

The Influence of Supervisor Temperament on Subordinate Job Satisfaction and Perceptions of Supervisor Sociocommunicative Orientation and Approachability

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The goal of this study was to re-examine McCroskey, Valencic, and Richmond's findings about the impact of a teacher's temperament on her or his students by examining the findings in a different context, the supervisor-subordinate relationship in organizational settings. This study measured a supervisor's temperament to see if it affected a subordinate's job satisfaction, motivation, and perceptions of supervisor credibility, sociocommunicative style, and approachability. Results indicated a positive relationship between supervisor psychoticism and subordinate job satisfaction and motivation, while supervisor extraversion and neuroticism negatively related to subordinate job satisfaction and motivation. Furthermore, results indicated a positive relationship between supervisor extraversion and subordinate perceptions of supervisor responsiveness, and a negative relationship between supervisor neuroticism and psychoticism and subordinate perceptions of supervisor responsiveness. Overall, a supervisor's temperament was shown to affect subordinate perceptions of supervisor communicative behavior.

Keywords: Approachability; Communibiology; Credibility Organizational Communication; Job Satisfaction; Motivation; Sociocommunicative Style; Supervisor-Subordinate Communication

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Understanding the characteristics of individuals' orientations toward work and communication has many implications for predicting behavior in the organizational setting (McCroskey, Richmond, Johnson, & Smith, 2004b). Recognizing and knowing what to anticipate from supervisors allows subordinates to better adapt and adjust their communication behaviors (Richmond, McCroskey, & McCroskey, 2005). The communicative relationship between the supervisor and the subordinate has considerable potential to affect the satisfaction of both parties. As noted by McCroskey, Richmond, and Davis (1982), "communication is a vehicle for dissemination of information, instruction, and affect" (p. 173).

In the area of communication research, a new analysis of how an individual's temperament affects the organizational communication process has recently been initiated (McCroskey et al., 2004b, 2005). Thus far, research in this area has indicated the importance of studying subordinate temperaments and how these temperaments affect organizational communication processes. However, examining how a supervisor's temperament affects the organizational communication process has not occurred in communication research. The goal of the current study is to further the work on the effects of temperament in the organizational environment. Before posing the study's hypotheses and research questions, the literature review will examine the temperament research and how it relates to organizational communication with a specific focus on supervisor temperaments. The temperament discussion will be followed by an analysis of a number of variables that a supervisor's temperament could affect, including those that examine how a subordinate views her or his work-life (job satisfaction and motivation to work) and perceives her or his supervisor's sociocommunicative style, credibility, and approachability.

Temperament Research

All human beings possess unique characteristics that make them individuals (Eysenck, 1952). The traits an individual possesses can have a negative or positive impact on an organization and the members that make up the organization. Hans Eysenck (1952) defined this set of characteristics as "personality." More specifically, Eysenck defined personality as a distinctive set of traits, behavior styles, and patterns that make up our character or individuality. Our perceptions about the world, attitudes, thoughts, and feelings are all part of our character. Our personality makes up the basic postulate on how we deal with members of society.

Classifying people into certain personality types has remained a significant focus of researchers and personality theorists (Mroczek & Little, 2006; Skinner, 1983). One commonly employed way of examining an individual's temperament is through the three-factor model of temperament created by Eysenck (1956, 1998). The model consists of three "supertraits," extraversion, neuroticism, and psychoticism. The first two supertraits, extraversion and neuroticism, were initially measured and discussed by Eysenck (1956), and the third supertrait, psychoticism, was later created to account for a missing component noticed by Eysenck and Eysenck (1976). The first supertrait, extraversion, exists on a continuum from extravert to introvert, with

people existing at any point along the continuum. Extraverts are characterized by their desire to be sociable, have stimulation around them, and possess an easygoing nature, whereas introverts are quiet, asocial (or not social), serious, reliable, and controlled individuals (Beatty, McCroskey, & Valencic, 2001). The second of Eysenck's (1998) supertraits is neuroticism, or an individual's tendency towards mania (being really happy) and depression (being really sad) (Beatty et al., 2001). In other words, neuroticism measures an individual's emotional stability, and people have varying degrees of emotional stability, ranging from those who do have emotional stability (low neurotic) to those who do not (high neurotic). Furthermore, people who are highly neurotic are prone to high levels of anxiety, depression, and panic attacks (Eysenck, 1998). The last of the three supertraits, psychoticism, refers to the extent to which an individual believes that societal rules and norms do or do not pertain to her or him (Eysenck & Eysenck, 1976). People who are highly psychotic tend to be loners, un-empathetic (do not care about other people's emotions), and antisocial (violating social rules and norms). In fact, psychoticism "is a stable or unstable disorder in which an individual loses contact with reality. Specific traits include characteristics of being insensitive, solitary, troublesome, hostile, aggressive, independent and a high sensation seeker" (Heaven & Rigby, 1985, p. 360). Highly psychotic individuals are more likely to be big risk takers because they do not care or are completely unaware of any possible consequences (Eysenck & Eysenck, 1976). People at the opposite end of the psychoticism spectrum are high self-monitors (Beatty et al., 2001).

Eysenck's (1956, 1978) conceptualization of the three temperamental supertraits is a biological framework for understanding human behavior. Eysenck conceptualized the three supertraits as intervening variables between genetics and human behavior. In other words, an individual's genetics causes an individual to have differing scores on the three supertraits (extraversion, neuroticism, and psychoticism); in turn, these supertraits affect how that individual both perceives her or his world and how these perceptions affect behavior. Heaven and Rigby (1985) concluded that elements of each supertrait appear early in childhood and continue on through adulthood, providing validity to the notion that we are born with these three supertraits to various degrees. In communication research, Eysenck's supertraits have accounted for a great deal of variance in a variety of communication variables: communication apprehension (Beatty, McCroskey, & Heisel, 1998, Beatty & Valencic, 2000, Kelly & Keaten, 2000), communicator style (Bodary & Miller, 2000; Horvath, 1995), humor usage (Wrench & McCroskey, 2001), nonverbal immediacy (Cole, 2000), sociocommunicative orientation (Cole & McCroskey, 2000), and verbal aggression (Valencic, Beatty, Rudd, Dobos, & Heisel, 1998; Wrench, 2002). However, research has also shown that there are some communication variables that are not related to Eysenck's supertraits: ethnocentrism (Wrench & McCroskey, 2003) and writing apprehension (McCroskey et al., 2004a). Furthermore, Eysenck's supertraits have been shown to relate to a variety of variables in organizational communication.

In the realm of organizational communication, a series of studies examined how subordinate temperaments affect organizational outcomes. McCroskey et al. (2004b)

reported that subordinate extraversion was positively related with the upwardly mobile organizational orientation, and subordinate extraversion was negatively related to the organizational orientation ambivalent. Both subordinate neuroticism and psychoticism were positively related to the ambivalent and indifferent organizational orientations but negatively related to the upwardly mobile organization orientation. Furthermore, subordinates' extraversion positively related to their job satisfaction but did not affect their perception of their supervisor's credibility. Subordinate neuroticism negatively related to job satisfaction but did not relate to the subordinate's perception of their supervisor's credibility. Lastly, subordinate psychoticism did not relate to job satisfaction but negatively related to perceptions of supervisor credibility (competence, trustworthiness, and caring/goodwill). Overall, this study showed that a subordinate's level of extraversion positively affected her or his work experience and relationship with her or his supervisor.

In a second study conducted by McCroskey, McCroskey, and Richmond (2005), looking at nonprofit organizations, the researchers found that subordinate extraversion was also positively related to job satisfaction or motivation, but subordinate neuroticism and psychoticism were negatively related to job satisfaction and motivation. Furthermore, subordinate levels of extraversion positively related to perceptions of their own assertiveness and nonverbal immediacy. On the other hand, subordinate neuroticism and psychoticism positively related to subordinate perceptions of assertiveness and negatively to perceptions of responsiveness and nonverbal immediacy. Overall, these results are very similar to the McCroskey et al. (2004b) results, which indicated the importance of subordinate extraversion and the problems associated with subordinate neuroticism and psychoticism.

While these basic studies looking at the impact of subordinate temperaments on organizational communication are interesting, only one study has examined how supervisor temperament affects subordinates. Using the Big Five personality type indicator (an alternative to Eysenck's supertraits), Smith and McCanger (2004) had subordinates recall their supervisor's personality and then respond to various organizational indicators. Overall, high levels of supervisor agreeableness, emotional stability, and extraversion related to subordinate satisfaction with a supervisor. On the other hand, supervisors who are perceived by their subordinates as cold, manipulative, and anti-social tend to have low satisfaction with their supervisor (Smith & McCanger, 2004).

Unfortunately, no research has had supervisors fill out a temperament inventory to determine if supervisor reports of temperament relate to subordinate perceptions of those supervisors. Temperament experts agree that personal reports of an individual's temperament are most accurate (Eysenck, 1998; Eysenck, Eysenck, & Barrett, 1985). While receiving supervisor self-reports of temperament has not been done in the organizational communication context, McCroskey et al. (2004c) completed a similar study examining teachers' temperaments and student perceptions. They found that teacher self-reported extraversion was positively related and psychoticism negatively related to student perceptions of their teacher's nonverbal immediacy, assertiveness, and responsiveness. The researchers also reported that extraversion

was positively related and psychoticism negatively related to student perceptions of their teacher's credibility (competence, trustworthiness, and caring/goodwill) and task attractiveness. As for educational outcomes, extraverted teachers had students who reported that they learned more, had higher levels of affective learning, and more positively evaluated their teachers as a whole. Teachers with low psychoticism scores also had students who reported higher levels of affective learning. Based on these findings, examining supervisor temperament in the organizational setting is a logical step in this line of research.

Now that we have examined the literature surrounding Eysenck's supertraits, we can focus our attention on two sets of variables that may be impacted by a supervisor's temperament. First, job satisfaction and employee motivation is discussed, followed by perception-oriented variables (sociocommunicative style, source credibility, and approachability) that could be effected by a supervisor's temperament.

Subordinate Perception Variables

Job satisfaction and employee motivation

Understanding what motivates employees and how they are satisfied has been the focus of many researchers (e.g., Richmond, Davis, Koontz, & McCroskey, 1980). However, multiple definitions of satisfaction and motivation exist. For the purposes of this study, satisfaction is defined as the extent to which one's job is perceived as fulfilling important values (Lindner, 1998). Kreitner (1995) estimated that more than 3,000 studies on the subject of employee satisfaction have been conducted. One variable that is consistently related to job satisfaction is an employee's motivation to work (Kreitner, 1995; Lindner, 1998; Richmond et al., 1980; Richmond & McCroskey, 2000). Motivation is a set of energetic forces that originate to give behavior purpose and direction (Lindner, 1998), so motivation can be seen as an inner force that drives individuals to attain personal and organizational goals. Studies focusing on employee motivation and job satisfaction have continued to be a major focus of researchers and practitioners of organizational communication (Jablin & Putnam, 2001). One study conducted by Richmond et al. (1980) reported a positive relationship between employee satisfaction and productivity. Overall, a happy employee is satisfied, motivated, and enjoys coming to work (Kreitner, 1995). Research in the area of job satisfaction and motivation are consistently seen in current research in communication.

Richmond and McCroskey (2000) examined a variety of communication variables that affect both job satisfaction and employee motivation. First, subordinate perceptions of supervisor credibility and attractiveness (social and task) were positively related to both employee job satisfaction and motivation. Next, the researchers found that supervisors who were perceived as nonverbally immediate had subordinates who reported higher levels of job satisfaction and work motivation. Lastly, in a path analysis, the researchers found that supervisor nonverbal immediacy positively affected a subordinate's attitude about that supervisor, which, in turn, had an impact on the subordinate's work motivation.

Higgins (1994) indicated that when faced with controlling personalities, subordinates did not have acceptable latitude to choose behaviors. The results from the study indicated subordinates preferred a “sociable” supervisor who was willing to accept the opinions and ideas of her or his subordinates and offer positive affect. Similarly, Shaw and Ross (1985) examined the relationship between supervisor attitude and subordinate satisfaction and concluded that the factors most conducive to employee motivation and job satisfaction are: supportive supervisors who exhibit high levels of competence, trustworthiness, and fairness, which is similar to the credibility scheme created by McCroskey and Teven (1999). In addition, Shaw and Ross concluded that a sociable supervisor has the ability to enhance subordinate satisfaction and subordinate perception of her or his credibility. Lastly, as mentioned previously, McCroskey et al. (2005) reported a positive relationship between a subordinate’s level of extraversion and her or his work motivation and job satisfaction. Additionally, a subordinate’s level of neuroticism and psychoticism was negatively related to her or his job satisfaction and work motivation (McCroskey et al., 2005).

Overall, job satisfaction and employee motivation have been found to have many important ramifications in the organizational environment. However, these two variables are primarily concerned with an individual employee’s perception of her or his worklife. The rest of this section will examine some communicative variables that supervisors may exhibit (sociocommunicative style, credibility, and approachability) and how subordinates’ perceptions of these communicative variables could be affected by the supervisor’s temperament.

Sociocommunicative style

In 1974, Sandra Bem began examining psychological gender orientation through two constructs she labeled masculinity and femininity, which she measured utilizing the Bem Sex Role Inventory (BSRI). Research has shown that the BSRI has some serious structural and psychometric problems (Wheless & Dierks-Stewart, 1981). Realizing the potential for communication scholars, Richmond and McCroskey (1985) discarded the biological sex-biased language of masculine and feminine for a more gender-neutral language of assertiveness and responsiveness, thus creating the Sociocommunicative Orientation scale (Richmond & McCroskey, 1990).

Sociocommunicative orientation is the degree to which an individual sees her or himself as both assertive and responsive in her or his communicative interactions with others (Richmond & McCroskey, 1990). On the other hand, Thomas, Richmond, and McCroskey (1994) defined sociocommunicative style as communication behaviors which lead observers to “gain insight into the personality of individuals by taking note of their characteristic communication behaviors” (p. 109). In essence, sociocommunicative orientation is self-reported, and sociocommunicative style is other-reported. Sociocommunicative style consists of both assertiveness and responsiveness communicative behaviors. According to Richmond and Martin (1998), assertive communicators “are able to initiate, maintain, and terminate conversations, according to their interpersonal goals” (p. 136). Conversely, responsiveness refers to an individual

who “considers other’s feelings, listens to what others have to say, and recognizes the needs of others” (Richmond & Martin, 1998). As for the nature of one’s sociocommunicative orientation, a study by Cole and McCroskey (2000) has examined the relationship between assertiveness and responsiveness with Eysenck’s three supertraits (extraversion, neuroticism, & psychoticism).

Cole and McCroskey (2000) examined the communibiological influence of socio-communicative orientations. When examining assertiveness, the researchers found a positive relationship between assertiveness and extraversion, a negative relationship between assertiveness and neuroticism, and no relationship between assertiveness and psychoticism. Overall, extraversion, neuroticism, and psychoticism accounted for 57% of the variance in an individual’s assertiveness. When looking at responsiveness, the researchers found a positive relationship between responsiveness and extraversion, a negative relationship between responsiveness and psychoticism, and no relationship between assertiveness and neuroticism. Overall, extraversion, neuroticism, and psychoticism accounted for 72% of the variance in an individual’s responsiveness. These results were then replicated by McCroskey et al. (2001).

Beyond the genetic nature of an individual’s sociocommunicative orientation, many studies have examined the impact that an individual’s assertiveness and responsiveness have in various contexts. Early work examining the nature of assertiveness in organizations was conducted by researchers outside the field of communication. Norton and Warnick (1976) reported that an employee’s assertiveness correlated positively with her or his likelihood of emerging as a leader within the organization. In essence, highly assertive people are more likely to take on leadership roles than individuals who are not assertive.

While early examples of research looking at the general concept of assertiveness are useful, most of the research examining sociocommunicative style has looked primarily at the impact that a teacher’s sociocommunicative style, as perceived by her or his students, has on the college classroom. Thomas, Richmond, and McCroskey (1994) reported that a teacher’s assertiveness and responsiveness positively relates to student perceptions of nonverbal immediacy. Also, Wooten and McCroskey (1996) found that student perceptions of teacher assertiveness and responsiveness was positively related to student perceptions of teacher trustworthiness. Research by Wanzer and McCroskey (1998) found a negative relationship between a teacher’s sociocommunicative style and student perceptions of teacher misbehaviors. Furthermore, Aylor and Oppliger (2003) found that students were more likely to communicate with highly responsive teachers out of class and were more satisfied with their communication with highly responsive teachers. Lastly, McCroskey et al. (2004c) found that teachers’ self-reported extraversion positively related to student perceptions of their teachers’ assertiveness and responsiveness, and that the teachers’ self-reported psychoticism negatively related to student perceptions of their teachers’ assertiveness and responsiveness.

Source credibility

McCroskey (2006) defined credibility as “the attitude toward a source of communication held at a given time by a receiver” (p. 82). Perloff (2003) refers to credibility as

one of the “Big Three” communicator factors, along with authority and social attractiveness. As studying the concept of credibility dates back to Aristotle, a lot of persuasion research has focused on how sources achieve credibility with their audiences (McCroskey, 2001; Perloff, 2003). One major important characteristic that must always be kept in mind with credibility research is that it is a perception of an audience and not a concrete factor (Hart, Friedrich, & Brummett, 1983). While the measurement of source credibility has been a concern of the communication discipline for many years (McCroskey & Thweat, 1998), McCroskey and Teven (1999) proposed that credibility is the combination of three factors: competence, trustworthiness, and caring/goodwill. Competence is the extent that an individual truly knows what he or she is discussing. The second component of credibility is trustworthiness, which is the degree to which one individual perceives another person as being honest. The final component, goodwill, is the perceived caring that a receiver sees in a source. Out of all of these, goodwill may be the most important factor of credibility (McCroskey, Richmond, & McCroskey, 2006). Research in source credibility has been examined in a number of contexts, including the organizational setting.

Communication scholars have researched the impact of various communication phenomena between supervisors and subordinates and the effect these communication phenomena have on subordinate perceptions of supervisor credibility. In a study conducted by Bruins and DeGilder (1999), subordinates perceived a supervisor who cared about their well-being as credible. The research indicated that subordinates held a supervisor in positive regard when a supervisor communicated that they cared about the subordinate’s well-being. In fact, Bruins and DeGilder found that subordinates were less concerned about a supervisor’s competence when the subordinate perceived the supervisor as caring.

In another study examining credibility, McCroskey et al. (2004b) found that individuals who scored high on the upwardly mobile organizational orientation tended to perceive their supervisors as more credible on all three factors; however, ambivalent and indifferent subordinates tended to perceive their supervisors as less credible on all three factors. This finding was partially replicated by McCroskey et al. (2005), who did not find a relationship between upwardly mobile organizational orientations and perceptions of supervisor credibility, but still found the negative relationships between ambivalent and indifferent organizational orientations and perceptions of supervisor credibility. The researchers also reported a positive relationship between perceptions of a supervisor’s credibility on all three factors and subordinate job satisfaction and motivation.

In the study examining teacher self-reported temperaments and student perceptions conducted by McCroskey et al. (2004c), the researchers found a positive relationship between teacher self-reported extraversion and student perceptions of that teacher’s credibility (competence, caring/goodwill, and trustworthiness). The researchers also reported a negative relationship between teacher self-reported psychoticism and student perceptions of that teacher’s credibility. However, the researchers did not find a relationship between teacher self-reported neuroticism and student perceptions of teacher credibility.

Approachability

Approachability can be defined as the perception that a source is warm, caring, and easy to talk to or meet (Perrine, 1998). While approachability has not been examined in subordinate-supervisor relationships, several studies have examined approachability within the realm of the teacher-student relationships. As the teacher-student relationships are somewhat similar to the supervisor-subordinate relationship, because of the innate power differences that exists in these relationships, previous research may help illuminate the current study.

In the teacher-student relationship, interpersonal communication variables influence the relationship (Perrine, 1998). Reid and Johnston (1999) concluded that approachability is a characteristic of a high-quality student-teacher relationship. Because approachability involves the tendency to exhibit elements of caring and goodwill, a subordinate who believes that the supervisor cares for her or his well-being may view the supervisor as highly approachable. Furthermore, Perrine (1998) found professors who are patient, sociable, and outgoing as more approachable.

Rationale and Hypotheses

The literature review focused on three basic categories: supervisor temperament, subordinate views of her or his worklife, and subordinate perceptions of her or his supervisor. Based on the findings from previous studies (Eysenck & Eysenck, 1975; Eysenck, Eysenck, & Barrett, 1985; Maccoby & Jacklin, 1974; Martin, 1997), one can conclude that the Eysenck supertraits of extraversion, neuroticism, and psychoticism can influence the way an individual interacts with the world. Furthermore, research such as that completed by McCroskey et al. (2004c) indicates that an individual's temperament can influence how others perceive and interact with that individual. The goal of the current project is to study a supervisor's self-reported temperament and the effect it has on subordinate job satisfaction and work motivation and on subordinate perceptions of supervisor sociocommunicative style, credibility, and approachability.

First, when looking at extroversion, neuroticism, and psychoticism in regard to supervisor/subordinate relationships, several unique characteristics exist. In a study conducted by Smith and McCanger (2004), the relationship between supervisor personality and subordinate attitude was noted. They found that subordinates favor a supervisor that exhibits characteristics of extraversion, and that an extraverted supervisor leads to higher levels of subordinate job satisfaction (Smith & McCanger, 2004). A supervisor with antisocial tendencies or psychotic tendencies adds to higher levels of subordinate dissatisfaction. Higgins (1994) reported a relationship between supervisor temperament and employee satisfaction and motivation, and also found that subordinates were highly motivated and satisfied with sociable supervisors. While not exactly in the organizational context, McCroskey et al. (2004c) also found that extraversion was positively related to student evaluations of a teacher, and neuroticism was negatively related to student evaluations of a teacher. Furthermore, Bates (1989) noted that an individual's temperament is manifested greatly in the context

of social interaction, which suggests that there should be a strong link between supervisor temperament and subordinates' perceptions of supervisor communicative behavior. Based on the above findings, the following prediction can be made:

H1: A supervisor's self-reported temperament is related to subordinates' level of job satisfaction and motivation.

When looking at sociocommunicative style, research has previously concluded that assertive individuals emerge as leaders (Norton & Warnick, 1976). Furthermore, research by Cole and McCroskey (2000) found that an individual's temperament accounted for 57% of the variance in assertiveness and 72% of the variance in an individual's level of responsiveness. If, as Bates (1989) suggested, an individual's temperament affects how others view their communicative behaviors, then the following hypothesis can be made:

H2: A supervisor's self-reported temperament is related to subordinates' perceptions of supervisor assertiveness and responsiveness.

Through research, Shaw and Ross (1985) concluded that the factor most conducive to employee motivation and job satisfaction is the supportive supervisor who exhibits high levels of competence, trustworthiness, and fairness. This is similar to the three factor model of credibility proposed by McCroskey and Teven (1999). In the education study by McCroskey et al. (2004c), the authors found a positive relationship between extraversion and all three factors of credibility, and a negative relationship between psychoticism and all three factors of credibility. While clearly not the same context, we can predict that how an individual's temperament affects other people's perceptions of her or his credibility would be consistent. Therefore, the following hypothesis is proposed:

H3: A supervisor's self-reported temperament is related to subordinates' perceptions of supervisor credibility (competence, caring/goodwill, & trustworthiness).

Perrine's (1998) definition of approachability describes an individual's perception that a source is warm, caring, and easy to talk to or meet. In essence, an approachable person is a source that a receiver perceives as amicable and friendly. In the educational context, Reid and Johnston (1999) surmised that teacher approachability was necessary for effective and affective working relationships with students. Because approachability involves the tendency to exhibit elements of caring and goodwill, a subordinate who believes a supervisor cares for her or his well-being may view this supervisor as highly approachable. Furthermore, Perrine (1998) indicates that professor approachability positively relates to student attrition in the classroom setting. Research in the area of human temperament clearly has shown that extraverted people are seen by others as outgoing, sociable, and easy to talk to (Eysenck & Eysenck, 1976), whereas people who are neurotic and psychotic are generally perceived by others as stand-offish and not open to interactions with other people (Beatty & Valencic, 2001; Heaven & Rigby, 1985). Based on the findings of how people perceive individuals based on their temperament, the following hypothesis can be made:

H4: A supervisor's self-reported temperament is related to subordinates' perceptions of supervisor approachability.

One of the purposes of the current study is to examine the relationships between the perceptions of supervisor approachability and the various variables being analyzed in the current study (subordinate job satisfaction, work motivation, and perceptions of supervisor sociocommunicative style and credibility). Because approachability is a relatively unstudied construct in organizational communication, the following research question is posed:

RQ1: What is the relationship between subordinate perceptions of supervisor approachability, subordinate job satisfaction, and work motivation and the subordinates' perceptions of supervisor sociocommunicative style and credibility?

Methods

Procedure

After a letter was sent to the appropriate individual within each organization seeking approval to let employees participate in the current study, participants were approached by a coworker who was a designated employee of non-supervisory status during the participants' regularly scheduled shifts at their place of employment. The designated employee who collected the confidential materials for the study was exempt from the study. A letter explaining the intention of the study as well as the directions, necessary contact information, and age limitations accompanied the questionnaires administered in the study. Participants were asked to seal completed questionnaires in an envelope that accompanied each packet of materials. Once completed, each survey was placed within the secure envelope and given to the designated employee. Survey materials were then collected by the primary investigators.

Participants

Participants in this study consisted of a mixture of supervisors and subordinates employed within the service industry at a variety of locations in the Ohio Valley. For demographic purposes, supervisors and subordinates were asked four questions: age, biological sex, level of employment, and the length of employment within the organization. The sample in the study consisted of 195 subordinates and 42 supervisors for a total of 237 participants. Within the subordinate group, 75 (38.5%) were males, 116 (59.5%) were females, and 4 (2.1%) did not respond. The mean age of the subordinate participants was 27.62 ($SD = 8.8$) with a range from 18–58. The subordinates' hierarchical levels varied: 58 (29.7%) were entry-level employees, 77 (39.5%) were mid-level employees, 38 (19.5%) were high-level employees, 17 (8.7%) were low-level management, 1 (.5%) was a mid-level manager, 2 (1.0%) were upper-level management, and 2 (1.0%) indicated another level of employment. Subordinate length of employment ranged from 42 (21.5%) at less than six months, 39 (20.0%) at six months to one year, 49 (25.1%) at 1–3 years, 37 (19.0%) at 3–6 years,

16 (8.2%) at 6–10 years, 9 (4.6%) at 10–15 years, and 3 (1.5%) at 15–20 years. Nine subordinate surveys were discarded from the study for incomplete information (defined as less than 10% completion).

The same demographic questions were also posed to the supervisors who participated in this survey. The mean age of the supervisors was 37.05 ($SD = 11.13$) with a range from 22–62 years of age. The hierarchical levels of supervisors also varied: 5 (11.9%) low-level managers, 13 (31.0%) mid-level managers, and 24 (57.1%) upper-level managers. Supervisors were employed by their respective organizations for different periods of time: 1 (2.4%) for less than six months, 1 (2.4%) for six months to one year, 6 (14.3%) for 1–3 years, 9 (21.4%) for 3–6 years, 10 (23.8%) for 6–10 years, 8 (19%) for 10–15 years, 5 (11.9%) for 15–20 years, and 2 (4.8%) for at least 20 years.

Supervisor Instrumentation

Eysenck personality questionnaire

The Eysenck Personality Questionnaire was designed to measure three super traits: extraversion, neuroticism, and psychoticism. Eysenck, Eysenck, and Barrett's (1985) retooled 12-item measure of psychoticism was embedded within a general questionnaire consisting of Eysenck's (1998) 10-item measures of extraversion and neuroticism. The EPQ has 32 Likert-type items that range from 1 (*strongly disagree*) to 5 (*strongly agree*). Scores for extraversion range from 10 to 50. Cronbach's alpha reliability was .95 ($M = 36.3$; $SD = 11.9$) for supervisor extraversion, .89 ($M = 24.55$; $SD = 9.42$) for supervisor neuroticism, and .79 ($M = 29.59$; $SD = 8.55$) for supervisor psychoticism. In this study, supervisors were only asked to fill out the EPQ along with the basic demographic information described in the participant section.

The main reason why it was necessary to have the supervisors fill out the Eysenck Personality Questionnaire is because the scale is designed to assess an individual's temperament and not other people's perceptions of someone's temperament (Eysenck, Eysenck, & Barrett, 1985). For example, questions like "Do you enjoy meeting new people?," "Would you take drugs which may have strange or dangerous effects?," and "Would being in debt worry you?" are not questions that can be realistically answered by a second party not privy to an individual's personal thoughts, desires, and neuroses. For this reason, having supervisors provide us with responses to the EPQ provides a clearer picture of the supertraits (extraversion, neuroticism, and psychoticism) within this study and for this burgeoning body of research.

Subordinate Instrumentation

Job satisfaction scale

Job satisfaction is measured through a retooling of McCroskey's (1966) Generalized Belief Measure. The Generalized Belief Model was created as a way to measure beliefs about specific concepts. By attaining an individual's general belief about a given topic, the researcher can measure the degree to which an individual believes in a

given statement. For the purposes of this study, the belief that is measured is, "I am satisfied with my current job." This is similar to the method used by McCroskey et al. (2005) to measure job satisfaction. Each belief statement is then measured using a five-item semantic differential scale with seven steps. Cronbach's alpha reliability was .99 ($M = 27.12$; $SD = 10.62$).

Employee motivation scale

The Employee Motivation Scale is a re-tooling of Richmond's (1990) student motivation scale. The original scale asks students to respond to a series of five pairs of adjectives (*unmotivated/motivated*, *excited/bored*, *interested/uninterested*, *involved/uninvolved*, and *dreading it/looking forward to it*) with a seven-point continuum between adjectives. Cronbach's alpha reliability was .97 ($M = 25.26$; $SD = 9.95$).

Sociocommunicative style

The Sociocommunicative Style scale was designed to measure an individual's perception of another person's (in this case, a supervisor's) degree of assertiveness or responsiveness. The scale was designed by Richmond and McCroskey (1990). The scale consists of 20 Likert-type items measured with a range from 1 (*strongly disagree that it applies*) to 5 (*strongly agree that it applies*). Ten items measure assertiveness and ten items measure responsiveness. Cronbach's alpha reliability for assertiveness was .73 ($M = 33.1$; $SD = 7.45$). Cronbach's alpha reliability for responsiveness was .99 ($M = 35.89$; $SD = 14.1$).

Source credibility measure

The Source Credibility Measure was developed by McCroskey and Teven (1999) to examine students' feelings and perceptions of a teacher's competence, trustworthiness, and caring/goodwill. The scale in this study was revised to examine a subordinate's perception of her or his supervisor's credibility. The scale consists of 18 semantic differential items (six for each factor) with a range from one to seven. Cronbach's alpha reliability was .93 ($M = 29.96$; $SD = 10.51$) for competence, .96 ($M = 30.59$; $SD = 13.7$) for caring/goodwill, and .88 ($M = 29.44$; $SD = 9.94$) for trustworthiness.

Approachability scale

The Approachability Scale was designed for the current study to measure the degree of freedom subordinates feel when approaching their managers about issues and/or ideas. The scale consists of 20 oppositely worded adjectives separated by a seven-step scale. Items ranged from 1 to 7, with items 1 and 7 indicating very strong feelings, items 2 and 6 indicating strong feelings, items 3 and 5 indicating a fairly weak feeling, and item 4 indicating that the participant was undecided.

The first step in analyzing the Approachability Scale was to determine the scale's factor structure. Three criteria were used to determine the number of factors in the scale: sampling adequacy, the screen test, and the interpretability of the factor solution. A principle component analysis was used to determine the factor structure of the Approachability Scale. To examine sampling adequacy, Kaiser's Measure of Sampling Adequacy was used. The Kaiser's Measure of Sampling Adequacy obtained was .97, which is considered "marvelous" for conducting a factor analysis (Kaiser, 1974). The scree plot clearly indicated that there was only one primary factor, and only one factor with an eigenvalue above one that accounted for 92.39 percent of the variance. The principle component factor analysis of the Approachability Scale can be seen in Table 1.

As a follow-up procedure, a Confirmatory Factor Analysis was conducted to further investigate the structure of the twenty-item measure. Results indicated that the proposed structural model fit the data quite well, $\chi^2 (20, N = 151) = 105.97$, $p < .0005$. All the goodness-of-fit indices far exceeded the recommended levels: normed fit index (NFI) = .98, comparative fit index (CFI) = .98, relative fit index (RFI) = .96, incremental index of fit (IFI) = .98, and the Tucker-Lewis index (TLI) = .97. All of the indices of fit were over the .95 mark, which indicates that

Table 1 Approachability Scale

Adjective pairing	PCA factor loading	CFA factor loading
Friendly/unfriendly	.97	.73
Cold/warm	-.97	-.97
Inviting/uninviting	.98	.97
Closed/open	-.97	-.97
Accessible/inaccessible	.96	.96
Unresponsive/responsive	-.97	-.97
Welcoming/unwelcoming	.98	.98
Thoughtless/thoughtful	-.98	-.98
Courteous/rude	.96	.96
Unreceptive/receptive	-.97	-.97
Sensitive/insensitive	.98	.98
Impractical/practical	-.96	-.97
Unmotivated/motivated	-.96	-.96
Involved/uninvolved	.96	.96
Sociable/unsociable	.97	.97
Approachable/unapproachable	.97	.97
Sympathetic/unsympathetic	.98	.98
Easy to talk to/not easy to talk to	.96	.96
Open-minded/closed-minded	.97	.97
Disrespectful/respectful	-.81	-.81

the model proposed is a superior fit. The calculated estimates for each of the items can be found in Table 2. Scores for the Approachability Scale can range from 20 to 140, which were seen in this study. The Approachability Scale had an alpha reliability of .99 ($M = 105.5$; $SD = 44.60$).

Results

Hypothesis one predicted that a relationship would exist between a supervisor's temperament and a subordinate's level of job satisfaction and work motivation. A canonical correlation was calculated using extraversion, neuroticism, and psychoticism as the independent variables and job satisfaction and work motivation as the dependent variables. Using Wilks' Λ , the overall model was significant, Wilks' $\Lambda = .37$, $F(6, 380) = 40.98$, $p < .0005$, which indicates that the three variates are significantly associated by the canonical correlation. The first canonical correlation was found to be significant in this study. The first variate accounted for approximately 62.6 percent ($r_c = .79$) of the variance in the dependent variable. The variate loadings can be found in Table 2.

Hypothesis two predicted a relationship would exist between a supervisor's temperament and a subordinate's perception of her or his supervisor's sociocommunicative style. A canonical correlation was calculated using extraversion, neuroticism, and psychoticism as the independent variables, and approachability, assertiveness, and responsiveness as the dependent variables. Using Wilks' Λ , the canonical correlation analysis produced statistically significant results. One canonical correlation was statistically significant, Wilks' $\Lambda = .36$, $F(6, 380) = 42.71$, $p < .0005$. The first variate accounted for approximately 64 percent ($r_c = .80$) of the variance in the dependent variable. The variate loadings can be found in Table 3.

Hypothesis three predicted a relationship would exist between a supervisor's level of extraversion, neuroticism, psychoticism, and a subordinate's perception of her or his supervisor's credibility (competence, caring/goodwill, and trustworthiness). A canonical correlation was calculated using extraversion, neuroticism, and

Table 2 Job Satisfaction and Motivation Canonical Loadings

Variables	Canonical loadings
Temperament	
Extraversion	.99
Neuroticism	-.97
Psychoticism	-.68
Dependent variables	
Job satisfaction	.91
Motivation	1.0
Canonical correlation	.79

Table 3 Sociocommunicative Orientation Canonical Loadings

Variables	Canonical loadings
Temperament	
Extraversion	.98
Neuroticism	-.96
Psychoticism	-.61
Dependent variables	
Assertiveness	.28
Responsiveness	.94
Canonical correlation	.80

psychoticism as the dependent variables, and caring/goodwill, competence, and trustworthiness as the independent variables. The canonical correlation of these two sets of measures produced statistically significant results. The first canonical correlation generated an $r_c = .89$ and accounted for 71 percent of the variance in the dependent variable, Wilks' $\Lambda = .26$, $F(9, 460) = 37.93$, $p < .0005$. The second canonical correlation generated an $r_c = .21$ and accounted for 44 percent of the variance in the dependent variable, Wilks' $\Lambda = .26$, $F(4, 380) = 3.95$, $p < .004$. The third canonical correlation generated an $r_c = .19$, and accounted for 36 percent of the variance, Wilks' $\Lambda = .26$, $F(1, 191) = 7.09$, $p < .008$. The variate loadings can be found in Table 4.

Hypothesis four predicted that a relationship would exist between a supervisor's level of extraversion, neuroticism, and psychoticism, and a subordinate's perception of her or his supervisor's approachability. A multiple regression was conducted to evaluate the relationship between a supervisor's temperament and level of approachability. The linear combination of approachability was significantly related to the

Table 4 Source Credibility Canonical Loadings

	Variate 1	Variate 2	Variate 3
Temperament			
Extraversion	.99	.04	.16
Neuroticism	-.95	.31	-.05
Psychoticism	-.61	.05	-.80
Dependent variables			
Competence	.16	-.39	.91
Caring/goodwill	.49	-.72	.50
Trustworthiness	1.0	.09	.00
Canonical correlation	.89	.21	.19

level of extraversion, $F(3,191) = 160.2, p < .001$. The sample correlation coefficient (R) was .85, which indicates that 85 percent of the variance in supervisor approachability can be accounted for by a supervisor's level of extraversion, but was not impacted by neuroticism or psychoticism.

Research question two sought to determine the relationship between approachability and job satisfaction, motivation, and perceptions of a supervisor's credibility. To test these relationships, Pearson Product Moment correlations were calculated. The correlations can be seen in Table 5.

Discussion

The present research was designed to assess the perceptions a subordinate has of her or his supervisor based on the supervisor's self-reported temperament. Our primary concern was to test the relationship between supervisor temperament and how a supervisor's self-reported temperament affects employee satisfaction, work motivation, perceived supervisor sociocommunicative style, perceived credibility, and perceived level of supervisor approachability. Furthermore, we extended previous research on organizational communication to include the variable approachability which has not been widely researched in this area. To examine the results in this study, how a supervisor's temperament relates to both subordinate views her or his worklife (job satisfaction and motivation) and subordinate perceptions of her or his supervisor (sociocommunicative style, credibility, and approachability) will be discussed, followed by a discussion of the study's limitations and possible directions for future research.

Subordinate Views of Worklife

The study first looked at the effects of supervisor temperament on subordinate job satisfaction and employee motivation. The current study found that supervisor self-reports of extraversion positively related to subordinate job satisfaction and work motivation, while supervisor self-reports of neuroticism and psychoticism negatively related to subordinate job satisfaction and work motivation. While research in communication had not previously examined the impact that supervisor temperaments had on subordinates, previous research did note the effects of subordinate temperaments on their own job satisfaction and work motivation (McCroskey et al., 2005). Richmond and McCroskey (2000) found that subordinate perceptions of supervisor nonverbal immediacy was positively related to subordinate job satisfaction and work motivation. Furthermore, teacher self-reports of positive extraversion and negative psychoticism related to student perceptions of teacher nonverbal immediacy, so finding a relationship between supervisor temperament and subordinate job satisfaction and work motivation further validates the importance of extraversion on positive communicative interactions. However, these results also demonstrate the negative impact that highly neurotic and psychotic supervisors have on subordinate job

Table 5 Approachability Relationships

	Approachability	Job satisfaction	Work motivation	Assertiveness	Responsiveness	Competence	Caring/goodwill
Approachability	.85 [†]						
Job satisfaction	.87 [†]	.87 [†]					
Work motivation	.29 [†]	.22 [†]	.26 [†]				
Assertiveness	.89 [†]	.81 [†]	.82 [†]	.33 [†]			
Responsiveness	.12	.25 [†]	.29 [†]	.08	.14		
Competence	.94 [†]	.83 [†]	.85 [†]	.25 [†]	.90 [†]	.12	
Caring/goodwill	.40 [†]	.46 [†]	.53 [†]	.05	.41 [†]	.81 [†]	.43 [†]

p < .05, [†]*p* < .005, [‡]*p* < .0005.

satisfaction and work motivation. In essence, having highly extraverted individuals in supervisor positions can be very beneficial for organizational communication.

These findings are similar to the research conducted by Higgins (1994), who also found that supervisor temperament affected employee levels of satisfaction and motivation. In essence, Bates (1989) is accurate in his perspective that an individual's temperament has an impact upon the nature of social interactions.

Subordinate Perceptions of Her or His Supervisor

The second finding in this study examined the relationship between supervisor self-reported temperament and subordinate perceptions of her or his supervisor's socio-communicative style (assertiveness and responsiveness). The current study found that supervisor self-reports of extraversion positively related to subordinate perceptions of supervisor assertiveness and responsiveness, while supervisor self-reports of neuroticism and psychoticism negatively related to subordinate perceptions of supervisor assertiveness and responsiveness. These results are similar to the findings by McCroskey et al. (2004c), who examined teacher self-reports and student perceptions of sociocommunicative style. Again, this finding clearly illustrates Bates's (1989) notion that individual temperament influences our social interactions. While previous research had already reported that an individual's temperament could account for substantial portions of the variance in both assertiveness and responsiveness (Cole & McCroskey, 2000), this study along with the research conducted by McCroskey, Valencic, and Richmond (2004c) demonstrates that an individual's temperament can also predict how someone will perceive that individual's assertive and responsive communicative behaviors.

The third finding in this study examined the relationship between supervisor self-reported temperament and subordinate perceptions of her or his supervisor's credibility (competence, caring/goodwill, & trustworthiness). The current study found that supervisor self-reports of extraversion positively related to subordinate perceptions of supervisor credibility, while supervisor self-reports of neuroticism and psychoticism negatively related to subordinate perceptions of supervisor credibility. While previous research investigated how a subordinate's temperament related to perceptions of supervisor credibility (McCroskey et al., 2004b, 2005), this was the first study to examine how supervisor self-reports of temperament relate to subordinate perceptions of credibility. However, McCroskey et al. (2004c) reported that teacher self-reports of temperament related to student perceptions of that teacher's credibility. Again, this study helps illustrate that an individual's self-reported temperament clearly relates to how other people view them. While credibility is clearly not a concrete concept (Hart, Friedrich, & Brummett, 1983), the findings of this study and those of McCroskey et al. (2004c) focus on an important factor in credibility that has previously been glossed over, a source's individual temperament. The research from these two studies demonstrate that some people will be perceived as more credible simply based on their biologically hardwired temperaments, while others may have problems with how people perceive their credibility for the same reasons. While these findings may not be encouraging, they are important for

communicators to understand. If a communicator realizes that he or she has lower levels of extraversion or higher levels of neuroticism and psychoticism, he or she will have greater difficulty getting other people to perceive them as credible. These results can be seen as a handicap for some individuals who have higher levels of neuroticism and psychoticism and a bonus for other individuals who have higher levels of extraversion.

The last finding in this study examined the relationship between supervisor self-reported temperament and subordinate perceptions of her or his supervisor's approachability. The current study found that supervisor self-reports of extraversion positively related to subordinate perceptions of supervisor approachability, while supervisor self-reports of neuroticism and psychoticism negatively related to subordinate perceptions of supervisor approachability. While little research has been conducted in the area of approachability with the organizational setting, researchers have examined approachability within the teacher/student context. Previous research in how temperaments affect human interaction noted that extraverted people were perceived as more sociable and outgoing (Eysenck & Eysenck, 1976), while highly neurotic and psychotic people were generally perceived as more stand-offish and not open to interactions with other people (Beatty et al., 2001; Heaven & Rigby, 1985). The results from the current study further illustrate these previous findings. Highly extraverted supervisors were seen as more approachable, and highly neurotic and psychotic supervisors were not perceived as very approachable. These findings appear to indicate that people are more likely to be drawn to and feel that they can communicate with someone who is extraverted, whereas someone who is highly psychotic or neurotic is not as likely to have others drawn to them.

Beyond the supervisor temperament results, this study also examined a single research question that investigated the relationship between subordinate perceptions of supervisor approachability with subordinate perceptions of supervisor sociocommunicative style and credibility along with subordinate job satisfaction and work motivation. This study found a positive relationship between subordinate perceptions of supervisor approachability and subordinate job satisfaction and work motivation, as well as subordinate perceptions of supervisor assertiveness, responsiveness, caring/goodwill, and trustworthiness. These findings are in line with previous research that concluded that approachability was related to other positive interaction variables (Perrine, 1998; Reid & Johnston, 1999). The only non-relationship that existed between the study variables and approachability was competence. In essence, competent supervisors were not seen as more or less approachable.

Overall, the results from the current study indicate that a supervisor's temperament clearly impacts both subordinate views of her or his worklife (job satisfaction and motivation to work) and subordinate perceptions of her or his supervisor (socio-communicative style, source credibility, and approachability). Specifically, subordinate job satisfaction and motivation, and subordinate perceptions of her or his supervisor's responsiveness, caring/goodwill, trustworthiness, and approachability were all positively related to supervisors who were highly extraverted and exhibited low levels of neuroticism and psychoticism. As a whole, this would indicate that finding supervisors who are highly extraverted and have low levels of neuroticism and psychoticism can be very

important for organizations when deciding on management. Clearly, Bates (1989) is correct in his assessment that an individual's temperament affects how others view and opt to interact with that individual. As there is substantial research in the biological nature of human temperament (Beatty et al., 2000; Eysenck, 1952, 1956, 1978, 1998), it would appear that some individuals may be more suited for supervisory positions than others, or at least have an easier time as a supervisor because of her or his biological temperament.

Limitations

As with any study, several limitations need to be mentioned. Within this study, all research participants were employed in the service industry. The supervisors and subordinates in the service industry may not account for individuals in other organizational settings. The generalizability of the study to other professions may be difficult. One problem of generalizing these results to other organizational settings deals with the demographics. Most subordinates in the service industry, as seen in this study, are in their teens and early twenties, which innately affects management strategies because teenage and college age subordinates are not typically looking to make a life-long career out of their job.

A second limitation was that all supervisors did not have the same number of subordinates fill out the research packets. With the number of subordinate participants for each supervisor ranging from 3 to 18 and the average number of participants being 4.46 per supervisor, there could be an overemphasis on some supervisors within the sample. While the study did have 43 supervisors, the disproportion of some of the participant group sizes could skew the sample.

A third limitation to this study was that the subordinates were approached within their workplace to fill out the survey about their supervisor. While every attempt was made to secure the anonymity of the surveys and inform all participants of this anonymity, it is possible that some subordinates rated their supervisors higher than they really perceive them to be for fear of retribution.

The final limitation to this study is more of a research note to put the findings of this study in a better perspective. Often when people think of the variables extraversion, neuroticism, and psychoticism, they make the mistake of analyzing results from the three factors as individual concepts, but under Eysenck's (1998) conceptualization, these three supertraits do not exist in isolation. While researchers talk about the three factors individually, we examine them as three supertraits that measure one thing—human temperament. For example, communication apprehension is positively related to neuroticism, negatively related to extraversion, and not related to psychoticism (Beatty, McCroskey, & Heisel, 1998). In other words, when understanding how human temperament affects communication apprehension, we cannot analyze just one supertrait, but the three supertraits must be examined together to get the complete picture. In this study, the results indicated across the board that employees within the service industry preferred supervisors who were highly extraverted and had low levels of neuroticism and psychoticism. However, these results

cannot be generalized beyond the service industry, as previously mentioned. Furthermore, these results do not necessarily indicate that supervisors who are introverted and highly neurotic and psychotic are ineffective supervisors, but supervisors who stray from the temperamental pattern seen in this study may be perceived differently by their subordinates simply based on their biological temperament.

Future Research

Future research needs to expand the participant base to include employees of various occupations. Also, the Eysenck Personality variables may have intervening effects. Because extraversion, neuroticism, and psychoticism are rooted in genetics, certain communicative behaviors may not be accounted for in this study. For example, other supervisor communicative behaviors were not examined like perceived communication competence, humor assessment, nonverbal immediacy, and other communicative variables. Future research in this area should examine how supervisor temperaments relate to a wide variety of subordinate perceptions.

A second line of future research could flip the nature of the current study and examine how supervisors perceive their subordinates based on subordinate self-report of temperaments. As this study found, subordinate perceptions are influenced by supervisor temperaments, so it is plausible that supervisor perceptions will also be influenced by subordinate temperaments.

Thirdly, approachability should be studied in a wide variety of communication contexts beyond the organizational and instructional settings. Approachability could be important in, for example, physician-patient interactions, romantic interactions, and parental-adolescent interactions. Further research should also more clearly examine how supervisor approachability affects subordinate working relationships with that supervisor. Approachability may also be an important variable in understanding peer relationships in organizations. Overall, approachability research is clearly important and should be expanded beyond the current study.

Lastly, future research should examine how managers who do not fit the employee desired pattern of highly extraverted and lowly neurotic and psychotic supervisors function. While the current study suggests that there is no hope for supervisors who stray from the employee desired temperamental pattern, the current study's results do not suggest that these supervisors are actually ineffectual. In fact, it is theoretically possible that these "non-desired" supervisors actually realize their limitations and enact other behaviors to counteract the negative effects their temperaments may have.

Conclusions

The current study reiterates the importance of understanding the role an individual's temperament can play in an organizational setting. While previous research examined how a subordinate's temperament affects organizational communication (McCroskey et al., 2004b, 2005), the current study examined how supervisor

temperaments also impact organizational communication. While some may argue that temperament has little effect on interpersonal communication, this study clearly illustrates that an individual's temperament can have a very strong effect on how other people perceive and ultimately interact with her or him. Furthermore, this study illustrates the importance of having an extraverted individual as a supervisor in the service industry, while also noting the negative side of having a highly neurotic or psychotic individual in the same position. However, we are clearly only beginning the discussion of the effect of supervisor temperament on subordinates, so much research is still needed in this area.

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