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I am submitting herewith a dissertation written by Deanna Marie Putney entitled, "SWAT Team Composition and Effectiveness". I have examined the final electronic copy of this dissertation for form and content and recommend that it be accepted in partial fulfillment of the requirements for the degree of Doctor of Philosophy, with a major in Industrial and Organizational Psychology.

Eric Sundstrom
Major Professor

We have read this dissertation
and recommend its acceptance:

Craig Colvin

Michael Rush

Joyce E. A. Russell

Acceptance for the Council:

Dr. Anne Mayhew
Vice Provost and Dean of Graduate
Studies

(Original signatures are on file with official student records)

SWAT TEAM COMPOSITION AND EFFECTIVENESS

A Dissertation

Presented for the

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Dedication

This dissertation is dedicated to my grandmother,

Alice Williams Kast

(1918-2002)

Acknowledgments

I received assistance from many individuals throughout this multi-jurisdictional data collection study. I wish to thank Commander Mike Foreman of the Orange County, Florida Sheriff's Office and Larry Glick, Executive Director of the National Tactical Officers' Association, for their willingness to allow data collection during the SWAT team competition.

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Abstract

A field study examined team effectiveness in relation to group composition in thirty-four (34) Specialized Weapons and Tactical (SWAT) Teams. Data collection during a five-day, work-focused, SWAT team competition and included judges' ratings of team performance, a questionnaire among team members and leaders to assess individual personality traits conscientiousness and agreeableness, and perceptions of team performance, norms, and conflict. Hypotheses derived from current research and theory. Results showed that the team maximum conscientiousness score correlated positively with member-rated team performance, as predicted. Team average and minimum conscientiousness correlated with leader-rated team viability; whereas, only the maximum conscientiousness team score correlated positively with Team average, minimum, maximum, and variance on agreeableness scores correlated negatively with leader rated team viability; however, the average, minimum, and maximum agreeableness scores correlated positively with team performance. None of the team composition variables significantly correlated with the criterion of judges' ratings. Intra-group task and relationship conflict mediated the agreeableness-performance relationship. SWAT teams with high levels of agreeableness and conscientiousness reported higher levels of team performance, but did not receive higher performance ratings from judges. Recommendations for future research are provided.

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1. Introduction: SWAT Team Composition and Effectiveness

Work teams have become increasingly prevalent in law enforcement as police work has evolved (Baker, 2000; Nowicki, 1993; Snow, 1996). In the past, police work emphasized individualism, as officers upheld the law on a case-by-case basis relying primarily on individual capabilities. With the increase in multi-jurisdictional and interagency collaborations, community oriented policing projects, and specialized units, law enforcement officers increasingly participate in team efforts. The rise of teamwork in law enforcement occurs at a time when work teams are coming into widespread use across many levels of organizations (Cohen & Bailey, 1997; Sundstrom, McIntyre, Halfhill & Richards, 2000).

The use of teamwork in law enforcement reflects the need to coordinate efforts by individuals with increasingly diverse, technical skills, sparking interest in team-related competencies (Clark, Johnson, Schaefer, & Sharpe, 2000). Muir (1977) identified interpersonal skills as critical for police work. More recently, “community-oriented policing” (Trojanowicz & Bucqueroux, 1990) underscores the importance of interpersonal skills used in ‘teaming up’ with the public to fight crime. To date, however, little empirical research has examined personality predictors of effectiveness in law enforcement teams (Clark et. al, 2000).

The present study focused on group composition as a factor in law enforcement team effectiveness. Models of team effectiveness include group composition as a primary factor (Driskell, Hogan, & Salas, 1988; Halfhill, 2000; Moreland & Levine, 1992; Sundstrom, De Meuse, & Futrell, 1990). Recent interest has generated around the relationship between group composition and team effectiveness focusing on specific team types (Halfhill, 2000; Sundstrom & Associates, 1999).

Group composition refers to personality combinations within the group or team. Personality variables of interest in the present study were **conscientiousness** and **agreeableness**, which have been central in earlier research on group personality composition (Barrick, Stewart, Neubert, & Mount, 1998; Halfhill, 2000; Neuman & Wright, 1999).

The terms “work team” and “work group” refer to interdependent collections of individuals who share responsibility for specific outcomes for their organizations (Sundstrom, De Meuse, and Futrell, 1990, p.120). ("Team" and "group" are used interchangeably here.) “Team effectiveness” includes both group performance and group viability (Sundstrom, et al., 1990). Performance is defined as the acceptability of team output to those who receive or review team products, services, information, decisions, or performance events. Viability refers to the group’s future capability as a work unit, partly reflected by members' collective willingness to continue in the group.

The primary purpose of this study was to investigate group personality composition on the individual traits agreeableness and conscientiousness in relation to effectiveness of Specialized Weapons and Tactical (SWAT) teams. The study also investigated two potential mediators of the relationship between group composition and effectiveness: intra-group conflict and group norms.

The following six sections include: 1) a brief description of SWAT teams 2) a review of relevant personality composition literature, 3) a proposed framework for studying team personality composition, group process variables, and team effectiveness, 4) an overview of methods of indices of personality composition variables, 5) a review of current research on collective conscientiousness and agreeableness as related to group performance, and 6) a review of the role of group conflict and group norms in the relationship of group composition and team effectiveness.

Specialized Weapons and Tactical Teams (SWAT)

SWAT teams consist of specialized tactical officers expected to perform varying levels of interdependent tasks under time-intense conditions. The performance of these teams is often under intense public and legal scrutiny (Snow, 1996). SWAT teams are used by law enforcement and military agencies for a variety of tasks. These tasks are often unpredictable (e.g., hostage situations), and usually occur under adversarial conditions (e.g., drug raids) involving different environments. The unpredictable situations and tactical requirements of these specialized teams attract individuals of varying experience and personalities.

The high-stress work environment and specialized nature of action teams have prompted selection and training procedures distinct from other types of teams (Klimoski & Jones, 1995; Snow, 1996; Zazanis, Kilcullen, Sanders, & Litton, 2000). A typical SWAT team will include tactical officers specializing in particular areas of expertise (e.g., sniper). The highly specialized nature of roles within the team adds to the challenge of selection and training. Cross-training presents unique challenges for SWAT teams given the considerable learning curve associated with each special role within the team.

Once the SWAT team has been asked to respond to a call, the team leader typically selects the members whose specializations are most conducive to addressing that particular situation. For agencies with larger SWAT teams, this can mean that different calls for service will generate unique SWAT member combinations responding to the emergency. These stressful and unpredictable work conditions combined with the strong personalities attracted to these action teams present unique challenges for creating and maintaining SWAT team effectiveness. Increasing interest regarding homeland security prompted by the war on terrorism further emphasizes the importance of examining variables relevant to SWAT team performance. To date, SWAT team effectiveness has received little empirical attention (Snow, 1996; Clark, et al., 2000).

Personality Research: The "Big Five" Traits

The views of many personality psychologists have converged regarding the structure and concepts of personality, and the five-factor or "Big Five" model has gained support as a general framework for personality research (Barrick & Mount, 1991 and 1993; Costa & McCrae, 1988; Digman, 1990; McCrae & Costa, 1987; Salgado, 1997). Related research has also demonstrated a consistent relationship between some of the "Big Five" traits and individual performance, especially the traits conscientiousness and agreeableness (Barrick, Mount, & Strauss, 1993; Halfhill, 2000; LePine, Hollenbeck, Ilgen, & Hedlund, 1997; Stewart, 1999). The "Big Five" traits conscientiousness and agreeableness represented obvious choices for studying the relationship of group personality composition and effectiveness in SWAT teams.

Conscientiousness. With one notable exception (Tett, Jackson, & Rothstein, 1991), meta-analytic studies of the relationships between the five-factor model of personality constructs and work performance indicate that conscientiousness has been the most consistent predictor (Barrick, Mount, & Strauss, 1993; Hochwarter, Witt, & Kacmar, 2000; Salgado, 1997). Conscientiousness refers to behavior that is “responsible, dependable, persistent, and achievement-oriented” (Barrick & Mount, 1993, p.111) as well as careful, scrupulous, and meticulous (Halfhill, 2000). McCrae and John (1992) and Stewart (1999) discuss the six factors of conscientiousness: (1) *order*- productive and organized; (2) *competence*- efficient, responsible, and dependable; (3) achievement-striving- reliable, persistent; (4) *dutifulness*- planful and able to delay gratification; (5) *deliberation*- thorough and aspiring to advanced levels; (6) *self-discipline*- ethical and responsible (Halfhill, 2000). Gellatly (1996) stated that the traits that differentiate low-conscientiousness individuals (i.e., lazy, imprecise, disorganized) from high-conscientiousness individuals (i.e., ambitious, methodical, organized) lead those in the latter group to expect and strive for greater job success.

Contributions of conscientiousness to team level performance may be tied into task-orientation as team members focus on timely completion of assignments. The task orientation and attention to detail aspects of conscientiousness are commonly viewed as positive characteristics of successful SWAT teams (Glick, 2000; Snow, 1996).

Another personality trait has been associated with the motive to maintain positive social relations as opposed to task completion. Within the five-factor approach to personality, agreeableness has been labeled as primarily a dimension of interpersonal behavior (Costa & McCrae, 1992; Graziano, Hair, & Finch, 1997).

Agreeableness. According to Costa and McCrae (1992), high agreeableness individuals display behavior that is cooperative, trusting, and sympathetic while low agreeableness individuals are antagonistic, cynical, and callous. The six facets of agreeableness include: (1) *straightforwardness*- the tendency to be direct and frank with others; (2) *trust*- the tendency to attribute benevolent intentions to others; (3) *tender-mindedness*- having sympathetic or empathetic tendencies; (4) *compliance*- the willingness to cooperate during conflict; (5) *modesty*- the presence of humility and absence of arrogance; and (6) *altruism*- the inclination for selflessness and concern for others (Halfhill, 2000).

Agreeableness has received support as a personality correlate of teamwork (Hough, 1992) and group performance (Graziano, Hair & Finch, 1997). Studies have investigated agreeableness with interpersonal dimensions of performance in various settings: situated competitiveness and task performance in group settings (Graziano et al., 1997); performance ratings among Air National Guardsmen (Halfhill, 2000); training proficiency (Salgado, 1997); self-efficacy for participating in self-managing teams (Thoms, Moore & Scott, 1996); interpersonal conflict resolution tactics in college students (Graziano, Jensen-Campbell, & Hair, 1996) and performance ratings among astronauts (Rose, Fogg, Helmreich & McFadden, 1994).

Agreeableness differences are associated with motives to interact harmoniously with other people and the positive attributions of others may minimize competitive behaviors fostering inter-individual coordination of task activities (Graziano, Hair, & Finch, 1997). Hence, agreeable team members may facilitate interpersonal interactions required for performance in team settings. The straightforwardness and trust aspects of agreeableness speak directly to the need for a ‘no-nonsense’ mentality from SWAT team members. Indeed, the agreeableness aspect of team trust within the stressful and time constrained SWAT environment has considerable anecdotal support (Snow, 1996).

Guiding Framework for the Present Study

Hackman and Oldham’s (1980) influential model of work group effectiveness expanded upon the “input-process-output” (IPO) sequence proposed by McGrath (1964) and championed by Hackman and Morris (1975). The model depicts group interaction as a mediator between input variables such as group composition and outputs such as group effectiveness.

More recent team effectiveness literature expands the theoretical foundation including concepts such as team type and environmental factors (Campion, Medsker & Higgs, 1993; Guzzo & Dickson, 1996; Sundstrom & Altman, 1989; Sundstrom & Associates, 1999; Sundstrom, DeMeuse, & Futrell, 1990). These recent contributions acknowledge the influences between inputs (e.g., personality composition) and outputs or outcomes (e.g., performance and viability) while identifying limitations of the IPO model. One criticism is its inability to account for reverse causality. The linear, forward flow of the model fails to consider the fact that performance can influence process, which can affect subsequent task design as well as team composition (Halfhill, 2000; Sundstrom, et al., 1990). An alternative model adapted from Halfhill (2000) accounted for the possibility of multiple directions of influence is adapted to the variables in this study and presented in Figure 1.

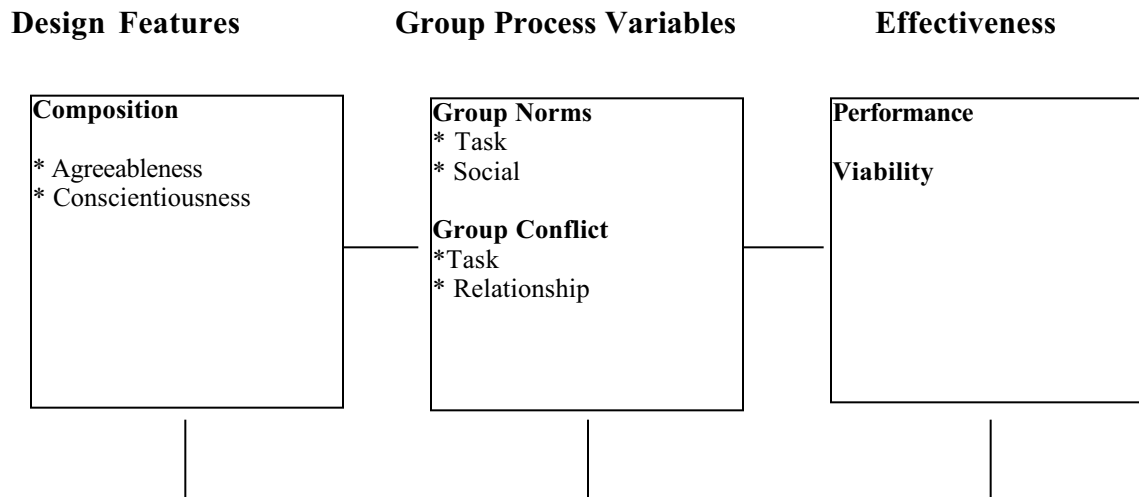


Figure 1. Framework for Examining SWAT Team Composition and Effectiveness

The present study focuses on team personality composition as a design feature, and group processes as potential mediators of the connection between design features and team effectiveness. Personality traits conscientiousness and agreeableness represented the key composition variables. Group process variables may play an important role in performance through their potential influence on the amount and direction of effort expended in the team, the choice of a strategy for performing the task, and the application of members' talents to the team's tasks (Hackman & Oldham, 1980). Group processes allow group members to effectively combine skills as they engage in task-appropriate strategies to enhance effectiveness (Halfhill, 2000). For SWAT teams, optimal personality combinations may be associated with appropriate group processes that will allow their members to effectively handle a wide variety of situations.

The choice of team performance criteria ideally includes measures of both performance and viability (Sundstrom, et. al., 1990). Group performance may be defined in terms of quality, quantity, timeliness or productivity (Pritchard & Watson, 1991). Implementing these definitions of performance in a study of effectiveness in action teams such as SWAT invites practical challenges. The measure of success for this type of team may not be a positive output so much as the *avoidance* of a negative outcome. That is, the quality of the actual performance is measured relative to the avoidance of a negative result. While few would define shooting a person as an optimal outcome, the neutralization of a target to avoid innocent casualties is commonly viewed as successful SWAT team performance (Glick, 2000; Snow, 1996).

Another measurement of successful performance in law enforcement teams is timeliness (Snow, 1996). First responding officers call in SWAT teams to assist in situations requiring their specialization of skills. The ability of the responding SWAT team to work quickly and efficiently together is critical (Glick, 2000; Twohey, 2000). The framework presented here suggests that the personality combination of a team is

associated with team effectiveness. It is further hypothesized that group processes – conflict and group norms – mediate this relationship.

Group Indices of Personality Composition

Typically, researchers select from four common methods of operationalizing team composition (Barrick, Stewart, Neubert, and Mount, 1998). Most commonly, the mean score for the group is calculated with the assumption that the amount of a trait possessed by each team member increases the collective pool of that characteristic. Regardless of the relative trait levels among team members, this collective increase is presumed to relate positively or negatively to group performance.

Another index of team composition focuses on the variability of members' personality traits. The range, proportion, and variance of team members' trait scores are three ways to represent personality diversity. This method is implemented when researchers investigate relationships between team composition heterogeneity and group process variables (Halfhill, 2000). Similarly high or low mean scores indicate homogeneity of a group-level construct; whereas, high variability in scores indicate group heterogeneity with respect to a construct.

A third index uses the team's minimum score. The worst-performing member's score determines a group's performance on tasks in which all members must meet a standard, such as a timed obstacle course. The minimum group score may also represent the lowest acceptable level of a team norm – a norm “floor” – or lowest possible score on a particular characteristic of the group (Halfhill, 2000).

The fourth index discussed by Barrick and colleagues (1998) focuses on the maximum score in the group, and the highest scoring member. It can differ from other indices in situations in which one team member's innovative solution can determine the group's success (Halfhill, 2000). The maximum score may also represent a “ceiling” or highest possible score within the group (Halfhill, 2000). A group maximum can be too

high. For example, an excess of achievement- focused conscientiousness may interfere with the interpersonal effectiveness of the group.

The present study incorporated all four methods of calculating group indices – group mean, variance, minimum, and maximum and proposed specific hypotheses concerning all four indices.

Team Personality Composition and Effectiveness

Research guided by the five-factor model suggests that personality is as important to team effectiveness as job-specific skills and ability (Hackman & Morris, 1975; LePine, Hollenbeck, Ilgen, & Hedlund, 1997; Neuman & Wright, 1999). Recent studies have found team indices of composition on certain personality traits correlated with team performance (Barrick, Stewart, Neubert, & Mount, 1998; Barry & Stewart, 1997; Halfhill, 2000; Neuman & Wright, 1999).

Barrick and his colleagues (1998) studied 51 manufacturing teams and found that teams higher in collective conscientiousness and agreeableness had higher supervisor ratings for team performance and higher viability. Neuman and Wright (1999) investigated the incremental utility of personality on performance beyond job-specific skills and cognitive ability with 79 human resource (HR) work teams. These HR team members shared payroll and benefits responsibilities and a bonus could be earned based on team performance. They operationalized agreeableness and conscientiousness as group minimum scores, which correlated positively with task performance, work completed, and interpersonal skills while group minimum conscientiousness scores correlated positively with accuracy and task performance.

In their study of 82 retail teams, Neuman, Wagner, and Christiansen (1999) used the terms Team Personality Elevation (TPE) and Team Personality Diversity (TPD) to refer to the mean and variance operationalizations of conscientiousness and agreeableness. Final group effectiveness was measured with a composite of two ratings of team performance based on customer complaints received by the group and number of days the

group completed work over a one-month period. Although both group average conscientiousness and agreeableness positively correlated with group performance, neither of the group variance scores significantly correlated with performance measures.

In two field studies of military teams, Halfhill, Weilbaecher, and Sundstrom (1999) operationalized agreeableness and conscientiousness as group average score and proportion of team members scoring above average. In study one, conscientiousness was not related to the group performance of 26 mechanized infantry teams and the proportion of agreeable team members scoring above average correlated negatively with supervisor ratings of team performance. Similarly, study two found that conscientiousness was unrelated to group performance; however, group average agreeableness correlated positively with supervisor ratings of team performance in 61 teams from an air-refueling wing. The proportion of team members scoring above average correlated positively with supervisor ratings of team performance. Halfhill and his colleagues (1999) proposed that differences in proportion of above average agreeable team members with group performance was associated with the team types studied. Study one involved action teams where excessive levels of team agreeableness might interfere with task accomplishments. In contrast, study two consisted of service teams where higher levels of agreeableness might be more conducive to effective group performance.

In SWAT teams the maximum score on a personality trait may not prove useful. For SWAT teams, the 'weakest link' on the team may cause critical performance deficiencies; whereas, one 'strong link' may not appreciably enhance the performance effectiveness of the team.

To summarize, research has found group performance related to group indices based on members' agreeableness and conscientiousness. Group average conscientiousness correlated with group performance in two studies (Barrick, et al., 1998; Neuman et al., 1999). Group minimum conscientiousness also correlated positively with group performance in two studies (Barrick et al., 1998; Neuman & Wright, 1999). Group

variance on conscientiousness correlated negatively with group performance in one study (Barrick et al., 1998).

The present study investigated the following hypotheses:

H1: For conscientiousness: a) the group average score, b) group minimum score correlate positively with group performance.

H2: Within-group variance in conscientiousness scores correlates negatively with group performance.

Earlier research found group average agreeableness related to group performance (Barrick et al., 1998; Halfhill et al., 1999; Neuman et al., 1999). Group minimum agreeableness also correlated positively with group performance (Barrick et al., 1998; Neuman & Wright, 1999; Neuman et al., 1999) and team viability (Halfhill, 2000). While earlier research has not linked group variance on agreeableness with group performance, the same dynamic that applies to maximum group agreeableness applies to group variance on agreeableness: teams with variance have one or more relatively high-agreeableness members, who become prospective team relationship specialists. To the extent that teams with relationship or socio-emotional specialists do better at managing conflict, they may also perform better. Accordingly the following hypotheses were proposed:

H3: For agreeableness, a) the group average score and b) group minimum score correlate positively with group viability and group performance, and c) group variance on agreeableness correlates positively with group performance.

H4: The group maximum agreeableness score correlates positively with group viability, and correlates negatively with group performance.

Although Halfhill (2000) found only partial support for the relationship between groups high in agreeableness and conscientiousness scores and performance, they attributed limited sample size for the inability to detect differences. Post hoc comparisons did reveal, however, that groups high in both conscientiousness and agreeableness were more cohesive than groups low in both traits. Groups high in

agreeableness may maintain social maintenance while groups high in conscientiousness address the group's task functions (Halfhill, 2000). Effective teams may benefit from synergistic effects of the high composition of both personality traits.

H5: Groups with high average scores on both agreeableness and conscientiousness have higher performance than other groups.

Group Process Variables as Mediators of the Relationship of Team Personality Composition and Effectiveness

Two possible mediators of the team composition-effectiveness relationship include group conflict and group norms. The following sections present research related to these process variables.

Group conflict. Team composition may directly affect the nature and frequency of interaction within a team. Several studies indicate that teams with members who are alike in interests and abilities are at less risk for conflict than heterogeneous teams (Morgan & Bowers, 1995). Homogeneity of team composition has also been found to increase cooperation in teams required to complete complex physical tasks (Lodahl & Porter, 1961). In contrast, group composition heterogeneity has been associated with enhanced quality responses to team problem solving (Hoffman & Maier, 1961) as well as team receptivity of individual member contributions (Goldman, Dietz, & McGlynn, 1968).

Two types of conflict have been identified in the group performance literature: **task conflict** (concerning, for example, the scope or output of the task or the relative merits of various approaches to carrying it out) and **relationship conflict** (concerning, for example, members' personalities, personal agendas, or personal differences in values). This distinction has appeared in top management teams (Simons & Peterson, 2000), intersender and resource-related conflict in sewing teams (Bishop & Scott, 2000), relationship, process, and task conflict in household-goods-moving production and management teams (Jehn, 1997). Pinkley's (1990) study using multi-dimensional scaling

uncovered a relationship-versus-task dimension of conflict that conceptually appeals to the agreeableness-conscientiousness associations with social and task components of team effectiveness.

In a recent analysis of these conflict types in organizational groups, Jehn (1997) investigated conflict in six household-goods-moving work teams (two management teams and four production units). Her results suggested an association between conflict types and group performance with excessive relationship, process, and task conflicts relating to poor performance. An earlier study suggested that task-focused and relationship-focused conflict can differentially affect work group outcomes (Jehn, 1992).

Jehn's (1995) field survey of 79 work groups and 26 freight transportation management teams found task-focused conflict associated with critical evaluation of problems while relationship-focused conflict correlated inversely with members' intent to remain in the group (i.e., a key feature of group viability). Her study also pointed to a limit on the potential benefits of task conflict. At high levels of task conflict members may lose sight of team goals. Current literature offers little research or theory on the interplay between the two types of conflict (Jehn, 1997).

Hypotheses for the present study reflect prior research on task and relationship conflict in groups (Gladstein, 1984; Saavedra, Earley, and Van Dyne, 1993).

H6: Group task conflict correlates inversely with: a) Group average conscientiousness b) group minimum conscientiousness, and c) group task conflict correlates positively with group variance on conscientiousness.

H7: Group relationship conflict correlates inversely with a) Group average agreeableness, b) group minimum agreeableness, and c) group variance on agreeableness correlates positively with group relationship conflict.

H8: Teams with low relationship conflict and high task conflict have higher performance and higher viability than others.

H9: Group task and relationship conflict mediate the association between team personality composition and team effectiveness, specifically a) task conflict mediates the relationship of group average conscientiousness with group performance and group viability; and b) relationship conflict mediates the relationship of group average agreeableness and group performance and viability.

Group norms. Although rarely written down or even openly discussed, group norms are the informal rules that groups adopt to regulate member behaviors (Halfhill, 2000). New members gradually learn what behaviors are acceptable and necessary for effective team functioning (Hackman, 1976). Feldman (1984) reviewed the development and enforcement of group norms noting the distinction between social and task maintenance duties. He also proposed that norms are likely to be enforced when they facilitate group survival through a task maintenance function and assist with maintaining appropriate interpersonal relations within the group through a social maintenance focus. Task norms refer to norms that provide a group task maintenance function, and social norms reflect those norms that preserve the social maintenance of the group.

Team member behavior may be regulated by these group norms, but can individuals also self-select into certain organizations or teams because they are attracted to the particular culture created by those norms? Judge and Cable (1997) found some Big Five personality traits that positively associated with preferences concerning organizational culture. For instance, conscientiousness was positively correlated with organizational cultures that were detail and outcome oriented. Conscientiousness negatively correlated with innovative and team-oriented cultures. In contrast, agreeableness correlated positively with supportive and team-oriented cultures, and negatively correlated with cultures that were outcome oriented and aggressive.

Some evidence suggests that organizations possess a modal personality (Eigel & Kuhnert, 1996; Schneider, Smith, Taylor & Fleenor, 1998). George (1990) found relationships between the affective tone of a group and certain group behaviors. This

research suggests that people can be attracted to teams on the basis of individual-team personality fit. Further, people may seek teams that fit their personalities. Teams could employ formal and informal personnel strategies by recruiting and retaining compatible individuals and removing members who do not match the 'team personality' mold.

The present study proposed that personality composition is associated with group norms, which in turn relate to group effectiveness. The direction of these relationships is not clearly established (see Figure 1). Group norms may influence the personality composition of the group, or group effectiveness may have an impact on the norms adopted by the group (Halfhill, 2000), or, most likely, both.

Group minimum and maximum scores for the personality composition variables are particularly relevant regarding group norms (Halfhill, 2000). For agreeableness, the minimum group score may not necessarily be related to performance since a lone disagreeable member can be ignored without compromising the team's task maintenance focus. The maximum group agreeableness score may identify the presence of an interpersonally focused team member who is intent on maintaining the social maintenance requirements of the group.

For conscientiousness, the maximum group score may identify someone who fulfills the task maintenance function and is responsible for directing the team towards task accomplishment. The minimum group conscientiousness score does not fulfill the same function. To the extent that a team enforces a minimum level of conscientiousness, this score is indicative of a group norm (Halfhill, 2000). A group member who fails to accomplish tasks will likely be seen as someone who threatens the team's task function.

To summarize, current research and theory suggest a reciprocal relationship between team norms and members' behavior: members' behaviors can influence group norms, which in turn can influence members' behaviors. Research and theory consistently distinguish task and social norms, corresponding with group task and social maintenance functions. Group composition on the trait conscientiousness relates most directly to task

norms. The group minimum group conscientiousness score may be of particular importance in upholding the group's task function; whereas, the maximum group agreeableness score may be important for the social or group maintenance function (Halfhill, 2000). The present study proposed that task norms are adopted and enforced more readily by conscientious group members as compared to agreeable group members who may foster and reinforce social group norms. Groups capable of maintaining both task and social maintenance functions should have a performance advantage. The following hypotheses were proposed for the present study:

H10: Group task norms correlate positively with:

a) Group average conscientiousness, and b) group minimum conscientiousness.

H11: Group social norms positively correlate with:

a) Group average agreeableness, b) group minimum agreeableness, and c) group maximum agreeableness.

H12: Groups with both high task norms and high social norms are more effective (i.e., have higher performance and viability) than other groups.

H13: Group task and social norms mediate the relationship between team personality composition and team effectiveness, specifically: a) task norms mediate the relationship of group average conscientiousness and performance; b) social norms mediate the relationship of group average agreeableness and viability.

2. Methods

Research Design

The present research represented a field study of Specialized Weapons and Tactical (SWAT) teams. Team members and leaders completed anonymous questionnaires that assessed team demographic variables including gender, race, rank, position, specialization, SWAT experience and SWAT team tenure. These questionnaires measured agreeableness, conscientiousness and individual perceptions of group conflict and group norms. Group effectiveness measures included team leader ratings of team performance and team viability. External performance criteria (i.e., judges' ratings) were collected for all SWAT teams.

Participants

The participants in this study consisted of 203 law enforcement officers representing 34 SWAT teams from Massachusetts, Florida, South and North Carolina, including the teams' 34 leaders and 169 members. Participants attended a national SWAT team competition, the site of all data collection. This prestigious event typically attracts teams from all over the world; however, the September 11th terrorist tragedies precluded many teams from participating. In fact, many of the teams participated despite lack of agency support using team-generated funds to pay for the travel and competition expenses.

The teams reflected a gender composition representative of most SWAT teams in the United States (100% male). Officers averaged 5.43 yrs of SWAT experience with a range of 1 to 26 years and had worked on their respective teams for an average of 5.02 years. The majority of SWAT officers were Caucasian (86%) with 6% African American and 8% Hispanic officers.

Setting

Data collection occurred at a national SWAT team competition. In its 20th year, this annual event, called a roundup, represents a cooperative effort amongst several law

enforcement agencies and community colleges. During the 5-day roundup, the participating teams compete across five events simulating work relevant activities. These simulated interactive exercises take place in real-time sequence with a high degree of stress and realism. Each event takes place in different environments to best replicate actual work performance conditions. The 5 events are described in more detail in the next section.

Procedures

After obtaining approval from the University Human Subjects Committee and consent and cooperation of the SWAT competition organizers and SWAT team leaders, survey packets were distributed to team members and leaders.

All SWAT team leaders and members met with competition coordinators the evening prior to the first event. During that meeting, a brief description of the study and the surveys were distributed to team leaders. The team leaders were responsible for distributing and collecting team member surveys to be returned to the researcher. As part of a SWAT team research effort conducted by the NC Department of Justice, the teams were encouraged to contribute to the data collection efforts by the SWAT competition coordinator and the Director of the National Tactical Officers Association. The SWAT roundup is comprised of five team events, for which each team receives an overall performance score. As in real life situations, each team has discretion regarding assignment of members during the exercises.

The SWAT teams competed in the following events:

1. Sniper-initiated Hostage Rescue: This event requires each SWAT team to utilize a sniper element, as well as an assault element, in order to conduct a hostage rescue. Two 80-pound hostage dummies are located in the shoot house, and both have to be carried back to the starting line.
2. Tower Scramble: Each SWAT team utilizes two snipers who climb a tower while three assault team members position themselves downrange. The

assault team members complete shooting requirements and then join the snipers atop the tower. All members are required to rappel down the tower.

3. Officer Rescue: While in a simulated chemical environment, each SWAT team is required to traverse a pre-positioned line (7/16" diameter) with multiple weapons as they rescue downed officers. All team members wear appropriate biochemical protective gear during the exercise.
4. Pritcher Scramble: Under reduced lighting conditions, each SWAT team works together to maneuver through obstacles and arrive at shooting positions from which each team member engages a moving target.
5. Obstacle course: Affectionately termed the "O course", this event requires the team to overcome 15 physically challenging obstacles. Always scheduled as the final event, this exercise is designed to require maximum teamwork and fortitude. At the end of each day, the SWAT competition judges generated a computerized report of each team's performance. The competition organizers selected the judges from a pool of certified SWAT trainers across the United States. The team with the highest points overall will win the annual competition. Different actions can result in penalty points for a team, possibly dropping it out of the running on any particular event. Essentially, a competing SWAT team needs to have a wide-cross section of skills and know how to blend them together to run smoothly and efficiently as possible in order to win (Bronson, 2001).

Questionnaires. SWAT team members and leaders each completed 64-item questionnaires incorporating demographic items, measures of personality, task interdependence, group process, group performance, and group viability. The Appendix presents the entire questionnaire.

Judges' ratings of performance. SWAT competition judges rank ordered the teams for the competition and team ranks ranging from 246 (best) to 70 (poorest) are treated here as a measure of performance in the competition.

Measures

The 64-item team member and leader questionnaires incorporated questions with a 5-option Likert-type format. Choices included: 1-strongly disagree, 2-disagree, 3-neutral, 4-agree, 5-strongly agree. Table 1 shows the items grouped in terms of the key variables.

Personality: Conscientiousness and Agreeableness. Team member personality was assessed using an adapted version of the NEO-FFI short form intended to measure normal personality (Costa & McCrae, 1992). Items were tailored to reflect an action team environment by Halfhill (2000). Participants responded to statements reflecting their level of agreement. The conscientiousness scale contained 14 items, each with five choices: 1-strongly disagree, 2-disagree, 3-neutral, 4-agree, 5-strongly agree. The items represented two subscales identified by Halfhill (2000) as appropriate for military teams: orderliness and achievement. The orderliness subscale consisted of five items including “I prefer to do things according to a plan.” The achievement subscale consisted of nine items such as “I work hard to accomplish my goals.”

The agreeableness scale contained 14 items. Sample items included “I generally try to be thoughtful and considerate” and “I’m hard headed and tough minded in my attitudes (R)”. The response options included five choices, 1-strongly disagree, 2-disagree, 3-neutral, 4-agree, 5-strongly agree.

Table 1: Questionnaire Items Organized by Scale

Scales	Items
Agreeableness 14 items	I try to be courteous to everyone I meet at work I often get into arguments with my team members (R) Some people on the team think I am selfish and egotistical (R) I would rather cooperate with others than compete against them while at work I tend to be cynical and skeptical of my team members intentions (R) I believe that most people will take advantage of you if you let them (R) Most people at work like me I often get angry at the way people treat me on the team (R) As a team member, I am a cheerful, high-spirited person Some team members think of me as cold and calculating (R) I am not a cheerful optimist I'm hard headed and tough minded in my attitudes (R) I generally try to be thoughtful and considerate If I don't like people at work, I let them know it (R)
Conscientiousness 15 items	At work it is easy for me to turn plans into actions I consistently do more than what is expected of me I am not highly motivated to succeed (R) I have a clear set of goals and work toward them in an orderly fashion I work hard to accomplish my team's goals Sometimes I do just enough work to get by (R) I strive for excellence in everything I do on the team I sometimes put little time and effort into my work (R) Sometimes I get so focused on a task I ignore other parts of my work I keep my workspace neat and clean At work, I am not bothered by messy people My office or workspace is often a mess (R) I prefer to do things according to a plan I never seem to be able to get organized (R) At work, I often forget to put things back in their proper place (R)
Task Interdependence 7 items	Other people's work depends directly on my job My job depends on the work of many different people for its completion I provide other people with the help of advice they need to do their work Most of my job activities are affected by the work activities of other people I provide other people with information they need to do their work I provide support services, which other people need to do their work I depend on other people's work for information to do my work

Table 1: (continued)

Scales	Items
Team Performance 5 items	My team understands how to accomplish its tasks My team meets all objectives for work completed My team's work is always of the highest quality My team takes initiative in solving problems and decision-making My team is very good at planning how to accomplish its work objectives
Team Viability 3 items	My team should continue working together as a unit in the future My team is not capable of working together as a unit (R) As a work unit, my team shows signs of falling apart (R)
Task Conflict 4 items	My team members disagree about the content of strategic decisions There are disagreements about ideas in my SWAT team There are differences of professional opinion in my SWAT team Members of my SWAT team disagree regarding my agency's strategic decisions
Relationship Conflict 4 items	There is personal friction among members in my SWAT team Personality clashes are evident in my SWAT team There is tension among members in my SWAT team Grudges are evident among members of my SWAT team
Task Norms 7 items	Our team places a lot of emphasis on... • Doing our work as a team as opposed to individually • Continuously improving our performance at work • Taking risks when needed in order to get ahead at work • Avoiding any added responsibilities on our job (R) • Performing better than other teams in our agency • Performing efficiently when our job assignments are extremely difficult • Rules and regulations while together at work
Social Norms 5 items	Our team places a lot of emphasis on... • Having a good time while together at work • Doing our work individually as opposed to together (R) • Paying attention to other team members' feelings while at work • Expressing disagreements with others openly (R) • Talking about non work-related matters

(R) = reverse coding; rating scale consisted of SD (strongly disagree), D (disagree), N (neutral), A (agree) and SA (strongly agree)

Task Interdependence. This scale was included as a quantitative measurement of how well the teams met the definition of a team. This method has been accepted in the team literature as an effective technique for screening groups that should not be included in group level analyses (Barrick, et al., 1998). Seven items from Kiggundu's (1983) task interdependence scale were rated on the 5-point Likert-type scale 1-strongly disagree, 2-disagree, 3-neutral, 4-agree, 5-strongly agree. Sample scale items included "Other people's work depends directly on my job", and "I depend on other people's work for information I need to do my work". Coefficient alpha for the scale was .81.

Group task conflict and relationship conflict. Task and relationship conflict summative Likert-type scales were adapted from Jehn (1995) and each scale contained 4 items. Team members and leaders rated the four questions for each construct from 1-strongly disagree, 2-disagree, 3-neutral, 4-agree, 5-strongly agree, and the item responses were summed. Sample items for the task conflict scale included "Team members frequently disagree on strategic decisions". Sample items for the relationship conflict included "There are frequently personality clashes among team members". Coefficient alphas for these scales were .78 for task conflict and .87 for relationship conflict in a recent study (Simons & Peterson, 2000). In the present study, coefficient alphas for the task and relationship conflict scales were .84 and .90, respectively.

Group task and social norms. The items for the group norm scales were adapted from the Manifest Needs Questionnaire (Steers & Braunstein, 1976). The task norm scale was adapted from the "need for achievement" scale and consisted of six items. Items were adapted from the individual level to fit the group level, and a preface was added to place the items in a group norm context (Halfhill, 2000). The preface read, "Our team places a lot of emphasis on..." and items reflecting task norms included, "continuously improving our performance at work" and "performing efficiently when our job assignments are extremely difficult". Participants had five choices, 1-strongly

disagree, 2-disagree, 3-neutral, 4-agree, 5-strongly agree. The coefficient alpha for the task norm scale was .68.

The social norm scale was adapted from the “need for affiliation scale” of the Manifest Needs Questionnaire (Steers & Braunstein, 1976) and consisted of five items. Items were reworded from the individual level to fit the group level, and another preface was necessary to place the items in a group norm context (Halfhill, 2000). The preface read, “Our work team places a lot of emphasis on...” and examples of social norm items included, “paying attention to other team member’s feelings while at work”, and “talking about non-work related matters”. Participants had five choices, 1-strongly disagree, 2-disagree, 3-neutral, 4-agree, 5-strongly agree. The coefficient alpha for this scale was .59.

Member rating of team performance. The five-item group performance scale was adapted from Neuman (2000). Sample group performance items included “This team meets all objectives for work completed” and “This group is very good at planning how to accomplish its work objectives”. Participants had five choices, 1-strongly disagree, 2-disagree, 3-neutral, 4-agree, 5-strongly agree. The team performance scale coefficient alpha was .87.

Member rating of team viability. The three-item team viability scale was adapted from DeStephen and Hirokawa (1988) and Evans and Jarvis (1986). Sample items included “My team should continue working together as a unit in the future”. Participants had five choices, 1-strongly disagree, 2-disagree, 3-neutral, 4-agree, 5-strongly agree. The team viability scale coefficient alpha was .65.

Judges’ ratings of team performance. The judges generated team performance scores derived from their evaluations of the 34 teams across the 5 competition events. Each team received a score for each event and then an overall performance score was computed as a summation of the five separate event scores. In order to simulate the high stress levels experienced in real-world situations, the teams’ performance evaluations were based on a timeliness factor. That is, more effective teams were defined as those

teams who successfully performed each event in the most efficient manner. Accuracy was another factor in assessing performance since time-sensitive penalties were given to teams that failed to safely meet all of the objectives outlined within each event. Judges' team scores ranged from 70 to 246 with higher scores denoting better ranking at the SWAT competition.

Variables

Individual-level variables represented composites from questionnaires completed by 203 SWAT team participants (34 leaders and 169 team members):

- **Conscientiousness.** Individual scores came from the average of 15 items scored from 1 to 5 with 5 indicating higher orderliness or achievement orientation (with 6 items reverse scored).
- **Agreeableness.** Individual scores came from the average of 14 items scored from 1 to 5 with 5 indicating higher social maintenance orientation (with 8 items reverse scored).
- **Task interdependence.** Individual scores came from the average of 7 items scored from 1 to 5 with 5 indicating more task coordination within the team.
- **Task conflict.** Individual scores came from the average of 4 items scored from 1 to 5 with 5 indicating more task-focused conflict within the team.
- **Relationship conflict.** Individual scores came from the average of 4 items scored from 1 to 5 with 5 indicating more relationship-oriented conflict within the team.
- **Task Norms.** Individual scores came from the average of 7 items scored from 1 to 5 with 5 indicating stronger task-focused norms within the team (with 1 item reverse scored).
- **Social Norms.** Individual scores came from the average of 5 items scored from 1 to 5 with 5 indicating stronger social-focused norms within the team (with 2 items reverse scored).

- **Team Performance.** Individual ratings of team performance came from the average of 5 items scored from 1 to 5 with 5 indicating stronger performance.
- **Team Viability.** Individual scores came from the average of 3 items scored from 1 to 5 with 5 indicating stronger perceptions of continued teamwork (with 2 items reverse scored).

Team-level variables. Two screening criteria qualified teams for inclusion in analysis: (1) responses from at least 3 team members and (2) matched team leader ratings. The task interdependence scale was used to quantitatively evaluate how well the team met the definition of “group”. The mean for the task interdependence scale was 3.99 with a coefficient alpha of .81. The James, Demaree, and Wolf (1984) r_{wg} statistic was calculated to determine the level of agreement among team member’s perceptions of task interdependence. The mean r_{wg} score for the scale was .98 and none of the teams reported an r_{wg} below the established .70 cutoff. Intraclass correlations were both significant: ICC (1) was .43 and ICC (2) was .68, both significant. These estimates were within the expected range supporting the inclusion of all 34 SWAT teams.

The study incorporated 15 variables at the group level of analysis, including 4 indices for each of personality composition for each of the two traits conscientiousness and agreeableness (group average, minimum, maximum, and variance). Variables also included aggregated indices of two kinds of group norms (social and task), two types of conflict (relationship and task), and three measures of effectiveness (members' ratings of performance, judges' ratings of performance, and members' ratings of team viability,). Indices for teams reflected aggregation of data from 4 to 12 individual members. Variables were calculated for the 34 teams for whom data were available for the leader and at least 3 other members.

1. **Group average conscientiousness**— Computed as the mean of individual members' scores – including the team leader – based on 4 to 12 members per group. Group average scores ranged from 3.59 to 4.37.
2. **Group minimum conscientiousness**—The group level minimum conscientiousness score from 4 to 12 members per team (including the team leader) ranged from 2.75 to 4.2.
3. **Group conscientiousness variance**—The group conscientiousness variance score is a measure of dispersion among group members relative to the group mean. Variances ranged from 0 to .45 (and 0 was the modal value).
4. **Group average agreeableness**— Computed as the mean of individual members' scores – including the team leader – based on 4 to 12 members per group. Group average scores ranged from 3.03 to 4.14.
5. **Group minimum agreeableness** — The group minimum conscientiousness score from 4 to 12 members per team (including the team leader) ranged from 2.64 to 3.86.
6. **Group maximum agreeableness** — The group maximum conscientiousness score from 4 to 12 members per team (including the team leader) ranged from 3.21 to 4.57.
7. **Group agreeableness variance**—The group agreeableness variance was computed among group members relative to the group mean. Group variances ranged from 0 to .47.
8. **Task-conflict.** Computed as the mean of individual members' scores – including the team leader – based on 4 to 12 members per group. Group average scores ranged from 1.83 to 4.25.
9. **Relationship conflict.** Computed as the mean of individual members' scores – including the team leader – based on 4 to 12 members per group. Group average scores ranged from 1.54 to 3.45.

10. **Task norms.** Computed as the mean of individual members' scores – including the team leader – based on 4 to 12 members per group. Group average scores ranged from 3.7 to 4.4.
11. **Social norms.** Computed as the mean of individual members' scores – including the team leader – based on 4 to 12 members per group. Group average scores ranged from 2.4 to 3.8.
12. **Member-rated Team–Performance.** Computed as the mean of individual members' scores – including the team leader – based on 4 to 12 members per group. The team performance scale scores across groups ranged from 3.5 to 4.9 with an average of 4.2.
13. **Leader-rated Team—viability.** The leader rated team viability scores across teams ranged from 2.00 to 2.7 with an average of 2.4.
14. **Team performance—judges' ratings.** The SWAT team judges provided a quantitative measurement of team performance. A daily printout of team scores was provided to the team leaders during the competition. The final competition results consisted of the teams rank ordered by accuracy and efficiency with the highest performance scores indicating faster and more accurate performance during the events. Judges' ratings across teams ranged from 70 to 246 with an average of 161.2.

3. Results

Data Analysis

Individual Level. Analyses at the individual level used data from 34 SWAT team leaders and 169 SWAT team members, a total of 203 individuals. Individual level means, standard deviations, correlations, and internal consistency reliabilities appear in Table 2.

The table shows that all individual variables have acceptable reliability. Individual ratings of viability had a Coefficient Alpha of .59, which was unacceptable. Further analysis showed the measurement inconsistency occurred with team members and not team leaders. Viability ratings by team leaders had Coefficient Alpha of .84, so Table 1 includes Leader-Rated Viability. Individual ratings of Social Norms also had an unacceptable coefficient alpha of .59, suggesting a lack of internal consistency for that measure. The individual personality variables, agreeableness and conscientiousness, were not significantly correlated.

Individual personality related strongly to individual ratings of all team process and effectiveness variables. Individual Agreeableness correlated significantly and positively with ratings of team performance and viability, positively with group norms, and inversely with ratings of team task interdependence and both forms of conflict. In effect, those high on the trait Agreeableness demonstrated a strongly positive bias in their ratings of their teams' effectiveness. Similarly, individual conscientiousness correlated significantly and positively with effectiveness variables (performance, viability) and positively with ratings on task norms – but not social norms. Conscientiousness correlated positively with ratings of task interdependence, suggesting that conscientiousness predisposed individuals to see interdependencies that those high on agreeableness consistently overlooked.

Group Level. Analyses at the group level involved aggregated data from 34 teams. Team level means, standard deviations, and correlations appear in Table 3.

Table 2: Individual Means, Standard Deviations, Correlations, and Internal Consistency Reliabilities

Individual Variables	Correlation Coefficients, Means, and Standard Deviations Listed by Variable Number										
	1	2	3	4	5	6	7	8	9	10	11
1. SWAT tenure											
2. Team tenure	.90 ^a										
3. Agreeableness	.04	.07	(.80)								
4. Conscientiousness	.03	.07	.13	(.72)							
5.Task Interdependence	.16 ^b	.13	-.34 ^a	.29 ^a	(.81)						
6.Team Performance	-.04	.02	.41 ^a	.34 ^a	.05	(.87)					
7.Viability	.12	.18 ^b	.24 ^a	.42 ^a	.31 ^a	.58 ^a	(.65)				
8.Task Conflict	-.10	-.10	-.53 ^a	-.06	.40 ^a	-.46 ^a	-.15 ^b	(.84)			
9.Relationship Conflict	-.13	-.13	-.53 ^a	-.12	.24 ^a	-.52 ^a	-.39 ^a	.66 ^a	(.90)		
10.Task Norms	.18 ^b	.18 ^b	.34 ^a	.34 ^a	.23 ^a	.59 ^a	.51 ^a	-.27 ^a	-.46 ^a	(.68)	
11.Social Norms	.17 ^b	.15 ^b	.48 ^a	.08	-.17 ^b	.44 ^a	.16 ^b	-.61 ^a	-.53 ^a	.37 ^a	(.59)
12.Mean	5.43	5.02	3.75	3.98	3.94	4.20	4.62	2.81	2.35	4.12	3.33
13. Standard Deviation	3.97	3.80	0.44	0.32	0.61	0.55	0.56	0.93	0.89	0.43	0.57

Note. Coefficient alpha in parentheses in the diagonal. N = 203. ^a p < .01, ^b p < .05

Table 3: Team Level Means, Standard Deviations, and Correlations

Team Variables	Correlation Coefficients, Means, and Standard Deviations Listed by Variable									
	1	2	3	4	5	6	7	8	9	10
1. Average Conscientiousness	(.99)									
2. Average Agreeableness	-.20	(.99)								
3. Task Interdependence	-.70 ^a	.49 ^a	(.98)							
4. Member-Rated Performance	.60 ^a H _{3a}	.18 H _{1a}	-.23	(.97)						
5. Leader-Rated Viability	-.01 H _{3a}	-.10	-.21	-.26	(.96)					
6. Task Conflict	-.85 ^a	.25 H _{6a}	.78 ^a	-.61 ^a	.07	(.91)				
7. Relationship Conflict	-.81 ^a H _{7a}	.08	.59 ^a	-.70 ^a	.08	.81 ^a	(.89)			
8. Task Norms	.40 ^a	.16 H _{10a}	-.08	.65 ^a	-.37 ^b	-.35 ^b	-.53 ^a	(.99)		
9. Social Norms	.89 ^a H _{11a}	-.14	-.72 ^a	.58 ^a	-.04	-.86 ^a	-.80 ^a	.45 ^a	(.98)	
10. Judges' Ratings	-.02 H _{3a}	.10 H _{1a}	.06	.06 H _{1a}	-.23	.06	-.01	.03	.02	
Mean Team Score	3.69	3.98	3.99	4.17	.40	2.93	2.46	4.11	3.23	161.2
Standard Deviation	.31	.16	.39	.27	.17	.70	.60	.18	.46	48.8
Agreeableness: Team Minimum	.66 ^a	-.22	-.36 ^b	.49 ^a H _{3b}	-.05 H _{3b}	-.49 ^a	-.55 ^a H _{7b}	.50 ^a	.43 ^a H _{11b}	-.25 H _{3b}
Team Maximum	.92 ^a	-.12	-.69 ^a	.50 ^a H ₄	-.001 H ₄	-.85 ^a	-.78 ^a	.26	.90 ^a H _{11c}	.09 H ₄
Team Variance	.30 ^b	.08	-.32 ^b	.01 H _{3c}	-.03 H _{3c}	-.37 ^b	-.27	-.24	.44 ^a	.27
Conscientiousness Team Minimum	-.46 ^{aa}	.74 ^a	.60 ^a	.06 H _{1b}	.07	.50 ^a H _{6b}	.27	.04 H _{10b}	-.51 ^a	.09 H _{1b}
Team Maximum	.28 ^b	.64 ^a	.07	.33 ^b	-.22	-.20	-.25	.31 ^b	.34 ^b	.16
Team Variance	.46 ^a	-.28 ^b	-.33 ^b	.12 H ₂	-.35 ^b	-.49 ^a H _{6c}	-.27	.16	.49 ^a	-.10 H ₂

N = 34 teams; ^a p < .01, ^b < .05; Within-group agreement indices (r_{wg}) are in parentheses on the diagonal.

SWAT officers rated their group's social and task norms as well as group relationship and task conflict. The James, Demaree, and Wolf (1984) r_{wg} statistic was calculated for each group, as well as intra-class correlation coefficients for the aggregated measures. The average r_{wg} for the measures were: conscientiousness = .99; agreeableness = .99; group performance = .97; group viability = .96; task conflict = .91; relationship conflict = .89; task norms = .99; and social norms = .98. None of the groups reported an r_{wg} less than .70 with the exception of two groups for the relationship conflict scale. All intra-class correlation coefficients were significant as well. Variables were aggregated to the group level using the mean, minimum, maximum, or variance.

Reliabilities for the viability, social norm, and task norm scales were questionable. The viability scale alpha was .65, the social norm scale alpha was .59 and the task norm scale alpha was .68. Even after separating team member and leader responses, the social norms scale alphas failed to reach acceptable levels for both team members (.58) and team leaders (.69). The task norms scale alphas fared slightly better with team members at .67 and team leaders at .84. The team leaders' ratings of viability were used in the hypotheses testing since the leader viability scale had more acceptable internal consistency than the member rated viability scale.

Results of Hypotheses Testing

Hypothesis 1. This 2-part hypothesis proposed that group average and minimum conscientiousness would positively correlate with group performance. Neither of these relationships proved significant, so results did not support this hypothesis.

Hypothesis 2. The prediction was that group variance on conscientiousness would correlate negatively with group performance. Neither measure of team performance showed the predicted relationship, so results did not support predictions.

Hypothesis 3. This 3-part hypothesis proposed that average and minimum group agreeableness would correlate positively with group viability and group performance; while group variance on agreeableness would correlate positively with group performance. Consistent with the prediction, group average agreeableness and group minimum agreeableness correlated positively and significantly with member-rated team performance ($r = .60$, $r = .49$, both $p < .01$). Contrary to the hypothesis, neither group average agreeableness nor group minimum agreeableness correlated with judges' ratings of performance. Also contrary to predictions, leader-rated viability did not correlate with group average agreeableness or minimum agreeableness. Group variance on agreeableness did not correlate with either measure of performance.

Hypothesis 4. This hypothesis predicted that maximum group agreeableness would correlate positively with group viability, and negatively with group performance. Results partly contradicted this hypothesis. Maximum group agreeableness was unrelated to leader-rated viability, positively correlated with member-rated team performance ($r = .50$, $p < .01$), and unrelated to judges' ratings.

Hypothesis 5. This hypothesis proposed that groups with high average agreeableness and high average conscientiousness would perform better than others. Results for member-rated performance supported the prediction, but results for other measures did not. Teams were categorized into four groups for comparison, using the team means to split groups into high or low categories of the personality variables (see Figure 2). This procedure created high/high combination teams ($N = 11$), low/low combination teams ($N = 8$), high Agreeableness / low Conscientiousness combination teams ($N = 9$), and high Conscientiousness / low Agreeableness combination teams ($N = 6$). A one-way Analysis of Variance (ANOVA) showed significant differences among the four combinations on member-rated performance ($F = 7.6$, $p < .01$). *Post hoc* comparisons revealed that teams with high average agreeableness and conscientiousness did better than High Conscientiousness / Low Agreeableness and Low/Low groups ($p < .01$).

Relationship and Task Conflict

Team Combinations

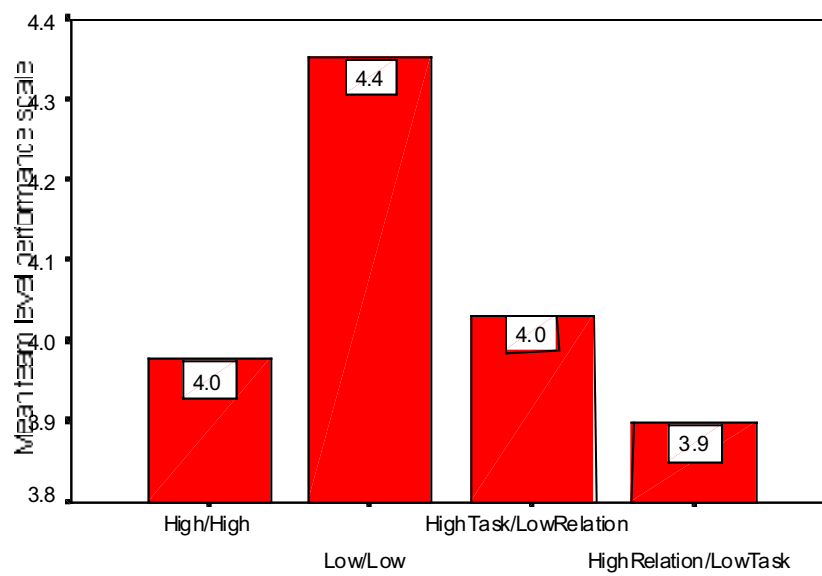


Figure 2. Agreeableness/Conscientiousness Team Combinations and Performance

Hypothesis 6. This three-part hypotheses predicted that group average conscientiousness and group minimum conscientiousness would correlate inversely with group task conflict while group variance in conscientiousness would correlate positively with group task conflict. Results contradicted predictions. Group minimum conscientiousness correlated *positively* with group task conflict ($r = .50$, $p < .01$). Group variance in conscientiousness correlated inversely with group task conflict ($r = -.49$). Apparently teams homogeneous and high on conscientiousness reported greatest task conflict.

Hypothesis 7. This 3-part hypothesis predicted that group average agreeableness and minimum agreeableness would correlate inversely with group relationship-conflict while variance on group agreeableness would correlate positively with relationship-conflict. The first two parts were supported, but not the third. Group average ($r = -.81$) and minimum agreeableness ($r = -.55$) correlated inversely with group relationship conflict (both $p < .01$). Group variance on agreeableness did not correlate this form of conflict.

Hypothesis 8. This hypothesis posited that teams with low relationship- and high task-conflict would be more effective than other groups. Groups differed on member-rated team performance, but not on viability or judges' ratings.

Teams were categorized into four groups for comparison using the team mean to split groups into high or low categories of the conflict variables (see Figure 3). This procedure created high/high combination teams ($N = 11$), low/low personality combination teams ($N = 17$), high Task / low Relationship conflict combination teams ($N = 5$) and high Relationship / low Task conflict combinations ($N = 1$).

A one-way Analysis of variance (ANOVA) showed significant differences in member-rated performance. While *post hoc* analyses could not be performed due to the small number of groups in the high relationship / low task-conflict category, the results clearly did not support the prediction, as groups low on both types of conflict had highest member-rated performance.

Relationship and Task Conflict

Team Combinations

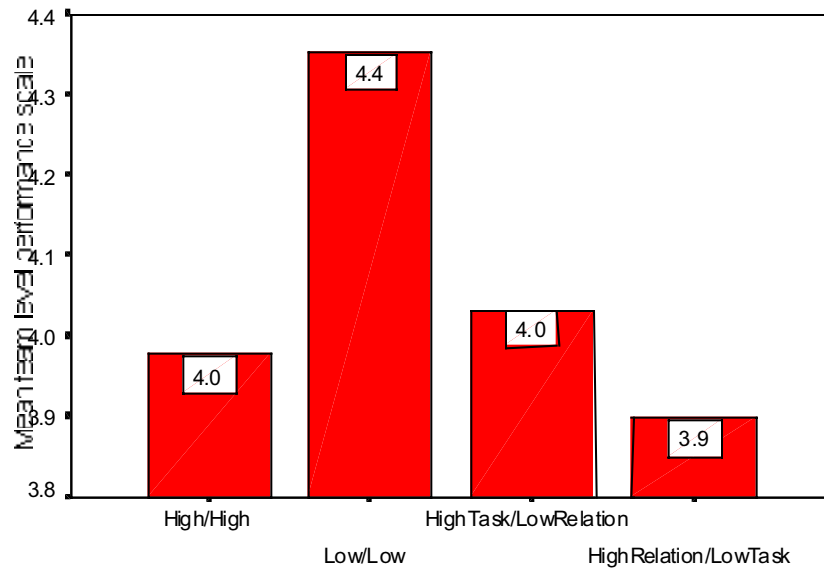


Figure 3: Relationship/Task Conflict Team Combinations and Performance

Hypothesis 9. This hypothesis predicted that group task and relationship conflict would mediate the relationship between group average team personality composition and team effectiveness. This hypothesis was supported for the agreeableness—performance relationship, but not the conscientiousness—viability relationship. Since average team conscientiousness did not significantly correlate with task or relationship conflict, a test of mediation involving conscientiousness was not conducted.

Baron and Kenny's (1986) procedure was used to examine task and relationship conflict as potential mediators of the significant relationship between agreeableness and performance. Before testing task conflict as a mediator, the agreeableness-task conflict and task conflict- performance relationships were examined. Correlations indicated that agreeableness strongly associated with task conflict ($r = -.85, p < .01$) and performance ($r = .60, p < .01$). Using Baron and Kenny's (1986) test for mediation, the conditions of the following three regression equations were upheld: (1) regression of the mediator on the independent variable, (2) regression of the dependent variable on the independent variable, and (3) regression of the dependent variable on both the independent variable and the mediator. When task conflict was added to agreeableness, which was significant when used alone to predict performance ($t = 4.18, p < .000$), agreeableness was no longer significant ($t = 1.05, p < .30$). This is evidence that task conflict may be serving a mediating role between agreeableness and member-rated performance (Howell, 2002).

Hypothesis 10. This 2-part hypothesis proposed that group task norms would correlate positively with group average and minimum conscientiousness. Results did not support predictions, possibly because of the relatively low internal consistency (reliability) of the measure of task norms.2002).

Hypothesis 11. The prediction was that group social norms would correlate positively with group average, minimum, and maximum agreeableness. The weak reliability of the measure of social norms precluded an adequate test of the prediction.

Hypothesis 12. This hypothesis proposed that groups with high task and high social norms would be more effective than other groups. The low reliability of the measure of social norms also precluded an adequate test of the prediction.

Hypothesis 13. This hypothesis proposed that group task and social norms would mediate the relationship between team average personality composition and team effectiveness. Given the weak social norm alpha and the fact that conscientiousness did not correlate significantly with social or task norms, the mediation testing was conducted for the agreeableness—task norms—performance relationship only.

Before testing task norms as a potential mediator, the agreeableness -performance and task norm-performance relationships were examined. Group average agreeableness associated strongly with task norms ($r = .40, p < .01$) and member-rated performance ($r = .60, p < .01$). Using Baron and Kenny's (1986) test for mediation, the conditions of the following three regression equations were upheld: (1) regression of the mediator on the independent variable, (2) regression of the dependent variable on the independent variable, and (3) regression of the dependent variable on both the independent variable and the mediator. Although the relationship between agreeableness and performance was less significant with task norms added, the drop in significance was not substantial ($p < .000$ vs. $p < .005$). When the direct path remains significant, as in this case, one way to test for a mediating relationship is to examine whether the complete mediating path from independent variable to mediator to dependent variable is significant. Using Sobel (1982) and Howell (2002) as guidelines, the agreeableness—task norm—performance chain, was examined. Results failed to support task norms as a mediator for the agreeableness—performance relationship ($t = .032, NS$). Table 4 summarizes all results.

Table 4. Summary of Support for Hypotheses

H	Predicted Relationships	Statistical Findings	Support?
1 a)	Pos. Correlation Group Avg Conscientiousness - Performance	$R_p = .18, R_j = .10$	No
1 b)	Pos. Correlation Group Conscientiousness Minimum – Performance	$R_p = .06, R_j = .09$	No
2	Neg. Correlation Variance in group conscientiousness – Performance	$R_p = .12, R_j = -.10$	No
3 a)	Pos. Correlation Agreeableness average- Viability, Performance	$R_v = .05, R_j = -.02$ $R_p = .60, p < .01$	No YES
3 b)	Pos. Correlation Agreeableness minimum- Viability, Performance	$R_v = .28, R_j = -.25$ $R_p = .49, p < .01$	YES/No
3 c)	Pos. Correlation Agreeableness variance-Performance	$R_p = .02$ $R_j = .22$	No No
4	Pos. Correlation maximum group Agreeableness - Viability, neg. with Performance	$R_v = -.11, R_p = .50$ $R_j = .09$	No No
5	High/High Agreeableness and Conscientiousness teams most effective	See Figure 2	YES
6 a)	Neg. Correlation average Conscientiousness -Task Conflict	$R = .25$	No
6 b)	Neg. Correlation minimum Conscientiousness - Task Conflict	$R = .50 \quad p < .01$	No
6 c)	Pos. Correlation Conscientiousness variance - Task Conflict	$R = -.21$	No
7 a)	Neg. Correlation average Agreeableness - Relationship Conflict	$R = -.81 \quad p < .01$	YES
7 b)	Neg. Correlation between minimum Agreeableness - Relationship Conflict	$R = -.55 \quad p < .01$	YES
7 c)	Pos. Correlation Agreeableness variance - Relationship Conflict	$R = -.10$	No
8	Low Relationship- High Task Conflict teams have higher viability, performance	See Figures 3	No
9	Task - Relationship Conflict mediate the Personality -Team Effectiveness relationship	See page 36	YES
10 a)*	Pos. correlation between average Conscientiousness - Task Norms	$R = .16$	No
10 b)*	Pos. correlation between minimum Conscientiousness - Task Norms	$R = .04$	No
11 a)*	Pos. correlation between average Agreeableness - Social Norms	$R = .89 \quad p < .01$	No
11 b)*	Pos. correlation between minimum Agreeableness - Social Norms	$R = .43 \quad p < .01$	No
11 c)*	Pos. correlation between maximum Agreeableness - Social Norms	$R = .90 \quad p < .01$	No
12*	High/high Task and Social Norms teams most effective	(not tested)	No
13*	Task and Social Norms mediate the Personality - Team Effectiveness relationship	See page 39	No

R_p = correlation with member-rated performance, R_j = correlation with judges' ratings, R_v = correlation with viability, *not tested

4. Discussion

In brief, results provided some support for 4 of thirteen hypotheses. Just one of the predicted relationships involving judges' ratings of performance proved significant, as did only a few of those involving member-rated performance. Among the possible reasons for the dearth of support for the predictions is the relatively small number of teams (many missed the competition because of the events of September 11th).

Significant findings that supported predictions were: a)) Group average, minimum, and maximum agreeableness correlated positively with member-rated team performance. b) Group average and minimum agreeableness correlated inversely with relationship conflict, which appeared to mediate the relationship between average agreeableness and member-rated performance. c) Groups high on both average conscientiousness and average agreeableness had higher member-rated performance than other groups.

Results also included some significant relationships that contradicted predictions. Specifically, group minimum conscientiousness correlated *positively* with group task conflict, and group variance in conscientiousness correlated *inversely* with group task conflict, suggesting greatest task-focused conflict in teams homogeneous and high on conscientiousness.

Group Conscientiousness

H1 (a,b): Group conscientiousness average and minimum will positively correlate with group performance.

The lack of support for the conscientiousness-performance relationship in this study departs from the research findings using other types of teams. Halfhill (2000) found a positive correlation between conscientiousness mean, minimum and group aggregate ratings of individual performance in military teams. Barrick et al., (1998) and Neuman et al (1999) found positive correlations with mean conscientiousness and performance measures in production and retail teams, respectively.

Group average conscientiousness probably failed to correlate with other variables in the present study because of restriction of range. Average conscientiousness was 3.98 on a 5-point scale, and the lowest group average was 3.59. Variance on group average conscientiousness for the study, 0.16, was only slightly more than half the variance on group average agreeableness (0.31). These SWAT participants, as a population, had high levels of conscientiousness, perhaps reflecting self-selection into the career and cultural selection once in the career. Uniformly high conscientiousness and the small N for the present study made findings involving group average conscientiousness very unlikely.

The significant positive relationship between maximum group conscientiousness and member-rated group performance ($r = .33$) relates to earlier findings. Previous studies have commented that the maximum and minimum scores may be related to group norms (Halfhill, 2000), and the significant positive relationship between the maximum group conscientiousness score and social norms may partially support that theory ($r = .34$). The positive correlation between the maximum group conscientiousness score and task norms was also significant ($r = .31$). The significant negative relationship between the minimum conscientiousness and social norms may indicate that minimal levels of conscientiousness are associated with less optimal team social norms ($r = -.51$). Perhaps a strong enough team norm can compensate for minimally conscientious team members.

H2: Within-group variance in conscientiousness scores will correlate negatively with group performance.

None of the predicted conscientiousness scores correlated with performance. However, exploratory analyses discovered that the group's maximum conscientiousness score correlated significantly with member-rated team performance ($r = .33$). The maximum conscientiousness score might reflect the group's degree of task specialization (Halfhill, et al, 2000). Possibly in the groups with highest conscientiousness scorers these members took the role of task specialist, someone who kept the group task-oriented and

mission-focused, organized other task-specialized roles, held the group's attention on procedures, time-lines, rules, and task norms of the SWAT team. Consistent with this idea, group maximum conscientiousness did correlate with task norms ($r = .31$).

Group Agreeableness

H3: The group agreeableness average and minimum scores will correlate positively with group performance and viability; while, group variance in agreeableness will correlate positively with group performance.

In support of the prediction, significant positive relationships were found between group average and minimum agreeableness and member-rated group performance ($r = .60$ and $.49$). These results suggested that teams with members high on the trait agreeableness tended to rate their performance relatively high.

H4: The maximum group agreeableness score will positively correlate with leader viability, but will negatively correlate with group performance in these action teams.

In direct contrast to the hypothesized relationships, the maximum group agreeableness score positively correlated with group performance ($r = .50$). One possible reason is that groups with a high scorer on agreeableness had socio-emotional specialists. The negative relationship between maximum group agreeableness and viability and the positive relationship between maximum agreeableness with performance and judges' ratings present interesting areas of future research. Perhaps an overemphasis on the straightforward aspect of agreeableness can break down a team's willingness to remain together; whereas, the same forthright team characteristic may foster opposing view points which enhance the quality of the team's overall decision-making.

H5: Groups high in agreeableness and conscientiousness perform better than other types of groups.

This hypothesis was partially supported for team performance, but not for viability and judges' ratings. Teams scoring uniformly high on these personality variables differed significantly in performance scores from teams with uniformly low composition. A significant difference was not found between the uniformly high composition groups and the mixed combination groups. Results suggest that performance scores were optimal for the high/high combination groups, which supports recent research by Witt, Barrick, Burke, and Mount (2002) on the interactive effects of conscientiousness and agreeableness.

Witt, et al., (2002) examined the interactive effects of conscientiousness and agreeableness on job performance. They found that highly conscientious employees who lack interpersonal skills might be ineffective in jobs requiring cooperation for task completion. Although this study focused at the individual level, an intuitive leap suggests that a team composition of high conscientiousness and low agreeableness employees responsible for accomplishing tasks requiring intra-team cooperation may also perform less effectively than a high conscientiousness-high agreeableness composition of team members. The results of the present study support this assertion.

Task and Relationship Conflict

H6: Group average and minimum scores for conscientiousness will negatively correlate with group task conflict; while group variance on conscientiousness will positively correlate with task conflict.

This hypothesis was not supported. Contradictory to the hypothesis, a significant positive relationship was found between minimum conscientiousness and task conflict ($r = .50, p < .01$).

Similarly contradictory findings occurred with conscientiousness variance and task conflict, showing a significant negative correlation ($r = -.49, p < .01$). These results suggest that a team's variability in conscientiousness across members may be associated with less task conflict experienced within the team. However, a distinctively low level of

conscientiousness (conscientiousness minimum) may spark task conflict as if other team members suspect social loafing and resent its presence.

Another factor important to the conflict-conscientiousness relationship may be measurement of conflict. Pinkley (1990) used multidimensional scaling techniques to identify cognitive interpretations of conflict from 31 disputants and 9 mediators of community-based settlement centers. Three dimensions of conflict framing resulted from that study to include relationship vs. task; emotional vs. intellectual; and compromise vs. win perspectives.

Gelfand, Nishii, Holcombe, Dyer, Ohbuchi, and Fukuno (2001) also examined cognitive representations of conflict by incorporating cultural theory. Using student generated conflict episodes and multidimensional scaling techniques, they found that Japanese construed conflict more through a compromise frame and that Americans focused more on the win aspect. Although there are no empirical studies of conflict framing involving SWAT officers directly, the win frame's "zero sum" perspective closely follows the law enforcement philosophy. Specifically, the win perspective of conflict framing places the blame on one party and focuses on the need for one party to concede (Pinkley, 1990). In general, SWAT teams are only called to resolve situations when the actions of certain parties are viewed as blameworthy.

Another finding worth mentioning from Gelfand et al. (2001) is that they failed to replicate the relationship versus task dimension of conflict in their study. Their study adds to the growing evidence that perceptions of relationship and task aspects of conflict may be more complex than originally conceived (Gelfand et al., 2001; Jehn, 1997; Simons & Peterson, 2000). Conscientiousness may have a stronger relationship with certain conflict framing such as the goal orientation found in the compromise vs. wins perspective rather than the task vs. relationship framing.

In addition to conflict framing as a potential factor influencing the conscientiousness-task conflict relationship, there may be dimensions of conflict that

moderate the relationship. Research suggests that there may be four distinct dimensions of conflict (Jehn, 1997). These dimensions include negative emotionality, acceptability norms, resolution potential, and importance. Another finding of her longitudinal study is a third type of conflict: process conflict. Process conflict adds to the interpersonal focus of relationship conflict and the goal orientation focus of task conflict by focusing on how tasks are delegated and accomplished. According to her qualitative longitudinal study, Jehn (1997) found that the optimal team profile for groups includes moderate task conflict, no relationship conflict, little or no process conflict with norms that conflict is acceptable, perceptions that conflict is resolvable, and with little emotionality.

A more recent study on conflict includes another aspect potentially influencing the conscientiousness-task conflict relationship. Simons and Peterson (2000) examined the interrelationship between task and relationship conflict with 70 top management teams from United States Hotel and Motel Association members. They found that task conflict is often misattributed as personal in nature leading to relationship conflict, and that groups with low levels of intragroup trust displayed stronger association between task-relationship conflict than groups with high levels of intragroup trust. Members' opposing task viewpoints may be perceived by other group members as personal attacks rather than the confrontation of task accomplishment deficiencies. In essence, potentially beneficial task conflict may reduce to dysfunctional relationship conflict based on the group's level of intragroup trust. Perhaps trust or lack of trust can also minimize the strength of association between conscientiousness and task conflict. Future research should attempt to incorporate the cognitive interpretations of conflict as well as its moderators.

H7: Group average and minimum agreeableness scores will correlate inversely with group relationship conflict; while, within group variance on agreeableness will correlate positively with relationship conflict.

Unlike the conscientiousness-task conflict relationship, the agreeableness-relationship conflict association received stronger support. Significant negative correlations were found between average and minimum agreeableness scores with group relationship conflict ($r = -.81$, $r = -.55$, $p < .01$, respectively). Within group variance on agreeableness correlated negatively with relationship conflict ($r = -.27$, $p > .05$), contradicting the hypothesized relationship.

Although not included in the hypotheses examined in this study, a relationship was found between the maximum agreeableness score and relationship conflict ($r = -.79$, $p < .01$). After conducting two multi-method laboratory studies, Graziano, Jensen-Campbell, and Hair (1996) found that agreeable people may be more motivated to maintain positive relations with other people, and may “generate positive perceptions and attributions to otherwise provocative behavior”(p.832). These positive perceptions and attributions may then facilitate more constructive conflict tactics and less negative affect during confrontations. Essentially, the high agreeableness individual may be more receptive to constructive criticism as well as more willing to perceive criticism as constructive and positive.

Certainly the stressful tasks and unique customers comprising the SWAT officers work environment might naturally foster a negative perception attribution in which the officer constantly feels attacked or threatened. However, the high agreeableness officer may have a better ability to distinguish between the destructive and constructive conflict tactics. This agreeableness-relationship conflict association warrants examination in future studies. Indeed, the role of maximum agreeableness in general should receive attention from future SWAT team research.

H8: Teams that have low relationship and high task conflict are more effective than other groups.

Results did not support the prediction based on the idea that task conflict aids performance. Instead, groups with low task conflict and low relationship conflict had highest member-rated performance.

The present findings may reflect the distinction between quality and quantity of group performance. Saavedra, Early, and Van Dyne (1993) conducted a laboratory experiment using 118 undergraduate management students and found that intragroup conflict mediated the effects of complex interdependence (i.e., task, goal, feedback) on group performance quantity and quality. In the present study, the self-report measure of performance may be more closely associated with a quality assessment; whereas, the standardized system used by the SWAT competition judges' may more closely reflect a quantity measurement of performance (i.e., accuracy of shooting; elapsed time for event). The distinction between quality and quantity of performance may be necessary to partial out any unique relationships between conflict type combinations on teams and team effectiveness.

H9: Group task and relationship conflict will mediate the association between average team personality and team effectiveness.

Following the mediation testing procedure outlined in Baron and Kenny (1986), support for task and relationship conflict as mediators of the agreeableness—performance relationship was found. When task conflict was added to agreeableness, which was significant when used alone to predict performance ($t = 4.18, p < .000$), agreeableness was no longer significant ($t = 1.05, p < .30$). This is evidence that task conflict may be serving a mediating role between agreeableness and performance.

When relationship conflict was added to agreeableness, which was significant when used alone to predict performance ($t = 4.18, p < .000$), agreeableness was no longer significant ($t = .332, p < .74$). These results suggest that the association between agreeableness and team performance may be mediated by relationship conflict (Howell,

2002). A team's personality composition may influence its effectiveness through levels of relationship and task conflict experienced within the team.

The interdependence aspect of Saavedra et al.'s (1993) study may also play a factor considering that they found the strength of task/relationship conflict mediation may be influenced by the team's level of complex interdependency. In other words, the combination of task, feedback, and goal combinations may influence team performance through relationship and task conflict. More research using special response teams separating performance quality and quantity as well as identifying the role of task type in the conflict-performance relationship is needed.

Task and Social Norms

H10: Group task norms will positively correlate with group average and minimum conscientiousness scores.

This hypothesis was not supported. It is important to mention that the marginally acceptable alpha for the task norms scale (.68) may be undermining the test of this hypothesis.

Currently, there is no known empirical investigation examining the possible association between hierarchical team structures as a substitute for conscientiousness; however, the idea is intriguing. Perhaps the highly specialized, hierarchically designed rank structure of paramilitary SWAT teams actually obviates the influence of conscientiousness—task norms relationship. Extensive standard operating procedures found within the lengthy accreditation manuals and the distributed expertise within these teams may combine to create task norms bypassing the incremental influence of conscientiousness. The significant positive correlation between conscientiousness maximum ($r = .31$, $p < .05$) suggests that these teams may experience a ceiling effect regarding conscientiousness only.

H11: Group social norms will positively correlate with group average, minimum, and maximum agreeableness scores.

The unacceptably weak coefficient alpha for the social norms scale prohibited any meaningful testing of this hypothesis. Future research should focus on strengthening the measurement of team social norms.

H12: Groups that have high task and high social norms will be more effective than other groups.

This hypothesis could not be meaningfully tested due to the low coefficient alpha for the social norms scale.

The high social and task norms combination and team performance may be deceptively ideal. Janis (1971) discussed the detrimental aspect of norms within teams that can negatively impact the quality of decision-making. This ‘groupthink’ process may be related to a group’s strong social norms allowing the group to disregard critical information to protect an apparent consensus. Sundstrom, De Meuse, and Futrell (1990) identify task forces such as SWAT teams as groups that may be inherently at risk of social norms, which facilitate this concurrence-seeking tendency. Additional research involving task forces such as SWAT teams needs to incorporate not only the type of norms, but also establish the optimal combination of norm type and intensity in relation to effective performance.

H13: Group task and social norms will mediate the relationship between team personality composition and team effectiveness.

This hypothesis was not supported. Baron and Kenny (1986), Howell (2002) and Sobel (1982) were used as guidelines for testing this hypothesis. Results of the mediation analyses did not support task norms as a mediator of the agreeableness—performance relationship.

Using the task/relationship conflict findings found by Jehn (1997) and Simons and Peterson (2000) as guidelines, these two types of norms created and sustained by group behaviors might not be mutually exclusive. Similar to the manner in which task conflict can be misattributed as personal in nature consequently fueling relationship conflict, perhaps the strength of task norms can impact the very behaviors that may foster or prohibit social norm development within a group. Future investigations of the mediating effects of task and social norms on team effectiveness may benefit from the inclusion of conflict framing, task type, and the interplay between the norm types.

Contributions of the Present Study

Personality. Several findings of this study fail to support current research regarding relationships between team effectiveness criteria and personality. Contradicting Barrick et al (1998), this study failed to find a significant positive correlation between group average conscientiousness and team performance. Group average conscientiousness was positively associated with team viability and average agreeableness significantly correlated with team performance, but not viability.

Judges' Ratings. Although there was no support for the hypothesized personality-team effectiveness associations with this criterion, a surprising relationship was found between judges' ratings and leader viability. Interestingly, judges' ratings of team performance and team leader ratings of team viability approached a significant negative association ($r = -.25, p > .05$). Perhaps when team leaders perceive members unwilling to continue working with the team, it may actually reflect positive disagreement. Another possible explanation may be that team leaders have enough distance from team members to be unaware of shifting climates within the team itself.

SWAT Leader and Members. Results from this study suggest that team leaders and team members may be conceptualizing some of the team effectiveness constructs differently. Team leader viability correlated negatively with member viability at a significant level ($r = -.43, p < .01$). This negative association may reflect a different

interpretation of willingness to continue team membership. As mentioned previously, team leaders and team members may view team orientations from opposing perspectives. These varying perspectives may be a byproduct of the different rank structure and roles found within hierarchical work groups such as law enforcement special response teams.

Research conducted by Hollenbeck and his colleagues (1995) examined factors related to hierarchical decision-making teams and found staff validity and informity relevant to the decision-making process. Their results suggest that hierarchical group decision-making performance may be influenced by team leaders' abilities to assess the accuracy of team member information as well as their access to relevant information. Future research should examine the conceptualization of viability and other group variables based on hierarchical team structures such as those found in military and law enforcement teams.

Leader performance significantly correlated with member performance ($r = .29$, $p < .05$). A significant negative correlation was found between leader performance and leader viability ($r = -.33$, $p < .05$) while a significant positive correlation was found between member performance and member viability ($r = .54$, $p < .01$). The negative correlation between leader viability and judges' ratings approached significance ($r = -.25$, $p < .05$). These results suggest that leaders may perceive their team's performance effectiveness in a similar manner to team members, but may not share the same view of the team's willingness to continue working together. As commented by a team researcher from the University of Northern Texas, this may reflect the team members' 'bright eyed and bushy tailed' view of the team in contrast with the more tenured team leader's realism (per telephone conversation with Dr. Terry Halfhill, University of Northern Texas, November 18, 2002).

Limitations of the Present Study

Survey methodology with self-report measures opens this research design to method bias and social desirability concerns (Cook & Campbell, 1979). Although

anonymous survey methodology was used, the concern for social desirability remains. Law enforcement personnel, by nature of their profession, are described as inherently cautious (Snow, 1996; Muir, 1977). Intense public scrutiny magnified by the media may facilitate skepticism of outsiders such as researchers.

A separate criterion measure, judges' ratings, was included in this study in an attempt to minimize method bias; however, it failed to correlate significantly with any of the self-reported predictors or criteria.

The unacceptably low coefficient alpha for the norms scale as well as the marginally acceptable alphas for the member rated team viability and task norms scales limits the hypothesis testing strength of this study. The lack of congruence between team leaders and members regarding these scales suggests that the leaders and members may be conceptualizing the constructs differently.

Another common drawback for field experimentation is low sample size. Ideally, the goal for this study was to have at least 40 teams, but the September 11, 2001 terrorist actions precluded the involvement of many of the special response teams. The SWAT competition began only 2 months after those tragedies occurred and many of the law enforcement agencies elected not to send their tactical units away to the roundup.

Areas of Future Research

Many of the findings of this study spark the need for future research examining factors related to SWAT team effectiveness. Ideas for future research are organized in the following sections.

Personality Composition. Although the use of both conscientiousness and agreeableness personality variables in this study is grounded by empirical support, future research with SWAT teams should incorporate additional personality variables such as extraversion and neuroticism. Barrick, Stewart, and Piotrowski (2002) conducted a study with 164 telemarketing sales representatives at a large financial services company and found that the conscientiousness—performance relationship was associated with

accomplishment striving through status striving. In other words, the conscientious personality was motivated to perform through his or her need to exert effort to produce at a higher level than others. This competitive aspect is also found within SWAT team and other law enforcement environments (Muir, 1977; Snow, 1996).

Barrick et al. (2002) found that the major portion of the relationship between extraversion and performance was also through competitive status striving which may provide additional insight regarding the personality-performance relationship within a SWAT team. Although their study found that agreeableness, emotional stability, and openness to experience were not strongly related to sales performance, this might be a result of the nature of the sample examined. The typical sales position at a financial firm does not have strong interdependence and team orientation; rather, these positions are designed to perform in direct competition with other associates to enhance their own productivity levels.

Two recent meta-analytic studies have found support for the inclusion of extraversion, conscientiousness and neuroticism in personality-performance research. Judge and Ilies (2002) conducted a meta-analysis of the relationship between the five-factor model of personality and three central theories of performance motivation (goal-setting, expectancy, and self-efficacy). Their results indicated that conscientiousness and neuroticism were the strongest and most consistent correlates of performance motivation across the three theoretical motivational perspectives. The validity of neuroticism, conscientiousness and extraversion generalized across the 65 studies. Neuroticism proved to be a stronger correlate of performance motivation than conscientiousness; whereas, conscientiousness demonstrated a stronger relationship with job performance. Judge and Ilies suggest that neuroticism primarily influences performance through motivation, but decisive and orderly conscientious individuals may have the competitive edge within the workplace.

The second meta-analysis by Judge, Heller, and Mount (2002) using 134 independent samples found relationships amongst extraversion, conscientiousness, neuroticism and job satisfaction. Their study also presents strong argument for the use of more specific, narrowly defined traits than the Big Five when researching job satisfaction. Specifically, they identify core self-evaluation concepts of locus of control, self-esteem, (low) neuroticism and self-efficacy. These core self-evaluation concepts may provide additional information regarding the personality—performance relationship within the highly interdependent, yet competitive, SWAT team environment.

Although the aforementioned studies (Barrick et al., 2002; Judge, et al., 2002) failed to find strong support for the emotional stability—performance relationship, they did not specifically examine this personality trait within a team setting. Hollenbeck, Moon, Ellis, West, Ilgen, Sheppard, Porter and Wagner (2002) found that emotional stability becomes a critical factor among team members when a ‘divisional structure is out of alignment with its environment’ (p.599). Using structural contingency theory as a conceptual framework, they examined 80 teams comprised of 320 college students and found that high levels of emotional stability offset the negative effects of being in a ‘poor fit’ situation. This ‘poor fit’ situation reflects the unstable and unpredictable environments constantly faced by SWAT teams, and the level of emotional stability found across team members may play a critical role in mission accomplishments. Future research regarding the SWAT team personality—performance relationship may indeed benefit from the inclusion of emotional stability, neuroticism, extraversion, and self-evaluation concepts.

Conflict Framing. The conflict framing research findings of Pinkley (1990) and Gelfand, Nishii, Holcombe, Dyer, Ohbuchi and Fukuno (2001) should be incorporated into future SWAT team effectiveness studies. The cultural aspects of conflict framing discussed in Gelfand et al. (2001) suggest that disputants’ cognitive representations are influenced by their self-concepts derived from their dominant surrounding culture. The

law enforcement culture, in general, is pervasively individualistic with a contrasting group or collectivistic orientation within special response teams (Snow, 1996). In fact, a noted challenge found for SWAT team leaders is the ability to facilitate law enforcement officers' adaptation to team orientation of SWAT after years of the individualistic orientation of patrol or vice-narcotics.

Interaction between Relationship and Task Conflict. The interrelationship between task and relationship conflict should also be included in future research of specialized response teams. As mentioned previously, recent studies suggest a possible interaction between these two conflict types (Jehn, 1997; Simons & Peterson, 2000). Investigating conflict framing in addition to interactive relationships between conflict types may provide additional insight into the conflict mediation relationship between team composition and effectiveness.

Trust, Leader Behavior, Organizational Context, Personal Attributions, and Conflict. Korsgaard, Brodt, and Whitener (2002) examined the factors associated with employee-manager relations in the face of conflict using 115 credit union employees. They measured two forms of trustworthy behavior, open communication and concern for employees, as well as organizational human resource policies to see how they relate to managerial trust, attributions, and organizational citizenship behavior.

Their study suggests that attribution principles may help explain the trust—managerial behavior relationship during conflict. When human resource policies were perceived as unfair, supervisory trustworthy behavior during conflict was negatively related to attributions of personal responsibility. They also found that employees consider contextual factors (i.e., HR policies) when assessing supervisory behavior during negative interactions. Future conflict studies of SWAT teams should integrate personal attributions, organizational context, and team leader behavior.

Norms and Hierarchical Team Structures. Given the lack of congruity found between team leaders and team members for viability in this study, future research with

SWAT team norms may benefit from the inclusion of hierarchical team structure studies (Hollenbeck, et al., 1995). Specifically, the distributed expertise and rank-based or legitimate power found within these law enforcement teams may create a disproportionate influence amongst team members for contributing to group norms. Perhaps the behaviors of the higher-ranking officers (i.e., typically the team leaders) exert more influence over the norms generated within the group. The team's degree of informality, staff validity, and hierarchical sensitivity may impact the resulting norms of the team by influencing the team's access to relevant information, judgment skills, and ability to accurately discriminate amongst the validity of member inputs (Hollenbeck, et al., 1995). For example, team members who are higher ranking may have stronger influence over task norms through legitimate power-based influence; whereas, lower ranking team members may influence social norms more effectively through the team's strength of informality, staff validity and hierarchical sensitivity skills.

Interaction between Social and Task Norms. The significant positive correlation found between task and social norms in this study ($r = .45, p < .01$) suggests a possible interaction between these two norm types across the SWAT teams studied here. However, the weak alpha associated with the social norms scale prohibits a clear interpretation of any results. Similar to the interrelationship found between task and relationship conflict asserted by recent studies (Jehn, 97; Simons & Peterson, 2000), the association between task and social norms should be further investigated. Perhaps the existence of strong task norms fosters social norms that support such a goal-oriented environment. Conversely, an open and accepting social norm team environment may be more successful in sustaining positive task confrontation behaviors.

External and Internal Norm Fit. A common SWAT team training obstacle expressed by many of the team leaders involved in this study focused on the team orientation of officers first joining the specialized unit. The challenge stems from the discrepancy between the team philosophy and specialization of SWAT membership and

the individualistic roles held by the same officers at the divisional level. Hollenbeck and his colleagues (2002) explored the external and internal person-team fit using structural contingency theory, and examined this specialization at the team level versus broader, independence of the divisional level. Although their study examined cognitive ability and emotional stability in relation to external and internal person-team fit, future norms research with SWAT teams could benefit from examining the influence of the external organizational/divisional culture on the team's norm development.

LePine (2003) recently examined another external influence on team decision-making and effectiveness. His laboratory study included 73 three-member teams comprised of 219 college students participating in a computerized decision-making simulation. Addressing the importance of a team's ability to deal with unanticipated changes and unexpected routine modifications, his study found that teams made better decisions when they were composed of members who scored lower on dependability, higher on achievement (conscientiousness facets), and higher on openness. Certainly the need to handle unpredictable environments and situations is critical for special response teams, and future research regarding factors relevant to team adaptability and decision-making effectiveness are warranted.

An earlier team effectiveness framework provided by Sundstrom, DeMeuse, and Futrell, (1990) identified external factors such as organizational culture as providing a "vehicle for external influence over group norms" (p.127). They further assert that teams may develop unique norms that may even derail from organizational norms. Certainly SWAT units, which are mostly parallel teams within most law enforcement agencies, create their own group level environments that may be in direct contrast with the individualistic and independent positions that most of these officers hold full-time. Indeed, these SWAT team leaders face a challenge when they attempt to assimilate the veteran patrol officer into the interdependent, specialized norms of their SWAT units.

Viability. The measure of viability used in this study showed marginally acceptable internal consistency (.65), and future research should attempt to incorporate a more extensive scale than the three-item scale used here. The willingness of team members to remain within the SWAT unit may contain several aspects of viability such as members' satisfaction, participation, cohesion, inter-member coordination, and team maturity (Sundstrom, et al., 1990). A 360-degree appraisal of viability may provide worthwhile information about the overall team viability given the lack of congruence amongst team members and team leaders found within this study.

Internal Self-Report and External Performance Measures. A final suggestion for future research with SWAT teams involves the use of both internal and external performance measures. This study failed to find significant relationships amongst the team level predictors and the external measure of performance provided by the judges' ratings. Additionally, the self-report measures of performance and viability failed to significantly correlate with the external measure.

The earlier discussion regarding the quality and quantity aspects of self-report versus external measures of performance may be addressed by adding internal measures of quantity and external measures of quality. Within most law enforcement agencies a statistical measure of job performance is used to assess officer or squad level quantity of performance (e.g., assessment of calls for service) and a qualitative measure of performance may be found by measuring the team's performance by surveying the perception of officers outside the SWAT unit. The recent emphasis of homeland security has provided the impetus for multi-agency tactical unit training allowing SWAT teams from neighboring agencies to train together. These multi-team SWAT associations may allow for inter-team evaluations as another external performance measure.

Conclusion

The present study provides an empirical assessment of team composition and effectiveness relationships within intact Specialized Weapons and Tactics Teams. The

strength of the agreeableness—performance relationship was mediated by task and relationship conflict. SWAT teams with high group average agreeableness and conscientiousness reported higher levels of team performance, but did not receive higher ratings from performance judges.

Future empirical research is needed for this type of action team to assist law enforcement agencies with the selection, development, and training of these tactical units. As the first responder in our homeland security and defense system, the effectiveness of these teams is critical for proactive and reactive tactical operations.

LIST OF REFERENCES

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Baker, T.E. (2000). Effective police supervision: Moving beyond management. Flushing: NY: Looseleaf Law Publications.

Baron, R., and Kenny, D. (1986). The Moderator-mediator variable distinction in social psychological research: Conceptual, strategic, and statistical considerations. Journal of Personality and Social Psychology, 51(6), 1173-1182.

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

Barrick, M., and Mount, M. (1993). Autonomy as a moderator of the relationship between the big five personality dimensions and job performance. Journal of Applied Psychology, 78(1), 111-118.

Barrick, M., Mount, M., and Strauss, J. (1993). Conscientiousness and performance of sales representatives: Test of the mediating effects of goal setting. Journal of Applied Psychology, 78, 715-722.

Barry, B., and Stewart, G. (1997). Composition, process, and performance in self-managed groups: The Role of personality. Journal of Applied Psychology, 82(1), 62-78.

Barrick, M., Stewart, G., Neubert, M., and Mount, M. (1998). Relating member ability and personality to work-team processes and team effectiveness. Journal of Applied Psychology, 83(4), 377-391.

Barrick, M.R., Stewart, G.L., and Piotrowski, M. (2002). Personality and job performance: Test of the mediating effects of motivation among sales representatives. Journal of Applied Psychology, 87(1), 43-51.

Bishop, J.W. and Scott, K.D. (2000). An examination of organizational and team commitment in a self-directed team environment. Journal of Applied Psychology, 85(3), 439-450.

Bronson, S. (2001). Blood, Bullets and Bangs: Can 86 tactical teams from around the world find happiness in central Florida? Police, 58-61.

Campion, M., Medsker, G., and Higgs (1993). Relations between work group characteristics and effectiveness: Implications for designing effective work groups. Personnel Psychology, 46, 823-850.

Clark, J., Jackson, M., Shaefer, P., and Sharpe, E. (2000). Training SWAT teams: Implications for improving tactical units. Journal of Criminal Justice, 28 (5), 407-413.

Cohen, S, and Bailey, D. (1997). What makes teams work: Group effectiveness research from the shop floor to the executive suite. Journal of Management, 23(3), 239-291.

Cook, T. and Campbell, D. (1979). Quasi-experimentation: Design and analysis issues for field settings. Library of Congress: Houghton Mifflin Company.

Costa, P., and McCrae, R. (1988). Personality in adulthood: A six year longitudinal study of self-reports and spouse ratings on the NEO personality inventory. Journal of Personality and Social Psychology, 54, 853-863.

Costa, P., and McCrae, R. (1992). Normal personality assessment in clinical practice: The NEO personality inventory. Psychological Assessment, 4(1), 5-13.

DeStephen, R., and Hirokawa, R. (1988). Small group consensus: Stability of group support of the decision, task process, and group relationships. Small Group Behavior, 19(2), 227-239.

Digman, J. (1990). Personality structure: Emergence of the 5-factor model. Annual Review, 41, 417-440.

Driskell, J. E., Hogan, R., and Salas, E. (1987). Personality and group performance. In C. Hendrick (1987). Personality and Social Psychology. (pp.91-113) Newbury Park: CA, Sage Publications, Inc.

Driskell, J., Hogan, R., and Salas, E. (1988). Personality and group performance. Review of Personality and Social Psychology, 14, 91-112.

Eigel, K.M., and Kuhnert, K.W. (1996). Personality diversity and its relationship to managerial team productivity. In M. Ruderman, M. Hughes-James, and S.E. Jackson (Eds.), Selected Research on Work Team Diversity. Greensboro, NC: Center for Creative Leadership.

Evans, N., and Jarvis, P. (1986). The group attitude scale: A measure of attraction to group. Small Group Behavior, 17(2), 203-216.

Feldman, D.C. (1984). The development and enforcement of group norms. Academy of Management Review, 9, 47-53.

Gelfand, M.J., Nishii, L.H., Holcombe, K.M., Dyer, N., Ohbuchi, K., and Fukuno, M. (2001). Cultural influences on cognitive representations of conflict: Interpretations of conflict episodes in the United States and Japan. Journal of Applied Psychology, 86(6), 1059-1074.

Gellatly, I. (1996). Conscientiousness and task performance: Test of a cognitive process model. Journal of Applied Psychology, 81, 474-482.

George, J.M. (1990). Personality, affect, and behavior in groups. Journal of Applied Psychology, 75, 107-116.

Gladstein, D.L. (1984). Groups in context: A model of task group effectiveness. Administrative Science Quarterly, 29, 499-517.

Glick, L. (2000). Are SWAT teams paramilitary? SWAT saves lives. The World & I, 1, 79-85.

Goldman, Dietz, and McGlynn (1968). Comparison of individual and group performance related to heterogeneity, wrong responses, size and patterns of interaction. Psychological Reports, 23(2), 459-465.

Graziano, W.G., Hair, E.C., and Finch, J.F. (1997). Competitiveness mediates the link between personality and group performance. Journal of Personality and Social Psychology, 73(6), 1394-1408.

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

Guzzo, R., and Dickson, M. (1996). Teams in organizations: Recent research on performance and effectiveness. In Spence, J., Darley, J., and Foss, D. (1996). Annual Review of Psychology, 47, 307-338.

Hackman, J.R. (1976). Group influences on individuals. In M.P. Dunnette (Ed.), Handbook of Industrial and Organizational Psychology. New York: Rand McNally.

Hackman, J.R., and Morris, C.G. (1975). Group tasks, group interaction process and group performance effectiveness: A Review and Proposed integration. In L. Berkowitz (Ed.), Advances in Experimental Social Psychology, 8, (pp. 45-99), New York: Academic Press.

Hackman, J., and Oldham, G. (1980). Work redesign. Reading, MA: Addison-Wesley.

Halfhill, T. (2000). Personality Composition, Group norms, and group effectiveness in military work teams. Unpublished doctoral dissertation. University of Tennessee, Knoxville.

Halfhill, T., Weilbaecher, A., and Sundstrom, E. (1999). Personality predictors of performance in military teams: Agreeableness and conscientiousness. In E. Sundstrom (Chair), Work team effectiveness: Recent studies of context and composition. Symposium conducted at the 14th annual meeting of the Society of Industrial/Organizational Psychology, Atlanta, GA.

Hochwarter, W., Witt, L., and Kacmar, K. (2000). Perceptions of Organizational Politics as a moderator of the relationship between conscientiousness and job performance. Journal of Applied Psychology, 85(3), 472-478.

Hoffman, L.R., and Maier, D. (1961). Quality and acceptance of problem solutions by members of homogeneous and heterogeneous groups. Journal of Abnormal Social Psychology, 62, 401-407.

Hollenbeck, J.R., Ilgen, D.R., Sego, D., Hedlund, J., Major, D., and Phillips, J. (1995). Multilevel theory of team decision-making: Decision performance in teams incorporating distributed expertise. Journal of Applied Psychology, 80(2), 292-316.

Hollenbeck, J.R., Moon, H., Ellis, A.P., West, B.J., Ilgen, D.R., Sheppard, L., Porter, C.O., Wagner, J.A. (2002). Structural Contingency theory and individual differences: Examination of external and internal person-team fit. Journal of Applied Psychology, 87(3), 599-606.

Hough, L.M. (1992). The big five personality variables-construct confusion: Description versus prediction. Human Performance, 5, 139-155.

Howell, D. (2002). Statistical Methods for Psychology. Pacific Grove: California. Thomson Learning/ Duxbury Wadsworth Group.

James, L.R., Demaree, R.G., and Wolf, G. (1984). Estimating within-group interrater agreement with and without response bias. Journal of Applied Psychology, 69, 85-98.

Janis, I.L. (1971). Victims of groupthink. Boston: HoughtonMifflin.

Jehn, K.A. (1992). The impact of intragroup conflict on effectiveness: A multimethod examination of the benefits and detriments of conflict. Unpublished doctoral dissertation, Northwest University.

Jehn, K.A. (1995). A multi-method examination of the benefits and detriments of intra-group conflict. Administrative Science Quarterly, 40(2), 245-282.

Jehn, K.A. (1997). A qualitative analysis of conflict types and dimensions in organizational groups. Administrative Science Quarterly, 42(3), 530-558.

Judge, T.A. and Cable, D.M. (1997). Applicant personality, organizational culture, and organization attraction. Personnel Psychology, 50, 359-394.

Judge, T.A., Heller, D., and Mount, M.K. (2002). Five-factor model of personality and job satisfaction: A Meta-analysis. Journal of Applied Psychology, 87(3), 530-541.

Judge, T.A. and Ilies, R. (2002). Relationship of personality to performance motivation: A Meta-analytic review. Journal of Applied Psychology, 87(4), 797-807.

Kiggundu (1983). Task interdependence and job design: Test of a theory. Organizational Behavior and Human Performance, 31, 145-172.

Klimoski, R., and Jones, R. (1995). Staffing for effective group decision making: Key issues in matching people and teams. In Guzzo, R., Salas, E., and Associates (1995). Team Effectiveness and Decision Making in Organizations, (pp.291-332) Jossey-Bass Publishers.

Korsgaard, M.A., Brodt, S.E., and Whitener, E.M. (2002). Trust in the face of conflict: The Role of managerial trustworthy behavior and organizational context. Journal of Applied Psychology, 87(2), 312-319.

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(1), 27-39.

LePine, J., Hollenbeck, J., Ilgen, D., and Hedlund, J. (1997). Effects of individual differences on the performance of hierarchical decision making teams: Much more than 'g'. Journal of Applied Psychology, 82(5), 803-811.

Lodahl, T.M. and Porter, L.W. (1961). Psychometric score patterns, social characteristics and productivity of small industrial work groups. Journal of Applied Psychology, 45, 73-79.

McCrae, R., and Costa, P. (1987). Validation of the 5 factor model of personality across instruments and observers. Journal of Personality and Social Psychology, 52(1), 81-90.

McCrae, R.R. and John, O.P. (1992). An introduction to the 5-factor model and its applications. Journal of Personality, 60, 175-215.

McGrath, J. (1964). Social Psychology: A Brief Introduction. Holt, Rhinehart, and Winston.

Moreland, R & Levine, J. (1992). The composition of small groups. Advances in Group Processes, 9, 237-280.

Morgan, B.B., and Bowers, C.A. (1995). Teamwork stress: Implications for team decision making. In R. Guzzo, E. Salas, and Associates (Ed.), Team effectiveness and decision making in organizations. (pp. 262-291) San Francisco:CA, Jossey-Bass Publishers.

Muir, W. (1977). Police: Street Corner Politicians. Chicago: IL, University of Chicago Press.

Neuman, G. (2000). Personality: An IPO model of team effectiveness. Unpublished manuscript.

Neuman, G., Wagner, S., and Christiansen, N. (1999). The relationship between work-team personality composition and job performance of teams. Group & Organization Management, 24(1), 28-45.

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

Nowicki, E. (1993). Supervisory survival: A practical guide for the professional survival of new, experienced, and aspiring law enforcement supervisors. Powers Lake: WI, Performance Dimensions Publishing.

Pinkley, R.L. (1990). Dimensions of conflict framework: Disputant interpretations of conflict. Journal of Applied Psychology, 75, 117-126.

Pritchard, R. and Watson, M. (1991). Understanding and measuring group productivity. In S. Worchel, W. Wood, and Ja. Simpson (Eds.), Group processes and productivity, (pp. 251-275). Newbury Park, CA: Sage.

Rose, J.G., Fogg, L.F., Helmreich, R.L., & McFadden, T.J. (1994). Psychological predictors of astronaut effectiveness. Aviation, Space & Environmental Medicine, 65, 910-915.

Saavedra, R., Earley, P.C., and Van Dyne, L. (1993). Complex interdependence in task-performing groups. Journal of Applied Psychology, 78(1), 61-72.

Salgado, J. (1997). The five factor model of personality and job performance in the European community. Journal of Applied Psychology, 82(1), 30-43.

Schneider, B., Smith, D., Taylor, S., and Fleenor, J. (1998). Personality and organizations: A test of the homogeneity of personality hypothesis. Journal of Applied Psychology, 83(3), 462-470.

Simons, T.L., and Peterson, R.S. (2000). Task conflict and relationship conflict in top management teams: The pivotal role of intra-group trust. Journal of Applied Psychology, 85(1), 102-111.

Snow, R. (1996) SWAT teams: Explosive face-offs with Americas's deadliest criminals. Perseus Books.

Sobel, M. E. (1982). Asymptotic confidence intervals for indirect effects in structural equation models. In S. Leinhardt (ed.), Sociological methodology 1982. (pp. 290-312). San Francisco: Jossey-Bass.

Steers, D., and Braunstein, D. (1976). A behaviorally-based measure of manifest needs in work settings. Journal of Vocational Behavior, 9, 251-266.

Steiner (1972). Group process and productivity. New York: Academic Press.

Stewart, G. (1999). Trait bandwidth and stages of job performance: Assessing differential effects for conscientiousness and its subtraits. Journal of Applied Psychology, 84(6), 959-968.

Sundstrom, E., and Altman, I. (1989). Physical environments and work-group effectiveness, Research in Organizational Behavior, 11, 175-209.

Sundstrom, E., and Associates (1999). Supporting work team effectiveness: Best management practices for fostering high performance. San Francisco: CA, Jossey-Bass.

Sundstrom, E., DeMeuse, K., and Futrell, D. (1990). Work teams: Applications and effectiveness. American Psychologist, 45(2), 120-133.

Sundstrom, E., McIntyre, M., Halfhill, T., and Richards, H. (2000). Work groups: From Hawthorne studies to work teams of the 1990s and beyond. Group Dynamics, 4, 44-67.

Tett, R.P., Jackson, D.N., and Rothstein, M. (1991). Personality measures as predictors of job performance: A meta-analytic review. Personnel Psychology, 44, 703-742.

Thoms, P., Moore, K., & Scott, K. (1996). The relationship between self-efficacy for participating in self-managed work groups and the big five personality dimensions. Journal of Organizational Behavior, 17, 349-362.

Trojanowicz, R., and Bucqueroux, B. (1990). Community policing: A contemporary perspective. Cincinnati, OH: Anderson Publishing Company.

Twohey, M. (2000). SWAT under Fire. National Journal, 1, 37-44.

Witt, L., Barrick, M., Burke, L., and Mount, M. (2002). The Interactive effects of conscientiousness and agreeableness on job performance. Journal of Applied Psychology, 87(1), 164-9.

Zazanis, M., Kilcullen, R., Sanders, M., and Litton, D. (2000). The SF pipeline review: Voices from the field. The Professional Bulletin of the John F. Kennedy Special Warfare Center and School, 13(4), 6-17.

APPENDICES

APPENDIX 1: TEAM MEMBER SURVEY

Survey Instructions

1. Please fill out the demographic information and then rate yourself on the following statements. Using pen or pencil, completely darken the appropriate circle.
2. Return the survey to Deanna Putney at the Orlando Marriott Airport Hotel no later than November 16, 2001.

Agency Name: _____

Team Name: _____

Ethnicity	Gender	Years in SWAT
☐ White	☐ Male	Years on this team _____
☐ Black	☐ Female	Rank _____
☐ Hispanic		What is your position on the SWAT team? _____
☐ Asian		
☐ Indian		What is your primary technical expertise/specialty area? _____
☐ Multi-racial		
☐ Other		

Please rate the following statements:

Key: SD = Strongly Disagree D = Disagree N = Neutral A = Agree SA = Strongly Agree

	S D N A S
	D A
1. I try to be courteous to everyone on my team.	O O O O O
2. I often get into arguments with my team members.	O O O O O
3. Some people on the team think I am selfish and egotistical.	O O O O O
4. I would rather cooperate with others than compete against them while at work.	O O O O O
5. I tend to be cynical and skeptical of my team members' intentions.	O O O O O
6. I believe that most people will take advantage of you if you let them.	O O O O O
7. Most of my team members like me.	O O O O O
8. I often get angry at the way people treat me on the team.	O O O O O

Please rate the following statements:

Key: *SD* = Strongly Disagree *D* = Disagree *N* = Neutral *A* = Agree *SA* = Strongly Agree

	S	D	N	A	S
	D				A
9. As a team member, I am a cheerful, high-spirited person.	O	O	O	O	O
10. Some team members think of me as cold and calculating.	O	O	O	O	O
11. I am not a cheerful optimist.	O	O	O	O	O
12. I'm hard headed and tough minded in my attitudes.	O	O	O	O	O
13. I generally try to be thoughtful and considerate.	O	O	O	O	O
14. If I don't like team members, I let them know it.	O	O	O	O	O
15. I keep my workspace neat and clean.	O	O	O	O	O
16. At work, I am not bothered by messy people.	O	O	O	O	O
17. My office or workspace is often a mess.	O	O	O	O	O
18. I prefer to do things according to a plan.	O	O	O	O	O
19. I never seem to be able to get organized.	O	O	O	O	O
20. At work, I often forget to put things back in their proper place.	O	O	O	O	O
21. As a team member it is easy for me to turn plans into actions.	O	O	O	O	O
22. I consistently do more than what is expected of me.	O	O	O	O	O
23. I am not highly motivated to succeed.	O	O	O	O	O
24. I have a clear set of goals and work toward them in an orderly fashion.	O	O	O	O	O
25. I work hard to accomplish my team's goals.	O	O	O	O	O
26. Sometimes I do just enough work to get by.	O	O	O	O	O
27. I strive for excellence in everything I do on the team.	O	O	O	O	O
28. I sometimes put little time and effort into my work.	O	O	O	O	O
29. Sometimes I get so focused on a task I ignore other parts of my work.	O	O	O	O	O
30. Other people's work depends directly on my job.	O	O	O	O	O
31. My job depends on the work of many different people for its completion.	O	O	O	O	O
32. I provide other people with the help of advice they need to do their work.	O	O	O	O	O
33. Most of my job activities are affected by the work activities of other people.	O	O	O	O	O
34. I provide other people with information they need to do their work.	O	O	O	O	O
35. I provide support services, which other people need to do their work.	O	O	O	O	O
36. I depend on other people's work for information I need to do my work.	O	O	O	O	O
37. My team understands how to accomplish its tasks.	O	O	O	O	O
38. My team meets all objectives for work completed.	O	O	O	O	O
39. My team's work is always of the highest quality.	O	O	O	O	O
40. My team takes initiative in solving problems and decision-making.	O	O	O	O	O
41. My team is very good at planning how to accomplish its work objectives.	O	O	O	O	O

Please rate the following statements:

Key: *SD* = Strongly Disagree *D* = Disagree *N* = Neutral *A* = Agree *SA* = Strongly Agree

S D N A S
D **A**

- | | | | | | |
|--|---|---|---|---|---|
| 42. My team should continue working together as a unit in the future. | O | O | O | O | O |
| 43. My team is not capable of working together as a unit. | O | O | O | O | O |
| 44. As a work unit, my team shows signs of falling apart. | O | O | O | O | O |
| 45. My team members disagree about the content of strategic decisions. | O | O | O | O | O |
| 46. There are disagreements about ideas in my SWAT team. | O | O | O | O | O |
| 47. There are differences of professional opinion in my SWAT team. | O | O | O | O | O |
| 48. Members of my SWAT team disagree on my agency's strategic decisions. | O | O | O | O | O |
| 49. There is personal friction among members in my SWAT team. | O | O | O | O | O |
| 50. Personality clashes are evident in my SWAT team. | O | O | O | O | O |
| 51. There is tension among members in my SWAT team. | O | O | O | O | O |
| 52. Grudges are evident among members of my SWAT team. | O | O | O | O | O |
| OUR TEAM PLACES A LOT OF EMPHASIS ON . . . | | | | | |
| 53. ... doing our work as a team as opposed to individually. | O | O | O | O | O |
| 54. ... continuously improving our performance at work. | O | O | O | O | O |
| 55. ... taking risks when needed in order to get ahead at work. | O | O | O | O | O |
| 56. ... avoiding any added responsibilities on our job. | O | O | O | O | O |
| 57. ... performing better than other teams in our agency. | O | O | O | O | O |
| 58. ... performing efficiently when our job assignments are extremely difficult. | O | O | O | O | O |
| 59. ... rules and regulations when working on our tasks. | O | O | O | O | O |
| 60. ... having a good time while together at work. | O | O | O | O | O |
| 61. ... paying attention to other team members' feelings while at work. | O | O | O | O | O |
| 62. ... doing our work individually as opposed to together. | O | O | O | O | O |
| 63. ... expressing disagreements with others openly. | O | O | O | O | O |
| 64. ... talking about non work-related matters. | O | O | O | O | O |

APPENDIX 2: TEAM LEADER SURVEY

Survey Instructions

1. Please fill out the demographic information and then rate yourself on the following statements. Using pen or pencil, completely darken the appropriate circle.
2. Return the survey to Deanna Putney at the Orlando Marriott Airport Hotel no later than November 16, 2001.

Agency Name: _____

Team Name: _____

Ethnicity	Gender	Years in SWAT
☐ White	☐ Male	Years on this team _____
☐ Black	☐ Female	Rank _____
☐ Hispanic		What is your position on the SWAT team? _____
☐ Asian		
☐ Indian		What is your primary technical expertise/specialty area? _____
☐ Multi-racial		
☐ Other		

Please rate the following statements:

Key: *SD* = Strongly Disagree *D* = Disagree *N* = Neutral *A* = Agree *SA* = Strongly Agree

		S	D	N	A	S
		D				A
1. I try to be courteous to everyone on my team.		☐	☐	☐	☐	☐
2. I often get into arguments with my team members.		☐	☐	☐	☐	☐
3. Some people on the team think I am selfish and egotistical.		☐	☐	☐	☐	☐
4. I would rather cooperate with others than compete against them while at work.		☐	☐	☐	☐	☐
5. I tend to be cynical and skeptical of my team members' intentions.		☐	☐	☐	☐	☐
6. I believe that most people will take advantage of you if you let them.		☐	☐	☐	☐	☐
7. Most of my team members like me.		☐	☐	☐	☐	☐
8. I often get angry at the way people treat me on the team.		☐	☐	☐	☐	☐

Please rate the following statements:

Key: *SD* = Strongly Disagree *D* = Disagree *N* = Neutral *A* = Agree *SA* = Strongly Agree

	S	D	N	A	S
	D				A
9. As a team member, I am a cheerful, high-spirited person.	O	O	O	O	O
10. Some team members think of me as cold and calculating.	O	O	O	O	O
11. I am not a cheerful optimist.	O	O	O	O	O
12. I'm hard headed and tough minded in my attitudes.	O	O	O	O	O
13. I generally try to be thoughtful and considerate.	O	O	O	O	O
14. If I don't like team members, I let them know it.	O	O	O	O	O
15. I keep my workspace neat and clean.	O	O	O	O	O
16. At work, I am not bothered by messy people.	O	O	O	O	O
17. My office or workspace is often a mess.	O	O	O	O	O
18. I prefer to do things according to a plan.	O	O	O	O	O
19. I never seem to be able to get organized.	O	O	O	O	O
20. At work, I often forget to put things back in their proper place.	O	O	O	O	O
21. As a team member it is easy for me to turn plans into actions.	O	O	O	O	O
22. I consistently do more than what is expected of me.	O	O	O	O	O
23. I am not highly motivated to succeed.	O	O	O	O	O
24. I have a clear set of goals and work toward them in an orderly fashion.	O	O	O	O	O
25. I work hard to accomplish my team's goals.	O	O	O	O	O
26. Sometimes I do just enough work to get by.	O	O	O	O	O
27. I strive for excellence in everything I do on the team.	O	O	O	O	O
28. I sometimes put little time and effort into my work.	O	O	O	O	O
29. Sometimes I get so focused on a task I ignore other parts of my work.	O	O	O	O	O
30. Other people's work depends directly on my job.	O	O	O	O	O
31. My job depends on the work of many different people for its completion.	O	O	O	O	O
32. I provide other people with the help of advice they need to do their work.	O	O	O	O	O
33. Most of my job activities are affected by the work activities of other people.	O	O	O	O	O
34. I provide other people with information they need to do their work.	O	O	O	O	O
35. I provide support services, which other people need to do their work.	O	O	O	O	O
36. I depend on other people's work for information I need to do my work.	O	O	O	O	O
37. My team understands how to accomplish its tasks.	O	O	O	O	O
38. My team meets all objectives for work completed.	O	O	O	O	O
39. My team's work is always of the highest quality.	O	O	O	O	O
40. My team takes initiative in solving problems and decision-making.	O	O	O	O	O
41. My team is very good at planning how to accomplish its work objectives.	O	O	O	O	O

Please rate the following statements:

Key: *SD* = Strongly Disagree *D* = Disagree *N* = Neutral *A* = Agree *SA* = Strongly Agree

S D N A S
D **A**

- | | | | | | |
|--|---|---|---|---|---|
| 42. My team should continue working together as a unit in the future. | O | O | O | O | O |
| 43. My team is not capable of working together as a unit. | O | O | O | O | O |
| 44. As a work unit, my team shows signs of falling apart. | O | O | O | O | O |
| 45. My team members disagree about the content of strategic decisions. | O | O | O | O | O |
| 46. There are disagreements about ideas in my SWAT team. | O | O | O | O | O |
| 47. There are differences of professional opinion in my SWAT team. | O | O | O | O | O |
| 48. Members of my SWAT team disagree on my agency's strategic decisions. | O | O | O | O | O |
| 49. There is personal friction among members in my SWAT team. | O | O | O | O | O |
| 50. Personality clashes are evident in my SWAT team. | O | O | O | O | O |
| 51. There is tension among members in my SWAT team. | O | O | O | O | O |
| 52. Grudges are evident among members of my SWAT team. | O | O | O | O | O |
| OUR TEAM PLACES A LOT OF EMPHASIS ON . . . | | | | | |
| 53. ... doing our work as a team as opposed to individually. | O | O | O | O | O |
| 54. ... continuously improving our performance at work. | O | O | O | O | O |
| 55. ... taking risks when needed in order to get ahead at work. | O | O | O | O | O |
| 56. ... avoiding any added responsibilities on our job. | O | O | O | O | O |
| 57. ... performing better than other teams in our agency. | O | O | O | O | O |
| 58. ... performing efficiently when our job assignments are extremely difficult. | O | O | O | O | O |
| 59. ... rules and regulations when working on our tasks. | O | O | O | O | O |
| 60. ... having a good time while together at work. | O | O | O | O | O |
| 61. ... paying attention to other team members' feelings while at work. | O | O | O | O | O |
| 62. ... doing our work individually as opposed to together. | O | O | O | O | O |
| 63. ... expressing disagreements with others openly. | O | O | O | O | O |
| 64. ... talking about non work-related matters. | O | O | O | O | O |

VITA

Deanna Marie Putney was born in Exeter, NH and divided her childhood between New England and Southern states. After attending grade school in Richmond, VA, she graduated from the College of William and Mary in 1991 with a B.S. in Psychology and a minor in Mathematics. From there she attended the Masters Program in Industrial/Organizational Psychology at Illinois State University where she transferred to the PhD program at The University of Tennessee, Knoxville.

Deanna is currently pursuing her doctorate in Industrial/Organizational Psychology at The University of Tennessee, Knoxville while employed full-time with the North Carolina Department of Justice.