Dynamics

Perhaps the most widely employed conceptualization of personality corresponds to the *trait* perspective. Traits are considered to represent relatively consistent and enduring internal attributes or dispositions (McCrae & Costa, 1997), with research in this area made popular by scholars such as Hans Eysenck (1952, 1991) and Raymond Cattell (Cattell, 1965; Cattell, Eber, & Tatsuka, 1970). The decline of trait-based research in sport and exercise psychology in the 1970's and early 1980s mirrored its decline in other areas of psychology. Indeed, Kanfer and Heggestad (1997) noted that "until recently, the status of traits in most work motivation theories has been like that of a distant and not well liked relative attending a family reunion" (p. 13). The prevailing criticisms evident in both sport and exercise psychology as well as its parent discipline, psychology, stemmed from conceptually weak and atheoretical frameworks linking the vast array of traits that were being measured in relation to criterion variables (Judge & Illies, 2002; McAdams & Pals, 2006; Van den Auwelle et al, 2001; Vealey, 2002).

The strong resurgence of trait-based research, outside of the sport and exercise domain, can be traced to the widespread acceptance of the five-factor model (FFM; Digman, 1990; McCrae & John, 1992) of personality, or more commonly known as the Big Five (Goldberg, 1993). The five traits conceptualized within the FFM include *extraversion, neuroticism (or emotional stability), conscientiousness, agreeableness* and *openness to experience*, and are referred to as 'big' because each subsume a number of more specific or 'narrow' (Dudley, Orvis, Justin, Lebiecki, & Cortina, 2006) traits (e.g., neuroticism is divided into anxiety, self-consciousness, depression, vulnerability, impulsiveness, and anger hostility). Although a number of measures have been used to assess the Big Five, arguably the most common is the Revised

NEO Personality Inventory (Costa & McCrae, 1992). Evidence for the factor structure of Big Five has consistently been found to generalize across non-English speaking as well as English-speaking populations (McCrae & Costa, 1987; 1997), and appears to explain the extent to which people behave in general ways over-time (Nettle, 2006). In addition, trait-based researchers recognize that these five traits certainly do not (and were not conceptualized to) capture *all* variation in individual differences/personality (Paunonen & Jackson, 2000). However, in light of the fact that these five traits do explain tendencies to behave in general, McAdams and Pals (2006) recently suggested that "the Big Five factors seem to address the big questions that are likely to arise in the kind of socially intensive patterns of group life that human beings have evolved to live" (p. 208). In the following section we describe the Big Five traits and examine their relationships to interdependent behaviors, giving consideration to the extent to which they may influence group functioning in sport.

Extraversion is characterized by being outgoing, sociable, action oriented, and talkative (Costa & McCrae, 1992), and is considered to be diametrically opposite to introversion (i.e., higher levels of one correspond to lower levels of the other), which is characterized being reflective, reserved, and quiet. Extraversion has been found to be associated with general patterns of behavior such as the proactivity of social engagement (Wanberg, & Kammeyer-Mueller, 2000), the seeking of social attention (Ashton, Lee, & Paunonen, 1999), as well as greater confidence in speaking in front of others (Pulford & Sohal, 2006). *Agreeableness* involves being collegial, co-operative, and affable, and is considered an important trait for developing interpersonal relationships. Agreeable individuals tend to prefer greater use of accommodating (e.g., negotiation) strategies in conflict resolution than individuals low on this trait, who in turn prefer greater coercive approaches (e.g., power assertion) (Graziano, Jensen-Campbell, & Hair, 1996). Agreeableness has also been found to be closely related to demonstrating greater empathy with others (Nettle, 2007). *Conscientiousness* is concerned with being organized, responsible and diligent and has also been described as an achievement orientation (Barrick & Mount, 1991). *Neuroticism* is characterized by being insecure, anxious, or depressed and is considered diametrically opposite to emotional stability. Finally, *openness to experience* is concerned with being open-minded and inquisitive, and has been found to facilitate close relationships (McCrae, 1996).

Although some recent research in sport psychology has sought to utilize the FFM of personality, the majority of these studies have been descriptive and largely atheoretical in nature. For instance, researchers have continued to compare athletes to non-athletes (e.g., Egan & Hughes, 2003; Hughes, Case, Stuempfle, & Evans, 2003), and have sought to predict individual athletic performance (Piedmont, Hill, & Blanco, 1999) despite the absence of sound theoretical/conceptual bases to support such investigations. Trait theorists purport that personality traits influence social interactions (McCrae, 1996; Tett & Burnett, 2003). In this chapter we focus predominantly on the relationships between intra-group personality traits and two group-dynamics constructs that have received considerable research attention within the sport psychology literature, namely leadership (see also Hoption et al, Chapter 4, this volume), and group cohesion (see also Carron et al., Chapter 9, this volume).

It is perhaps unsurprising that leadership has received substantial empirical attention as leaders (sports coaches and team captains) play such an influential role in the on- and off-field behaviors of athletes and teams. While we are certainly not espousing that a singular trait-profile of successful sports coaches exists, a recent meta-analysis provides some insight into the emergence and effectiveness of leaders within interdependent teams. Specifically, Judge, Bono, Ilies and Gerhardt (2002) found that extraversion and conscientiousness were the strongest predictors of leadership emergence, and that extraversion and conscientiousness were predictive of leadership effectiveness within work settings. Interestingly, 53% of the variance in leadership emergence and 39% of the variance in leadership effectiveness were explained by the FFM. This suggests that although a substantial amount of variance is accounted for by other factors (e.g., situational, organizational), personality is an important variable in leadership research. Interestingly, although extraversion was the strongest predictor of leadership outcomes in this meta-analysis, it was found to be more strongly related to leader emergence than leader effectives. This is understandable given that dominant, vocal, and hard-working members will be more likely to assert themselves within group situations allowing them to rise to the fore (Judge et al, 2002). In light of this finding it would certainly seem interesting to examine whether FFM personality traits are similarly related to the emergence or effectiveness of leaders within sport teams, such as team captains or even peer-leaders.

In addition to these *direct* effects, it has also been suggested that team effectiveness may be influenced by the *interaction* of leaders' personality traits with the traits of subordinate team members (Neuman & Wright, 1999). Specifically, Neuman and Wright (1999) theorized that it is the extent to which different personality traits amongst leaders are compatible or incompatible with those of their team members that determines salient group outcomes. This question has not been addressed within the sport psychology literature and represents a promising direction for future research.

Beyond leadership, a second area of trait-based research centres on the composition and compatibility of traits within teams (Barrick et al., 1998; Tett & Burnett, 2003), and their relationships to group *cohesion*. In their formative study on work *group personality composition*, Barrick et al. (1998) noted that group personality composition has typically been operationalized in one of three ways. The first, and most common method, involves calculating mean scores for a given group on specific traits, on the basis that the amount of each trait possessed by each member will contribute to the collective pool of personality resources available to the group. This approach has also been termed *team personality elevation* (Neuman, Wagner, & Christiansen, 1999). The second method involves calculating the variability (or variance) of each trait within the group, and has also been referred to as *team personality diversity* (Neuman et al., 1999). Such a measure provides an indication of whether the distribution of a particular trait within a group suggests that members are either alike (homogeneous) or unalike (heterogeneous) on specific personality characteristics. The final method outlined by Barrick et al. involves identifying extreme (minimum and maximum) scores within the group. Such a measure can be useful when trying to understand the influence of an 'outlier member' (one who is dissimilar to other group members) on either pro-social or disruptive outcomes (e.g., destabilization of group cohesion).

Recent studies have sought to examine how group personality composition (through mean, variance, and minimum/maximum methods) is related to group cohesion. Group cohesion refers to "a dynamic process which is reflected in the tendency for a group to stick together and remain united in the pursuit of its instrumental objectives and/or for the satisfaction of member affective needs" (Carron, Brawley, & Widmeyer, 1998, p. 213), and includes task as well as social dimensions (See Carron et al., Chapter 9, this volume). Task cohesion represents a general orientation towards achieving the groups' instrumental objectives, and social cohesion represents a general orientation toward developing and maintaining social relationships within the group.

Research by Barrick et al. (1998) and Van Vianen and De Dreu (2001) found that higher social cohesion was predicted by higher mean levels of extraversion and emotional stability within groups. In light of the fact that extraversion and emotional stability have been described as socially-oriented traits (Mohammed & Angell, 2003) it is understandable that teams characterised by more outgoing and emotionally stable team members will be more likely to interact on a social basis. Barrick et al did not assess task cohesion, however the study by Van Vianen and De Dreu did. Specifically, Van Vianen and De Dreu found that higher mean levels of agreeableness and conscientiousness were related to greater task cohesion, and suggested that the more members cooperate towards the team's goals (agreeableness) and strive towards achieving the team goals (conscientious) the more integrated they will be around task-related activities. Collectively, these findings point to the importance of moving beyond individual-level designs and the need to consider the combination of members' individual differences within team environments.

Although the 'mean' method (Barrick et al., 1998) provides some indication of the general level of a trait that may be found within a group, it does not provide any insight into the destructive influence of specific group members such as the 'energy sapper' (i.e., an individual with markedly different personality characteristics to his or her teammates, who may destabilize the group). Using the 'minimum' scores method Barrick et al. and Van Vianen and De Dreu (2001) found that higher minimum levels of extraversion and emotional stability were related to the extent to which groups were united around non-task activities. These studies suggest that it only takes one insular or emotionally unstable member of the group to restrict the extent to which the group as a whole is socially cohesive. Again, using the minimum scores method, Van Vianen, and De Dreu (2001) found that higher minimum levels of conscientiousness and agreeableness within groups were positively related to task cohesion. This suggests that while it is not necessarily important to ensure that all members have the highest possible levels of these traits (i.e., intra-group 'maximum' scores were not significant predictors) it is important to ensure that team members exhibit ‘at least’ moderate scores on these traits. Indeed, this finding reflects the well-known saying “one apple may spoil the barrel”, and if a single member of the group is *very* low on conscientiousness or agreeableness this can disrupt, destabilize, and debilitate a team’s task-directed processes.

A fundamental question that has concerned group dynamics theorists is whether group composition should ideally be *homogeneous* (i.e., alike) or *heterogeneous* (i.e., dissimilar) in nature (Carron, Hausenblas, & Eys, 2005). That is, are teams more likely to succeed if members are alike or if they are different in their personality characteristics? Although homogeneity (i.e., within group similarity) in intra-group conscientiousness has been found to be related to task cohesion, neither homogeneity nor heterogeneity among the other Big Five traits has been found to be associated with greater team functioning (i.e., cohesion) around task-related activities (Van Vianen and De Dreu, 2001). This suggests that while it is important for all members to strive towards completing group tasks, either diversity or similarity of the other traits should not be viewed as impediments to achieve group tasks.

The choice of whether to use the mean, variance, or maximum/minimum method of assessing group personality composition clearly depends on the nature of the research question being asked. Furthermore, although the nature of tasks carried out in team sport settings are notably different to group tasks carried out in generic work-related environments, we believe that the study of group personality composition has considerable potential for research application within sport and exercise settings. For example, it would be particularly interesting to observe whether the personality traits of specific individuals (e.g., the ‘outlier’ or ‘energy sapper’) have the ability to disrupt team cohesion. Indeed, it seems plausible to suggest that if one member (identified by the ‘minimum score’ method) of a highly interdependent team does not generally pull his or her weight (i.e., demonstrates very low conscientiousness) then team effectiveness will suffer. Similarly, if generally low levels of emotional stability (i.e., high neuroticism as assessed by the mean method) are in existence within a team then it would seem reasonable to hypothesize that members would demonstrate diminished capabilities to contribute to the team's social climate within highly interactive teams. Research on group composition within sport and exercise psychology has tended to focus on factors such as age, gender, athletic ability, and ethnic status (Carron et al, 2005) and, in future, it would seem worthwhile to test the recent hypothesis by Carron et al. that "the 'special chemistry' that is thought to exist on successful teams may be nothing more than the effective meshing of a set of personalities" (p. 106). Future research is clearly needed in this area.

Personality Types, Preferences, and Intra-Group Dynamics

An alternative to the trait-based approach relates to the study of personality *types* and *preferences,* and stems primarily from the work of C.G. Jung (1921/1971). Research involving this approach has received considerable attention within the fields of counseling psychology (Myers & Myers, 1995), management (Barry & Stewart, 1997; Gardner & Martinko, 1996), and leadership development (Atwater & Yammarino, 1993). Recent studies from the sport domain have also begun to use this framework to guide both personal development and team building interventions (e.g., Beauchamp, Lothian, & Timson, in press; Lavallee, 2005).

Jung (1921/1971) recognized, as others do today (e.g., McAdams & Pals, 2006), that the study of personality is concerned with both uniqueness as well as characteristics that are evident across many different people. Indeed, Jung emphasized that "one can never give a description of a type, no matter how complete, that would apply to more than one individual, despite the fact that in some ways it aptly characterizes thousands of others. Conformity is one side of man, uniqueness is the other" (1923/1971b, p. 516). Nevertheless, he also underscored that a typology can act as an invaluable 'compass of orientation' and can illustrate how different people generally think, feel, and behave. Although sport and exercise psychology textbooks rarely refer to Jung's (1921/1971) writing, it is important to appreciate that trait theorists such as Eysenck (Eysenck, 1952; 1991; Eysenk & Eysenck, 1967) were heavily influenced by Jung's model in conceptualizing the dimensions of extraversion and introversion. Although these two psychological 'constructs' have come to be viewed as dimensions within the FFM (McCrae & Costa, 1997), the conceptualization of these 'traits' (cf. Eysenck & Eysenck, 1967) differs subtly from the way in which extraversion and introversion are conceptualized within Jung's (1921/1971) typology. Trait theorists (e.g., Eysenck, 1952; McCrae & Costa, 1990) suggest that general behaviors (i.e., over time and across situations) are causally predicted by traits, and that traits are largely independent of one another (e.g., extraversion is conceptually distinct from agreeableness, openness is distinct from neuroticism, and so forth). Jung, on the other hand, considered cognitions and behaviors to emerge as a result of the *interaction* of extraversion and introversion (which he described as types of *attitudes*) with four mental processes (which he labeled *functions*) involving *thinking, feeling, sensing,* and *intuition*.

Thinking and feeling were collectively described by Jung (1921/1971) as *rational* functions because they are concerned with decision making processes. Thinking represents decision-making processes that are based on logic (decisions 'from the head'), and feeling involves decisions made based on personal values (decisions 'from the heart'). Sensing and intuition, on the other hand, reflect the way people perceive the world, and were described by Jung as *irrational* not because these functions are unfounded or unreasonable, but because they are unconnected with decision-making processes. Sensing reflects preferences for practical experiences that are reflected in the present, whereas intuition is concerned with deeper meanings behind particular situations or future possibilities. According to Jung, when these four functions combine with introversion or extraversion, the result is the manifestation of eight possible *attitudinal-functions* (e.g., introverted feeling, extraverted sensing), which give rise to a range of cognitive and behavioral *preferences* (see Table 1).

Insert Table 1 about here

Jung (1921/1971) described the attitudinal-function that we tend to employ most as our *primary* or *dominant* attitudinal-function, and the attitudinal-function that we employ least as our *inferior* attitudinal-function. According to his conceptual model, it is possible for auxiliary (i.e., supporting) preferences to support one's dominant attitudinal-function. So, for example, if a person exhibits a strong preference for extraverted feeling (e.g., sociable and selfless), it is possible for a sensing preference (e.g., reflects on fine details) to act in a supportive manner. Similarly, if a person exhibits a primary preference for developing ideas with analytical precision (introverted thinking), it is possible for intuitive preferences to act in a supporting role (e.g., strategy development).

The most extensively used personality instrument with non-clinical populations is an operational definition of Jung's (1921/1971) conceptual model, known as the Myers-Briggs Type Indicator (MBTI: Myers, 1962; Myers, McCaulley, Quenk, & Hammer, 1998). An estimated two million people complete the MBTI annually for employee and/or leadership training as well as personal development (Quenk, 2000). Once completed, the MBTI identifies 16 personality types that represent different combinations of primary and auxiliary attitudinal-functions (e.g., introverted feeling as dominant with intuition as auxiliary, extraverted thinking as dominant with sensing as auxiliary). Evidence for the convergent and discriminant validity of this instrument has been established by examining the MBTI in relation to trait personality measures such as the Eysenck Personality Inventory (e.g., Saggino, & Kline, 1996), as well as the five scales of the FFM (e.g., McCrae & Costa, 1989). Furthermore, psychometric evaluation of the factor structure of the MBTI has provided evidence of construct validity (Johnson & Saunders, 1990), and internal consistencies have been reported for the separate subscales (Myers et al, 1998).

Another operationalization of Jung’s conceptual model, but one that has been considerably less used, relates to the *Insights Discovery Evaluator* (IDE; Lothian, 1996). The IDE assesses the extent to which each of the *rational* attitudinal-functions are employed, through the metaphor of ‘color’. Specifically, extraverted thinking is represented by ‘fiery red’ preferences (e.g., strong-willed, purposeful, assertive), extraverted feeling is represented by ‘sunshine yellow’ preferences (e.g., sociable, enthusiastic, demonstrative), introverted thinking is represented by ‘cool blue’ preferences (e.g., deliberate, precise, questioning), and introverted feeling is represented by ‘earth green’ preferences (e.g., caring, patient, encouraging). The IDE does not provide color-based representations of Jung’s (1921/1971) *irrational* attitudinal-functions (i.e., sensing and intuitive preferences). However, the visual nature of the ‘colourful output’, whereby participants can observe the extent to which particular preferences are expressed in both themselves and others, can be effective at facilitating an understanding of self and others amongst athletes (Beauchamp et al, in press). Recently, Benton, Schurink, and Desson (2006) provided evidence for the construct validity of the IDE through (a) confirmatory factor analysis supporting the conceptual uniqueness of the four color ‘factors’, (b) acceptable internal consistencies among the four color subscales, and (c) evidence of test-retest reliability. As with the MBTI, the IDE is not a clinical instrument designed to diagnose mental disorders, and instead is designed to foster personal awareness and development.

At the heart of Jung's (1921/1971) conceptual model is the philosophy that there are no good or bad types or preferences, and that each attitudinal-function possesses *both* strengths and weaknesses. Indeed, one of the major uses of this conceptual model within counseling situations is to foster self-understanding and personal awareness (Myers and Myers, 1995; Quenk, 2000). In a recent study from the sport domain, Lavallee (2005) made use of the MBTI as part of a life development and career transition intervention with 32 recently retired professional soccer players. In this study, the MBTI was used to promote personal awareness and development, and within the intervention the participants were encouraged to express their personal reactions associated with career termination. The intervention centred on helping participants to identify how their personal resources (i.e., preferences) could be transferred to the next stages of their lives. Results of the study revealed that in comparison to a control group, significant post-intervention group differences were evident in terms of career transition adjustments.

In a recent team building intervention study with an international-level co-acting sports team, Beauchamp et al. (in press) made use of the IDE to help athletes better understand themselves and their teammates. On the basis that cohesion has been found to predict performance within coactive team environments (Carron, Colman, Wheeler, & Stevens, 2002), this six-month team building intervention was designed to improve the quality of interpersonal communication, reduce intra-team conflict, and increase team cohesion. Specifically, the intervention was based on the premise that in order to become more task and socially cohesive (see Carron et al., Chapter 9, this volume), athletes first need to develop an acute understanding themselves as well as the preferences of their teammates.

The intervention began with assessment of the athletes' preferences (through the IDE), and was followed up by four experiential workshops over the course of six months. These workshops were designed to raise athletes' awareness of their own preferences for interaction as well as those of their teammates. Athletes were encouraged to highlight potential strengths that they may bring to the team as well as reflect on possible blind-spots (i.e., preferences that are untrained and reluctantly used) through a series of role-playing activities. The intervention included personal and electronic-mail support from the consultant psychologist, as well as a series of on-line learning modules designed to consolidate information presented within the workshops. Athletes were also encouraged through in-depth discussions and traditional experiential activities (e.g., team rowing task, ropes course activities) to consider how their personality preferences may influence their own and teammates' communication behaviours. Finally, the intervention involved a peer-mentoring system whereby athletes were required to work closely with a partner to share and discuss potentially conflicting preferences. Specifically, athletes were invited to recognize the types of people they may have difficulty communicating with, and were encouraged to consider untried strategies that may be particularly well-received by those people with preferences that are (psychologically speaking) opposite to one's own.

The intervention presented in the Beauchamp et al. (in press) study was evaluated through a qualitative methodology (i.e., in-depth interviews with athletes), and themes were allowed to emerge with regard to the strengths and limitations of the six-month program. In comparison to pre-intervention reports of intra-squad conflict and interpersonal stress, athletes reported that the intervention served to facilitate greater self-awareness and greater understanding of others. In terms of perceived outcomes, the athletes reported higher levels of intra-squad trust and greater group cohesion. Furthermore, the athletes also reported that the intervention helped them to more effectively train and compete, by eliminating the existence of interpersonal stressors.

Practical Implications

When managers or coaches are faced with the challenge of team-building, they have two fundamental options. The first is to *select* (or deselect) the appropriate personnel to fit the team's needs and the second is to *train existing members* to more effectively contribute to the team's objectives. Some within the organizational psychology literature have espoused the potential of personality assessment in the selection of teams. For example, both Barrick et al. (1998) and Neuman and Wright (1999) suggested that because traits such as conscientiousness, agreeableness, and emotional stability predicted team performance within work environments, selection might involve ensuring that members have generally high levels of these traits, and that no single individual is selected with low levels of these characteristics. Similarly, others such as Tett and Burnett (2003) have suggested that teams could be formed on the basis that members' personality characteristics are compatible. However, it is important to emphasize that the very nature of individual and team performance in sport is conceptually and operationally very different to performance in work settings not least because, in sport, physical and physiological characteristics also need to be considered (and are of major consequence). Furthermore, on the basis that personality characteristics have not been found to predict individual athletic performance in sport settings, some sport psychologists have suggested that it is questionable, even unethical, to base team selection in sport on personality assessment (e.g., Sachs, 1993).

Other than selection, the alternative option for team-building is to train members accordingly. Given that by definition personality is generally consistent and enduring (Ryckman, 2000), it would be a fairly futile effort to seek to bolster or suppress various personality characteristics amongst members of sports teams. However, team members can be trained to develop a greater understanding of the differences in personalities that may exist amongst members of sports teams. A number of applied sport psychologists have emphasized the need to better understand one's teammates as a means to enhance team dynamics (e.g., Crace & Hardy, 1997; Dunn & Holt, 2004). Armed with a greater awareness of what makes others (e.g., coach or teammate) 'tick', this understanding can be used as a framework to help individuals to communicate and interact more effectively within team situations (Beauchamp, Maclachlan, & Lothian, 2005; Beauchamp et al, in press). Beauchamp et al. (2005) proposed such a framework that included three conceptual phases involving *understanding self* (Phase 1), *understanding others* (Phase 2), and *adapting and connecting* (Phase 3). The fundamental principles of this framework involve:

Phase 1 - Understanding Self

(i) Initially, athletes might employ personality-based measures to reflect on their general preferences or behavioural tendencies. Athletes are encouraged to be 'active' agents in the reflection/review process related to their personality assessment. That is, any personality 'profile' to emerge from the assessment of personality preferences or traits should be used by the athletes as *handrails* to consider typical communication styles, rather than as *handcuffs* to stereotype them into restrictive categories.

(ii) Athletes are encouraged to identify interpersonal behaviours that they typically employ within group situations (i.e., primary and auxiliary preferences, or behaviours manifested by individual traits), and reflect on personal strengths and potential weaknesses. In particular, it may be difficult for athletes to identify potential weaknesses as it is difficult (for all of us!) to 'know what you don't know'.

Weaknesses (or blind spots) might correspond to preferences or behavioural tendencies, of which an athlete may be unaware, that impede team functioning. To identify such blind sports, this might involve (under the guidance of an appropriately qualified psychologist) a process of 360 degree appraisal involving one's team-mates, coaches, family members, or friends.

Phase 2 - Understanding Others

(iii) Foster an awareness of how those both similar and disimilar to one's self (i.e., preferences or traits) like to (a) communicate and (b) be communicated with. Role play activities can be encouraged to provide insight into some of the behavioural preferences or tendencies of others.

(iv) Peer-mentoring schemes can be used to foster empathy amongst athletes with regard to understanding each others' distinctly different behavioural preferences or communication tendencies.

(v) Identify collective strengths and group-level weaknesses. If teams display high mean levels of certain traits or preferences, seek to identify where the shared strengths of the team may be found, but also which resources (as reflected by an absence of certain preferences or traits) are lacking. As one example, consider the case of the homogenous team, whereby all members share similar preferences, attitudes, and behavioural tendencies. Although such a team may be quick to agree on key decision-making tasks they may not be quick to consider alternative strategies. Alternatively, the heterogenous team may potentially have more resources available (as reflected by the greater range of personalities within the team) but it may be challenging to have members come to a consensus on decisions. As research by Van Vianen and De Dreu

(2001) demonstrates, neither heterogeneity nor homogeneity (in group personality composition) has been found to be superior with regard to team functioning. Clearly, both types of team bring different sets of challenges to the coach or consulting psychologist.

Phase 3 - Adapting and Connecting

(vi) Encourage athletes to communicate with teammates using behaviours and methods that are compatible with the communication preferences of the focal person. This suggests a minor amendment to the well known saying “treat others as *you* would like to be treated”. Instead, athletes could be encouraged to “treat others in the way that *they* wish to be treated”.

(vii) Identify potential barriers for communication that may involve potentially conflicting personality characteristics. Athletes could be encouraged to play devil’s advocate with their own opinions, and try to see things from the perspective of their teammates.

(viii) If members exhibit tendencies that might be in conflict with those of others, develop rules for effective communication. One example corresponds to the ‘Four-Sight’ model of communication outlined by Lothian (1997), which involves: (step 1 - intuition) using the imagination of all group members to come up with new ideas; (step 2 - sensing) gather the relevant data; (step 3 – thinking) analyze the processes required to implement different objectives; and (step 4 – feeling) give consideration to how the chosen strategy will affect different people.

Future Research Directions and Conclusions

Perhaps the most appropriate way of seeking to propose directions for future group/personality research is to look to the past, and in particular to the comments of Lewin (1951) when he asserted that “there’s nothing so practical as a good theory” (p. 169). That is, to develop effective and practical solutions to pressing social issues, theory driven-research is required. Unfortunately the study of personality within sport and exercise psychology has, to date, been largely atheoretical, and it is our assertion that if researchers are to effectively understand what role personality plays within interdependent settings (and intervene accordingly) then sound conceptual frameworks are needed that drive theoretically considered research hypotheses. The study of groups represents a particularly fascinating context in which to examine interpersonal behaviours. It is possible that the value of personality research in sport and exercise settings lies not in its direct predictive power (or lack thereof) in relation to individual *independent* athletic functioning but, as Carron et al. (2005) suggested, in the extent to which personalities ‘mesh’ within *interdependent* group settings that is of real importance.

Over the course of this chapter a number of possible future research avenues have been highlighted. These include the use of group personality composition models to examine the extent to which maximum/minimum, mean, and variance in personality traits are related to salient team dynamics outcomes such as group cohesion or member satisfaction. We have also highlighted the importance of identifying personality characteristics that might be associated with the emergence of leaders within sports teams.

Another particularly fruitful area of research within sport and exercise psychology relates to the use of preference-based personality models. Although a considerable amount of research and professional practice in areas such as counseling and management consulting involves personality preference-based models, the extent to which they have been employed within sport and exercise has been markedly limited (Beauchamp et al, in press; Lavallee, 2005). Nevertheless, the few intervention-based studies that have employed preference-based frameworks suggest that such approaches can be used to facilitate both salient individual- (e.g., personal growth) and team-level (e.g., cohesion, intra-group trust) outcomes in sport.

Conclusion

A number of prominent reviews have addressed the role of personality within sport and exercise psychology research, many of which have painted a fairly pessimistic picture regarding the utility of personality assessment. In this chapter, we have outlined conceptual and methodological advances involving sport-based research as well as approaches taken outside of the sport and exercise psychology literature that have potential to inform our understanding of conjoint functioning in groups. A vast amount of behavior in sport exists within group settings, and we believe researchers should (re)engage in personality-based research and begin to understand how personalities blend (cf. Carron et al, 2005) to result in highly effective as well as dysfunctional teams.

References

Allen, J., & Brock, S. A. (2000). *Healthcare communication using personality type: Patients are different.* London: Routledge.

Ashton, M. C., Lee, K. & Paunonen, S. V. (1999). What is the central feature of extraversion?: Social attention versus reward sensitivity. *Journal of Personality and Social Psychology, 83,* 245-251.

Atwater, L., & Yammarino, F. J. (1993). Personal attributes as predictors of superiors' and subordinates perceptions of military academy leadership. *Human Relations, 46,* 645-668.

Bandura, A. (1997*). Self-efficacy: The exercise of control.* New York: Freeman and Company.

Barrick, M. R., & Mount, M.K. (1991), The big five personality dimensions and job performance: A meta-analysis. *Personnel Psychology, 44,* 1-26.

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.

Beauchamp, M. R., Lothian, J. L., & Timson (in press). Understanding self and others: A personality preference-based intervention with an elite co-acting sport team. *Sport & Exercise Psychology Review.*

Beauchamp, M. R., Maclachlan, A., & Lothian, A. M. (2005). Communication within sport teams: Jungian preferences and group dynamics. *The Sport Psychologist, 19,* 203-220.

Benton, S., Schurink, C. van E., Desson, S. (2005) *Overview of the development, validity, and reliability of the English version 3.0 of the Insights Discovery Evaluator (IDE)*. Dundee, UK: Insights Learning and Development.

Carron, A. V., Brawley, L. R., & Widmeyer, W. N. (1998). The measurement of cohesiveness in sport groups. In. J. L. Duda (Ed.) *Advances in sport and exercise psychology measurement* (pp. 213-229). Morgantown, WV: Fitness Information Technology.

Carron, A. V., Colman, M. M, Wheeler, J., & Stevens, D. (2002). Cohesion and performance in sport: A meta analysis. *Journal of Sport & Exercise Psychology, 24*, 168-188.

Carron, A. V., Hausenblas, H.A, & Eys, M. A. (2005). *Group dynamics in sport* (3rd ed.). Morgantown, WV: Fitness Information Technology.

Cattell, R. B. (1965). *The scientific analysis of personality.* Baltimore: Penguin

Cattell, R. B., Ebber, H. W., & Tatsuoka, M. M. (1970). *The 16-Factor Personality Questionnaire.* Champaign, IL: IPAT.

Costa, P. T., Jr., & McCrae, R. R. (1992). *Revised NeEO Personality Inventory (NEO-PI-R) and NEO Five Factor Inventory (NEO-FFI) professional manual.* Odessa, FL: Psychological Assessment Resources Inc.

Crace, R. K., & Hardy, C. J. (1997). Individual values and the team building process. *Journal of Applied Sport Psychology, 9,* 41-60.

Digman, J. M. (1990). Personality structure: Emergence of the five factor model. In M. R. Rosenweig & L. W. Porter (Eds.), *Annual Review of Psychology* (Vol. 41, pp. 417-440). Palo Alto, CA: Annual Reviews.

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.

Dunn, J. G. H, & Holt, N. L. (2004). A qualitative investigation of a personal-disclosure mutual-sharing team building activity. *The Sport Psychologist, 18,* 363-380.

Egan & Hughes (2003). A personality profile of Mount Everest climbers. *Personality and Individual Differences, 34,* 1491-1494.

Eysenck, H. (1952). *The scientific study of personality.* London: Routledge..

Eysenck, H. (1991). Dimensions of Personality: 16, 5, or 3? Criteria for a taxonomic paradigm. *Personality and Individual Differences, 12,* 773-790.

Eysenck, H. J., & Eysenck, S. G. B. (1967). On the unitary nature of extraversion. *Acta Psychologica*, 26, 383-390.

Fisher, A.C.(1984). New directions in sport personality research. In J.M. Silva and R.S Weinberg (Eds.), *Psychological foundations of sport* (pp. 70-80). Champaign, IL: Human Kinetics.

Gardner, W. L., & Martinko, M. J. (1996). Using the Myers-Briggs Type Indicator to study managers: A literature review and research agenda. *Journal of Management, 22,* 45-83.

Goldberg, L. R. 91993). The structure of phenotypic personality traits. *American Psychologist, 48,* 26-34.

Graziano, W. G., & Jensen-Campbell, L. A., & Hair, E. C. (1996). Perceiving interpersonal conflict and reacting to it: The case for agreeableness. *Journal of Personality and Social Psychology, 70,* 820-835.

Hogan, R., & Kaiser, R. B. (2005). What we know about leadership. *Review of General Psychology, 9,* 169-180.

Hughes, S. L., Case, H. S., Stuempfle, K. J., & Evans, D. S. (2003). Personality profiles of iditasport ultra-marathon participants. *Journal of Applied Sport Psychology, 15*, 256-261.

Johnson, D. A., & Saunders. D. R. (1990). Confirmatory factor analysis of the Myers-Briggs Type Indicator: Expanded analysis report. *Educational and Psychological Measurement, 50*, 561-571.

Judge, T. A., Bono, J. E., Illies, R., & Gerhardt, M. W. (2002). Personality and performance: A qualitative and quantitative review. *Journal of Applied Psychology, 87,* 765-780.

Judge, T. A., & Illies, R. (2002). Relationship of personality to performance motivation: A meta-analytic review. *Journal of Applied Psychology, 87*, 797-807.

Jung, C. G. (1921/1971). Psychological types (Translated by H.G. Baynes, revised by R. F. C. Hull). In *The Collected Works of C. G. Jung* (Vol. 6, pp. 1-495). Princeton, NJ: Princeton University Press. (Original work published 1921).

Jung, C. G. (1923/1971). Psychological types (Translated by H.G. Baynes, revised by R. F. C. Hull). In *The Collected Works of C. G. Jung* (Vol. 6, pp. 510-523). Princeton N.J.: Princeton University Press. (Original work published 1923).

Kanfer, R., & Heggestad, E. D. (1997). Motivation, traits and skills: A person-centred approach to work motivation. *Research in Organizational Behavior, 19,* 1-56.

Lavallee, D. (2005). The effect of a life development intervention on sports career transition adjustment. *The Sport Psychologist*, *19,* 193-202.

Lewin, K. (1947). Frontiers in group dynamics: Concept, method and reality in social science; Social equilibria and social change. *Human Relations, 1*, 5-41.

Lewin, K. (1951) *Field theory in social science: Selected theoretical papers.* In D. Cartwright (Ed.). New York: Harper & Row.

Lothian, A. M. (1996). *Insights Discovery Preference Evaluator.* Dundee, UK: Insights Learning and Development.

Lothian, A.M. (1997). *Insights into personal effectiveness: Workbook.* Dundee, UK: Insights Learning and Development.

Mayer, J. D. (2005). A tale of two visions: Can a new view of personality help integrate psychology. *American Psychologist, 60*, 294-307.

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. (1996). Social consequences of experiential openness. *Psychological Bulletin, 120,* 323-337.

McCrae, R. R., & Costa, P. T. Jr. (1987). Validation of the five-factor model of personality across instruments and observers. *Journal of Personality and Social Psychology, 52,* 81-90.

McCrae, R. R., & Costa, P. T. Jr. (1989). Reinterpreting the Myers-Briggs Type Indicator from the perspective of the five-factor model of personality. *Journal of Personality, 57,* 17-40.

McCrae, R. R., & Costa, P. T. Jr. (1990). *Personality in adulthood.* New York: Guilford Press.

McCrae, R. R., & Costa, P. T. Jr. (1997). *Personality trait structure as a human universal. American Psychologist, 52, 509-516.*

McCrae, R. R., & John, O. P. (1992). An introduction to the five-factor model and its applications. *Journal of Personality, 2,* 175-215.

McCaulley, M. H. (2000). Myers-Briggs Type Indicator: A bridge between counseling and consulting. *Consulting Psychology Journal: Practice and Research, 52,* 117-132.

Mohammed, S. & Angell, L. C. (2003). Personality heterogeneity in teams: Which differences make a difference for team performance? *Small Group Research, 34*, 651-677.

Moritz, S.E., Feltz, D.L., Fahrbach, K., & Mack, D. (2000). The relation of self-efficacy measures to sport performance: A meta-analytic review. *Research Quarterly for Exercise and Sport, 71*, 280-294.

Morgan, W. P. (1980). Sport personology: The credulous-skeptical argument in perspective. In W. F. Straub (Ed.), *Sport psychology: An analysis of athlete behavior* (2nd ed., pp 330-339). Ithaca, NY: Mouvement Publications.

Morgan, W. P., Brown, D. R., Raglin, J. S., O'Connor, P. J., & Ellickson, K. A. (1987). Psychological monitoring of overtraining and staleness. *British Journal of Sports Medicine*, 21, 107-114.

Myers. I. B. (1962). *Manual: The Myers-Briggs Type Indicator*. Princeton, NJ: Educational Testing Service.

Myers, I. B., McCaulley, M. H., Quenk, N. L., Hammer, A. L. (1998). *MBTI manual: A guide to the development and use of the Myers-Briggs Type Indicator.* Palo Alto, CA: Consulting Psychologists Press.

Myers, I. B., & Myers, P. B. (1995). *Gifts differing: Understanding personality type.* Palo Alto, CA: Davis-Black.

Nettle, D. (2006). The evolution of personality variation in humans and other animals. *American Psychologist, 61*, 622-631.

Nettle, D. (in press). Empathising and systemising: What are they, and what do they tell us about psychological sex differences? *British Journal of Psychology*.

Neuman, G. A., Wagner, S. H., & Christiansen, N. D. (1999). The relationship between work-team personality composition and the job performance of teams. *Group & Organization Management, 24,* 28-45.

Neuman, G. A., & Wright, J. (1999). Team effectiveness: Beyond skills and cognitive ability. *Journal of Applied Psychology, 84,* 3, 376-389.

Ogilvie, B. C. (1968). Psychological consistencies within the personality of high level competitors. *Journal of the American Medical Association, 205,* 156-162.

Paunonen, S. V., & Jackson, D. N. (2000). What is beyond the Big Five? Plenty! *Journal of Personality, 68*, 821-835.

Peidmont, R. L., Hill, D. C., & Blanco, S. (1999). Predicting athletic performance using the five-factor model of personality. *Personality and Individual Differences, 27,* 769-777.

Pulford, B. D., & Sohal, H. (2006). The influence of personality on HE students' confidence in their academic abilities. *Personality and Individual Differences, 41,* 1409-1419.

Quenk, N.L. (2000). *Essentials of Myers-Briggs Type Indicator assessment*. New York: Wiley.

Ryckman, R., M. (2000). *Theories of personality* (7th ed). Stamford, CT. Wadsworth/Thompson Learning.

Sachs, M. L. (1993). *Professional ethics in sport psychology.* In R. N. Singer, M. Murphey, & L. K. Tennant (Eds.), Handbook of research on sport psychology (pp. 921-932). NY: Macmillan.

Saggino, A., & Kline, P. (1996) The location of the Myers-Briggs Type Indicator in personality factor space. *Personality & Individual Differences, 21, 591-597.*

Shaw, M. E. (1981). *Group dynamics: The psychology of small group behavior* (3rd ed.). New York: McGraw-Hill.

Tett, R. P., & Burnett, D. D. (2003). A personality trait-based interactionist model of job performance. *Journal of Applied Psychology, 88*, 500-517.

Tutko, T. A., Lyon, L. P., & Ogilvie, B. C. (1969). *Athletic Motivation Inventory.* San Jose, CA: Institute for the Study of Athletic Motivation.

Van den Auweele, Y., Nys, K., Rzewnicki, R., & Van Mele, V. (2001). Personality and the athlete. In R. N. Singer, H. A. Hausenblas, & C. M. Janelle (Eds.) *Handbook of research on sport psychology* (2nd Ed., pp. 239-268), New York: Wiley.

Van Vianen, A, E. M., & De Dreu, C. K. W. (2001). Personality in teams: Its relationship to social cohesion, task cohesion, and team performance. *European Journal of Work and Organizational Psychology, 10*, 97-120.

Vealey, R. S. (2002). Personality and sport behavior. In T. Horn (Ed.) *Advances in sport psychology* (2nd ed., pp. 43-82). Champaign, IL: Human Kinetics.

Wanberg, C., & Kammeyer-Mueller, J. D. (2000). Predictors and outcomes of proactivity in the socialization process. *Journal of Applied Psychology, 85*, 373-385.

Table 1

Eight Attitudinal-Functions.

Attitudinal-Functions	**Preferences**
Extraverted Thinking	**"Seeking order and taking action"** • Pursuit of order, structure, and objective criteria before making decisions. • Likes to be organized and clear about objectives before taking swift actions. • May be perceived as bold, decisive, and assertive.
Introverted Thinking	**"Developing Ideas and Strategies with Analytical Precision"** • Motivated to develop new concepts and logical solutions. • Concerned with investigation, observation, and thinking things through carefully before interacting. • May be viewed as distant, removed, but with a strong capacity for critical analysis.
Extraverted Feeling	**"Sociable and Selfless"** • Expressive, talkative, and strong desire to interact with others. • Sociable and considerate of the needs of others. • May sometimes feel uncomfortable when working independently, and would rather be with others.
Introverted Feeling	**"Personal Reflections and One-on-One Connections"** • Interactions often governed by personally-held values. • Supportive and considerate or others needs • May feel uncomfortable in the limelight, but at ease when surrounded by close friends or team-mates
Extraverted Sensing	**"Down to Earth and Practical"** • Concerned with experiences grounded in the 'here and now'. • Seeks out practical experiences that stimulate the senses. • Little concern for abstract ideas or future possibilities, and motivated by hands-on activities.

Introverted Sensing	**“Reflects on Fine Details”** • Seeks to take in and study every aspect of the environment. • Reflects on and carefully notices expressions, language, and people’s behaviours. • Although carefully attuned to the present, may be less concerned with how things might be different in the future.
Extraverted Intuition	**“Creating Vision and Strategy Development”** • Interested in what might be going on behind the scenes or under the surface. • Constantly on the look-out for new possibilities, however, may become oblivious to what might be immediately in front of one’s self (in the ‘here and now’). • Interested in unexplored possibilities, and developing enterprising new strategies.
Introverted Intuition	**“Introspection and innovation”** • Considers issues with insight, originality and depth. • May have a preference for working independently and seek to understand the real meaning behind concepts. • May be viewed by others as a day-dreamer who shows little interest in the real world, only ‘what might be’.

Note. Adapted from Lothian (1997)