Abstract

As interest grows in understanding the complex interaction between traits, behaviors and outcomes, research has increasingly undertaking the personality, leadership behavior study. Using various tools, results have been encouraging but mixed. That is, there have been shown to be relationships between leadership personality characteristics and leader effectiveness with a variety of personality assessment instruments applied. This theoretical work proposes a model that relates DiSC characteristics to transformational leadership and follower extra effort with the intent of applying a personality instrument that may better correlate with those effective behaviors of the successful leader and advance the understanding of how the trait and behavior aspects of leadership interact. Understanding personality trait relationships to leadership has theoretical, practical leadership selection and development, and future research value.

*Keywords:* transformational leadership, personality traits, trait theory, DiSC, MLQ, MBTI, Five-Factor.

Born or Made? A Model of Leadership Personality and Practice

Leadership has become increasingly complex and similarly, contemporary leadership research has re-engaged in a quest to better understand how personality traits, experiences, training, and value systems interrelate to affect leadership behavior and effectiveness (Derue, Nahrgang, Wellman, & Humphrey, 2011; Hambrick & Mason, 1984). Derue et al. (2011) argued that the work of exploring an integrating understanding of the constructs of effective leadership had been neglected (Derue et al., 2011), but still much remains to be studied about the individual antecedents to leadership including personality characteristics. That is, how much is trait and how much is training (Avolio, The "natural": Some antecedents to transformational leadership, 1994)? Lord, De Vader, and Alliger (1986) even suggested that the study of connections between leaders' personalities and effectiveness may have been dropped prematurely and consequently neglected, but through a recent resurgence of research into the connection between personality traits, behaviors, and leadership (Howell & Avolio, 1993), researchers continue to discover leadership antecedent associations and open doors to better understanding of leadership practices (Brown & Reilly, 2009).

With much left to understand, researchers have widely suggested future studies to understand how personality differences affect leadership behaviors, and whether personalities can predict leadership behavior or success (Atwater, Dionne, Avolio, Camobreco, & Lau, 1999; Bono & Judge, 2004). Understanding the relationship with personality has practical implications for training, selection, and development as well as further theoretical understanding of leadership (Bono & Judge, 2004; Judge & Bono, 2000).

This theoretical work is intended to answer the call to better understand leadership antecedents through the proposal of a model relating personality, as measured by an instrument

previously not employed for such a purpose, with transformational leadership as a mediator of leader personality on followers' extra efforts. The personality instrument and related constructs are from the DISC family of assessments which are widely used in organizational, leadership and personal development, and offer some unique personality assessment characteristics (Inscape Publishing, 2011; Sugarman, Scullard, & Wilhelm, 2011; Straw, 2002). The particular DISC instrument incorporated in the theory is the Everything DiSC® (DiSC) model developed by Inscape Publishing which is circumplex in nature and combines 8 unique personality scales. The nature of this particular assessment yields some unique interrelationships with transformational leadership theory.

Because no studies have explored the DiSC relationship to transformational leadership, this paper will first examine related literature of personality, leadership behavior, and outcomes which have used a variety of personality instruments, review the similarities and differences between those instruments and DiSC, and develop the conceptual connections between the DiSC model and transformational leadership. Then the theoretical framework for the relationship between DiSC attributes, transformational leadership, and the effect on follower extra effort will be developed.

**Trends in Leadership Research**

In the 1930s, early leadership interest focused on leader's traits such as intelligence, memory, energy, or other natural abilities (Oyinlade, 2006) with the underlying theory that leadership success was based on innate attributes (Piovanelli, 2005). Frustration led to the shift to theories that emphasized leadership behaviors which consumed most leadership research from the late 1940s through the late 1960s (Oyinlade, 2006; Piovanelli, 2005). The late 1960s through the early 1980s saw leadership theory concentrated on contingency theories where situations

were considered the more critical elements in leadership effectiveness (Piovanelli, 2005), but since, a multitude of contemporary leadership theories have emerge that concentrate on vision, follower sensitivity, and ensuring the proper mix of effective leadership behaviors (Brown & Reilly, 2009; Oyinlade, 2006; Piovanelli, 2005; Yukl, 2010; Avolio & Bass, Multifactor Leadership Questionnaire: Manual and Sample Set, 2004).

These contemporary new leadership theories include charismatic leadership, transformational leadership, servant leadership, and a variety of others (Bass & Riggio, The Transformational Model of Leadership, 2010; Burns, 2010; Conger, 2010; Greenleaf, 2010) with a resulting recognition that leadership was not simply trait, behavior, or contingency but a combination of those and other variables as well (House & Aditya, 1997; Oyinlade, 2006). Renewed interest in personality traits as antecedents to leadership effectiveness resulted in significant recent research using a variety of personality instruments including the Five-Factor personality scale, the most widely used, with sometimes inconsistent results and often weak correlations between personality characteristics and leadership (Brown & Reilly, 2009). Many theorized that personality-leadership behavior correlations are evidence that personality traits are an important element of successful leadership, but that the personality instruments employed are perhaps not adequate or refined enough to measure the characteristics of interest (Avolio & Howell, 2004; Brown & Reilly, 2009).

**Transformational Leadership**

In considering the impact of personality on leadership effectiveness, transformational leadership has been found to be effective across a variety of organizational types, levels, and industries, and has been the focus of much of leadership research over the last 20 years (Judge & Bono, 2000; Sadeghi & Pihie, 2012; Cavazotte, Moreno, & Hickmann, 2012). Judge and Bono

(2000) suggested that transformational leadership is in fact one of three prime influences on outcomes with the other two being organizational factors and follower characteristics (p. 762). Leaders practice a variety of active and passive leadership behaviors to varying degrees including contingent reward, management by exception and laissez-faire (Judge & Bono, 2000). Transformational leadership is a change-oriented leadership practice (Derue, Nahrgang, Wellman, & Humphrey, 2011; van Eeden, Cilliers, & van Deventer, 2008) and affects followers by addressing their emotional needs (Bono & Judge, 2004), appealing to ideals to inspire followers to transcend their personal interest in pursuit of a higher purpose unlike the more follower self-focused practices such as contingent reward (Bass, 1999; Bennett, 2009; Roush & Atwater, 1992). While resulting higher individual performance is widely accepted and empirically supported, transformational leadership also has been shown to positively impact team and organizational performance in terms of satisfaction, effectiveness and even objective measures of performance (Brown & Reilly, 2009; Dionne, Yammarino, Atwater, & Spangler, 2004). Transformational leadership is comprised of four pillars: idealized influence, inspirational motivation, intellectual stimulation and individual consideration that combine to motivate followers toward greater performance and satisfaction (Bass, 1999; Cavazotte, Moreno, & Hickmann, 2012; Judge & Bono, 2000).

Idealized influence represents a leader who is trusted, respected and projects a model that followers want to emulate (Avolio & Bass, 2004). The leader who exhibits idealized influence has high moral standards, speaks about their values and purpose, and acts consistent with their spoken principles (Avolio & Bass, 2004; Bono & Judge, 2004). Leaders who practice inspirational motivation paint a compelling, exciting vision with optimism and confidence (Avolio & Bass, 2004). Intellectual stimulation is a leadership behavior that is focused on

encouraging followers to analyze alternatives and explore a variety of perspectives (Avolio &

Bass, 2004). The leader intellectually stimulates by creating a safe environment to risk and think

creatively and to apply imaginative problem solving (Avolio & Bass, 2004; Judge & Bono,

2000). The fourth pillar of transformational leadership reflects a leader who teaches, coaches,

and supports followers in reaching their potential and is labeled individual consideration (Avolio

& Bass, 2004; Judge & Bono, 2000).

While the four pillars are useful in training and development, the behaviors work in

combination to affect outcomes and are often combined in research either for theoretical reasons

or because the inter-correlations of the elements make consolidation appropriate or necessary

(Atwater & Yammarino, 1993; Bono & Judge, 2004; Cavazotte, Moreno, & Hickmann, 2012;

Hartog, Van Muijen, & Koopman, 1997). Bono and Judge (2004) suggested that "When only

transformational leadership behaviors are considered, a single transformational leadership factor

appears to represent the data well." (p.902), and Bass (1999) the developer of the four pillar

transformational leadership construct advised that the single transformational leadership factor

may be more effective in research and the individual factors reserved for use in training and

development (p. 20).

There is substantial support for the positive relationship between transformational

leadership and desirable outcomes (Bono & Judge, 2004) across a variety of study populations,

industries, and cultures (Brown & Reilly, 2009; Dunn, Dastoor, & Sims, 2012). One of the

strongest and most consistent correlated outcomes of transformational leadership is follower

extra effort (Bennett, 2009; Bono & Judge, 2004; Cavazotte, Moreno, & Hickmann, 2012; Judge

& Bono, 2000; Roush & Atwater, 1992) and extra effort reflects the followers motivation to

succeed and do more than their role demands (Avolio & Bass, 2004). Emery and Barker (2007)

in examining leadership and followers' extra effort suggested that transformation leadership is more effective in encouraging exceptional efforts because it fosters emotional attachments through the four practices and creates an exceptional level of motivation (Sadeghi & Pihie, 2012). Follower extra effort will be the outcome modeled due to the consistent relationship and significant organizational impact such behavior yields.

While transformational leadership practices are related to follower extra effort and has been shown to relate to leader personality, Sadeghi and Pihie (2012) propose that transformational leadership combines personality traits, behaviors and contingencies suggesting transformational leadership mediates the personality to outcome relationahip (Derue et al., 2011) (Sadeghi & Pihie, 2012). Cavazotte et al. ( (2012) and Derue et al. (2011) in researching personality traits and transformational leadership found that transformational leadership behaviors mediated the relationship between personality and effective leadership outcomes.

## Personality as Leadership Antecedents

Lord et al. (1986) suggested in their relatively early meta-analysis of leadership traits that the study of personality traits may have been dropped prematurely as work shifted to contingency and other theoretical development. While Bass (1999) recommended during work on transformational leadership that personality factors be explored, most research since has been behavior based and results focused (Howell & Avolio, 1993) and has not integrated the trait aspects of leadership well (Derue, Nahrgang, Wellman, & Humphrey, 2011, p. 8). With theories such as transformational leadership generally accepted, Brown and Reilly (2009) suggested that research that transcends behavior and seeks to understand underlying leader characteristics may be in order. Personality would be such a set of characteristics to be explored.

There is both theoretical and empirical support for the relationship between personality, transformational leadership behaviors and outcomes (Cavazotte, Moreno, & Hickmann, 2012), and studies have successfully connected personality and leadership effectiveness, but those results have often been inconsistent (Atwater & Yammarino, 1993; Bono & Judge, 2004; Judge & Bono, 2000). De Vries (2012) found personality strongly related to leadership behaviors using an extension of the Five-Factor inventory and concluded that personality is a viable method for determining leadership style. Lord et al. (1986) conducted a meta-analysis of personality leadership studies and found many key personality traits were associated with leadership behavior. In another significant meta-analysis, Bono and Judge (2004) investigated the relationship between transformational leadership and the Five-Factor personality topology and found the personality leadership relationship consistent but generally weak. Other studies applied a variety of personality measures and explored various populations finding personality traits predicted transformational leadership behaviors in theoretically predictable ways (Atwater & Yammarino, 1993; van Eeden, Cilliers, & van Deventer, 2008; Judge & Bono, 2000). In a study of transformational leadership and the personality characteristic of locus of control (LOC), Howell and Avolio (1993) found those with a high LOC representing a view that the environment could be controlled as more transformational in their leadership behaviors.

While the relationship between personality, leadership behavior and leadership effectiveness has been supported empirically indicating that transformational leadership is influenced by traits in some manner (Judge & Bono, 2000), theoretical explanations vary broadly. Judge and Bono (2000) noted that despite all of the research, it remained unclear whether transformational leadership was a behavior, trait, a combination, or behavior driven by traits in some manner (p.752). Some scholars differentiate between behavior and personality,

some treat them as synonymous, and others view personality as traits exhibited through behavior (McKenna, Shelton, & Darling, 2002, p. 314). Hambrick and Mason (1984) posit that as leaders experience stimuli and challenges, personality, training, knowledge, values and perhaps other factors mold the leaders' interpretation and actions making personality one of many elements influencing transformational leadership behavior.

McKenna et al. (2002) suggested that behavior and personality are similar, but that current behavior instruments such as those used to measure transformational leadership may not capture the more emotional components well. In an alternative theory, Michael (2003) suggested that perhaps certain personality types simply gravitate to leadership roles (p.76), but no matter the basis for the relationship, understanding the personality to leadership behavior linkage would still prove helpful in leader selection and development.

A significant group of researchers suggested that personality traits are manifested in leadership behaviors and therefore, behaviors such as those measured in transformational leadership generally capture exposed traits (Derue, Nahrgang, Wellman, & Humphrey, 2011; van Eeden, Cilliers, & van Deventer, 2008; de Vries, 2012). Van Eeden et al. (2008) further posited that social and interpersonal personality tendencies, especially visionary-like tendencies, actually affect the leadership practices which are manifested as transformational leadership behaviors. Cable and Judge (2003) in a similar theory suggested that personality simply makes leaders predisposed to employ certain tactics, such as high locus of control influencing active leadership tactics (p.198). Lord et al. (1986) suggested that traits may actually affect how followers perceive leadership allowing the leader to influence and be effective primarily due to perception.

The propensity of theoretical and empirical data indicate that personality and transformational leadership are generally connected in some manner (Derue, Nahrgang,

Wellman, & Humphrey, 2011; de Vries, 2012), and van Eeden (2008) summarizes the

relationship most effectively writing that traits "do not ensure leadership success, but that some

traits do distinguish effective leaders." (p.254) What is clear is that further study on personality,

leadership behaviors, and effectiveness are needed and whether the personality traits alter

perceptions, behaviors, or in some other manner affects results, measuring personality

preferences can offer increased understanding of leadership processes (Avolio, 1994; Brown &

Reilly, 2009)

### 1.   Personality Measures in Leadership Research

With the renewed interest in leadership trait theory and how they may relate to leadership

behaviors and outcomes (House & Aditya, 1997; de Vries, 2012), research has grown involving

a variety of personality assessment instruments (McKenna, Shelton, & Darling, 2002).

Personality topologies have a long history beginning with Hippocrates around 400 B.C., a four-

factor system based on body fluids (McKenna, Shelton, & Darling, 2002, p. 315) and found

renewed interest in the 1920s and 1930s with work by Jung and Marston, the basis for perhaps

two of the more popular assessments, Myers-Briggs Type Indicator (MBTI) and DISC

(McKenna, Shelton, & Darling, 2002). Most early assessments shared the characteristics with

Hippocrates in that they were comprised of four elements, they tended to divide active or

aggressive from responsive or passive behaviors, and they assumed that no style is inherently

more or less effective (McKenna, Shelton, & Darling, 2002). The generally more popular

assessments, DISC and MBTI, are used broadly in leadership and organizational development

but have been used relatively infrequently in leadership research compared to the more extensive

personality instruments such as neo-PI (Five-Factor tool) or the 16 Personality Factor Inventory

(16PF) (McKenna, Shelton, & Darling, 2002). McKenna et al. (2002) suggested that the

supporters of particular assessment tools base their preference more on anecdotal support than documented results. While some researchers argue that MBTI and DISC are more behavior style and the Five-Factor and 16PF are more personality based, with the controversy over the personality and behaviors relationship previously discussed at length, the differentiation is suspect. De Vries (2012) perhaps summarized the relationship best when suggesting that behaviors may be "conceptualized reflections" of personalities and therefore if measured properly, the two would be closely correlated anyway (p.817).

The Five-Factor or Big-Five as some have labeled the measure, has been the most widely used personality assessment in leadership research and consistently reveals correlation between personality and leadership behaviors (Felfe & Schyns, 2006), however, the particular characteristics which showed correlations have varied from study to study (Bono & Judge, 2004). The Five-Factor typology includes extraversion, agreeableness, conscientiousness, neuroticism, and openness to experience. Bono and Judge (2004) in a meta-analysis of the Five-Factor studies found all factors related to leadership effectiveness, especially transformational leadership, with extraversion the strongest and neuroticism negatively correlated (p.905). Other individual studies employing the Five-Factor scale found only some of the factors significantly related to transformational leadership with extraversion the most common, and agreeableness, conscientiousness, openness to experience revealed in some studies (Derue, Nahrgang, Wellman, & Humphrey, 2011; de Vries, 2012; Cavazotte, Moreno, & Hickmann, 2012; Judge & Bono, 2000). Derue et al. (2011) theorized that extraversion and agreeableness because of their relational nature would be most closely related to change oriented leadership such as transformational leadership. Bono and Judge (2004) in their meta-analysis confirmed extraversion as the most consistently correlated factor, and Judge and Bono (2000) in a large

study involving 200 organizations found agreeableness with characteristics of warmth and trustworthiness the strongest predictor of transformational leadership. Cavasotte et al. (2012) in a study of leadership in a Brazilian firm found only conscientiousness, which captures characteristics of results-orientation, dependability and achievement, as significantly correlated with transformational leadership suggesting that because the findings vary from previous studies, culture may have a moderating influence on personality as it relates to leadership.

Another personality instrument employed in the personality to behavior research has been the Myers-Briggs Type Indicator (MBTI) (Atwater & Yammarino, 1993; McKenna, Shelton, & Darling, 2002). The MBTI was developed based on the work of the Swiss psychologist Jung in the 1920s and the adaptation by Myers and Briggs, who added a scale for judging and perceiving and applied Jung's work beyond the originally intention to diagnose neurosis generating some controversy (McKenna, Shelton, & Darling, 2002; Michael, 2003). McKenna et al. (2002) also suggested that despite the instrument's popularity, there is not adequate evidence that the MBTI is valid. MBTI is comprised of four dichotomous scales; extraversion/introversion, sensing/intuition, thinking/feeling and judging/perceiving (Michael, 2003; Roush & Atwater, 1992). Like the Five-Factor scale, the MBTI studies have yielded inconsistent results (Brown & Reilly, 2009). Roush and Atwater (1992) found sensing and feeling attributes were correlated to transformational leadership and Atwater and Yammarino (1993) in a similar study also found feeling types, a characteristic that represents caring for others, rated higher for transformational leaderships. Brown and Reilly (2009) studied transformational leadership using the MBTI in a population of 2000 followers and 148 managers and found extraversion and intuition positively related to transformational leadership which is the opposite of sensing as found in the previously referenced studies. While the Atwater and Yammarino (1993) study used raw MBTI scores, the

other studies only applied the dichotomous classifications which are less accurate and may distort the personality characteristics (Michael, 2003). The populations studied also varied widely with unknown impact, but it is clear that the studies conducted do not yield adequate support the use of the MBTI as a valid tool for predicting transformational leadership (Brown & Reilly, 2009).

Other personality inventories have been used in researching the personality to transformational leadership relationship including the Jackson Personality Inventory (JPI) (Paunonen & Jackson, 1996) and the Sixteen Personality Factor Questionnaire (16PF) (van Eeden, Cilliers, & van Deventer, 2008) with similar modest and inconsistent results. The JPI is closely related to the Five-Factor instrument (Paunonen & Jackson, 1996) and the 16PF suffered from the problems experienced with the MBTI due to the use of dichotomous scales (van Eeden, Cilliers, & van Deventer, 2008). Howell and Avolio (1993) explored locus of control (LOC), a specific personality characteristics, and found high LOC positively correlated to transformational leadership providing general support for the concept that personality and transformational leadership behaviors are related.
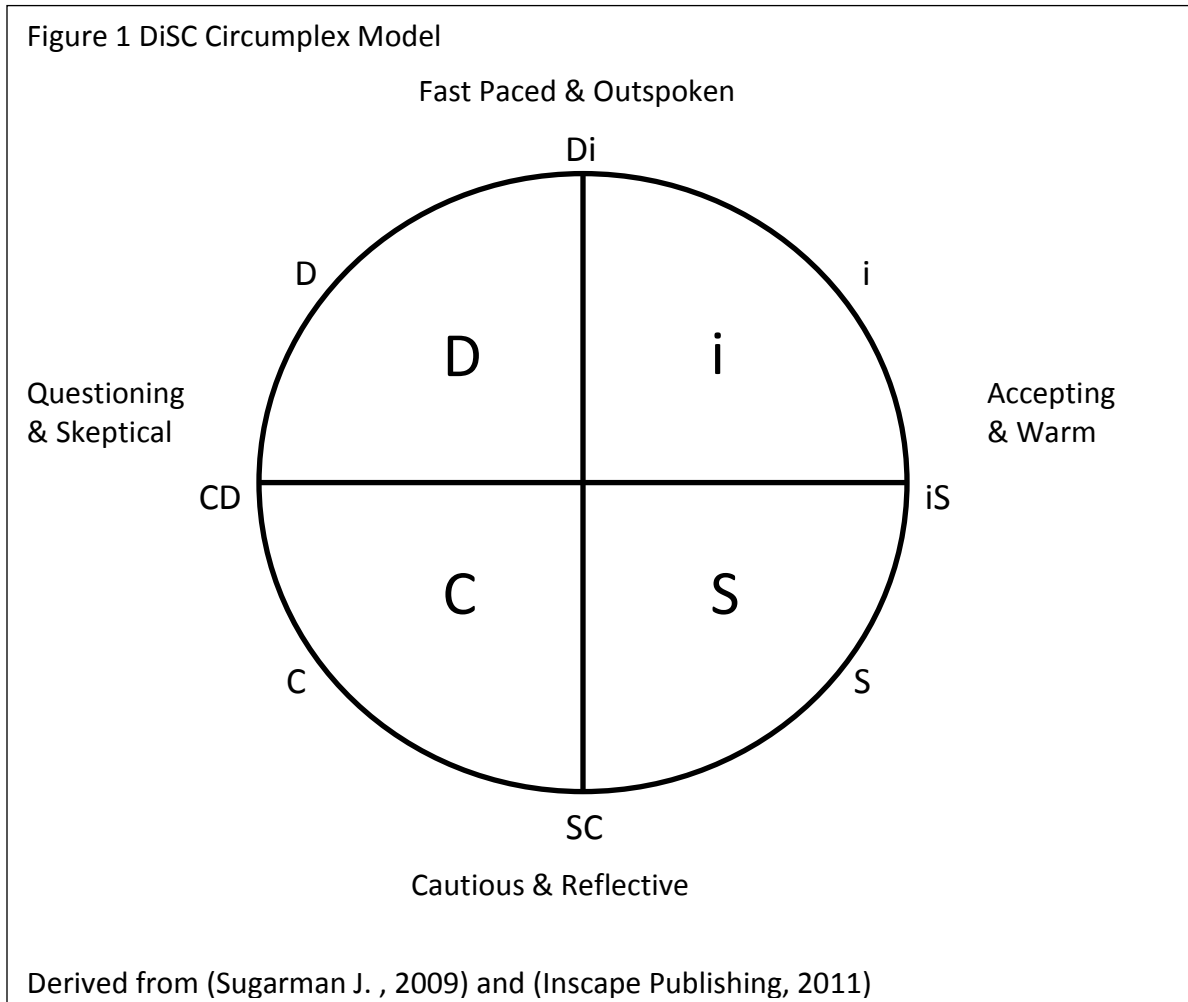
While various personality measures such as the Five-Factor and MBTI consistently revealed a correlation between personality and transformational leadership, the relationship has been weak and inconsistent which may suggest that the models were unable to captured the leadership antecedents adequately or with enough precision (Bono & Judge, 2004; Judge & Bono, 2000). Alternative personality scales may better measure the particular personality characteristics that reflect in transformational leadership, and Bono and Judge (2000) recommended the investigation of a personality scale that employed a circumplex approach, where the interrelated personality characteristics may better relate to leadership behaviors (Bono

& Judge, 2004). The Everything DiSC® model is just such a circumplex scale (Inscape Publishing, 2011).

## 2.   Everything DiSC® as Personality Measure

Bono and Judge (2004) suggested that research involving personality and transformational leadership has been disappointingly inconsistent, and the issue may have been that the personality measures used were inadequate or perhaps did not measure personality finely enough. Still researchers persist, employing the previously used assessment tools based on anecdotal support rather than on documented results (McKenna, Shelton, & Darling, 2002, p. 314). The personality typology and associated measurement instrument for the proposed theoretical model are components of Everything DiSC®, a contemporary DISC model advanced by Inscape Publishing (2011).

The DISC typology is based on the theories contained in Marston's 1928 book, "Emotions of Normal People" (Marston, 1928). Marston believed there were unlearned personality and emotional tendencies related to how people sensed the world (Brown & Reilly, 2009), and the styles would not change over time (McKenna, Shelton, & Darling, 2002). Research into DiSC found that individuals have priorities that influence their behaviors (Sugarman J. , 2009). The emotions and behavioral responses are classified into the constructs currently labeled dominance, influence, steadiness, and conscientiousness (Inscape Publishing, 2011; McKenna, Shelton, & Darling, 2002; Freeman, 2011) from which the DISC acronym is named (Sugarman J. , 2009). The personality traits in the DiSC model are a circumplex model which has substantial theoretical overlap with the Leary Circumplex ( (Leary, 1957). The DiSC Circumplex Model is shown as Figure 1.

Figure 1 DiSC Circumplex Model

Fast Paced & Outspoken

Di

D

i

D

i

Questioning
& Skeptical

Accepting
& Warm

CD

iS

C

S

C

S

SC

Cautious & Reflective

Derived from (Sugarman J. , 2009) and (Inscape Publishing, 2011)

Note that the opposite traits, such as C and S, are negatively correlated and the adjacent

traits minimally correlated, and while the traits appear discrete, they are actually continuous and

everyone has a blend of the various traits (Inscape Publishing, 2008; Inscape Publishing, 2011;

Freeman, 2011; Straw, 2002; Sugarman, Scullard, & Wilhelm, 2011). Responses on 79 items are

used to create scores for the eight scales shown around the circle depicted in Figure 1 (Inscape

Publishing, 2011) and Table 1 describes the eight scales and the personality constructs of each.

Table 1

DiSC Personality Scales Descriptions

| Scale | Disposition | Descriptive Adjectives |
| --- | --- | --- |
| D | Direct, Dominant | Aggressive, strong-willed, forceful |
| Di | Active, Fast-Paced | Dynamic, adventurous, bold |
| i | Interactive, Influencing | Sociable, lively, talkative |
| iS | Agreeable, Warm | Trusting, cheerful, caring |
| S | Accommodating, Steady | Considerate, gentle, soft-hearted |
| SC | Moderate-paced, Cautious | Careful, soft-spoken, self-controlled |
| C | Private, conscientious | Analytical, reserved, unemotional |
| CD | Questioning, skeptical | Cynical, stubborn, critical |

Adopted from Assessment and Scoring, Everything DiSC Research Report (Inscape Publishing, 2011)

While for simplicity the DiSC styles are often expressed in terms of a primary and secondary style based on scores on each scale, the raw scores for each of the eight constructs can provide continuous measures of each for analysis of the personality factors and their correlation to behaviors as measured by transformational scales (Inscape Publishing, 2011; Sugarman, Scullard, & Wilhelm, 2011). The Everything DiSC® personality instrument also offers the advantage of being relatively non-judgmental as compared to the Five-Factor which utilizes terms such as neuroticism and lack of agreeableness (Michael, 2003).

Reliability and validity are essential for psychological instruments to ensure that they accurately and consistently measure what they propose to measure (Cabanda, Fields, & Winston, 2011). DiSC validation as a psychological instrument included standard methodologies such as Cronbach alpha of intra-scale correlation, test-retest over periods of one week, 5-7 months, and

one year, inter-scale correlations to verify that adjacent constructs are weakly correlated and opposites are negatively correlated, and factor analysis to measure any potentially problematic covariance (Inscape Publishing, 2008; Inscape Publishing, 2011). The instrument is logical and conceptually valid (face validity), and construct validity was further tested through correlation with the theoretically associated measures of the MBTI, 16PF and against self-perceptions paragraphs selected by respondents which were designed to describe one of the DiSC constructs (Inscape Publishing, 2008). To confirm the circumplex characteristics of the DiSC model, multi-dimensional scaling (MDS) and varimax rotation was performed and the characteristics confirmed (Inscape Publishing, 2011).

### 3.    Model of Personality, Leadership Behavior and Outcome

While Everything DiSC® is a reliable and valid psychological instrument and measures personality constructs differently than the scales previously used in the study of transformational leadership antecedents, the theoretical foundation and propositions to support the model must be constructed without the benefit of prior transformational leadership research utilizing the instrument. Judge and Bono (2000) faced similar challenges in applying the Five-Factor topology to transformational leadership, and created the theoretical links by connecting transformational leadership concepts with relevant characteristics from the scale and aligning the findings of other personality instruments such as MBTI. A similar evolutionary analysis for Everything DiSC® will be performed based on the literature and research findings.

As Cable and Judge (2003) noted in their study involving the Five-Factor personality instrument, leadership behaviors involve complex interactions and therefore a combination of personality constructs may prove most effective. The combination of personality elements inherent in the Everything DiSC® circumplex model offer that integrated personality palette

(Sugarman, Scullard, & Wilhelm, 2011). While the personality components are complex, transformational leadership behaviors in this proposed model are considered as a single factor combining the individual elements of individual consideration, inspirational motivation, intellectual consideration and idealized influence (Bass, 1999) since when only transformational leadership and not the other full-range of leadership behaviors are considered, a single transformational leadership factor represents the data well (Bono & Judge, 2004). Table 2 illustrates some of the general personality characteristics found to correlate to transformational leadership in research using other instruments and within particular theoretical constructs of transformational leadership described by Bass (1999) and House (1997) align with the four major DiSC scales.

Table 2

General transformational leadership constructs related to major DiSC scales

| DiSC Scale | MBTI Characteristics | Five-Factor Characteristics | Bass and House Theoretical Constructs |
|---|---|---|---|
| D | Extraversion – focus outward, communicative, action oriented | Extraversion – energetic, assertive, change oriented, active, high expectations Conscientious – results oriented | High standards, determined, visionary, dominant, confident |
| i | Feeling – person centered, subjective, abstract Extraversion – focus outward, people oriented, communicative, action oriented | Extraversion – social, optimistic, energetic, talkative, upbeat, active | Inspirational, visionary, warm, social, confident, influential |
| C | Introversion – [negative] | | Rules and process focus NOT transformational |
| S | Feeling – person centered, subjective | | Supportive, coach, involve followers, social |

Developed from (Avolio & Bass, 2004; Bono & Judge, 2004; House & Aditya, 1997; Brown & Reilly, 2009; Sugarman, Scullard, & Wilhelm, 2011; Inscape Publishing, 2011)

While Table 2 illustrates the general personality characteristics connecting DiSC with transformational leadership as reflected in both prior research and theory, the theoretical connections between personality as described by the DiSC model and transformational leadership behaviors are robust and complex requiring more thorough analysis. In general, transformational leaders are more active (van Eeden, Cilliers, & van Deventer, 2008) as are the D and I DiSC styles (Sugarman J. , 2009) whereby passivity creates negative follower outcomes which are more descriptive of the C and S DiSC scales (van Eeden, Cilliers, & van Deventer, 2008; Sugarman J. , 2009).

There are significant transformational leadership characteristics that reflect the personalities attributes measured by the i scale (Inscape Publishing, 2011; Sugarman, Scullard, & Wilhelm, 2011; Freeman, 2011) including outgoing, assertive, optimistic, agreeable, warm, affiliate, enabling, influential, high energy (van Eeden, Cilliers, & van Deventer, 2008), expressiveness, social, confident, need to influence (House & Aditya, 1997), concern for the individual, a drive for change, relationship orientated (Judge & Bono, 2000), aggressive, and bold (Atwater & Yammarino, 1993). The plethora of similar characteristics between transformational leadership and the Everything DiSC® i scale suggests that the i scale score would most correlate to transformational leadership.

The D DiSC scale also measures a number of transformational leadership behaviors (Inscape Publishing, 2011; Freeman, 2011; Straw, 2002) including assertiveness, high energy, outgoing, influential (van Eeden, Cilliers, & van Deventer, 2008), dominance (House & Aditya, 1997), a drive to change (Bass, 1999; Bono & Judge, 2004), aggressiveness (Atwater & Yammarino, 1993), active (Cavazotte, Moreno, & Hickmann, 2012; Derue, Nahrgang, Wellman, & Humphrey, 2011), innovative (Roush & Atwater, 1992), and energetic (Bono & Judge, 2004).

The many transformational leadership characteristics measured by the DiSC D scale suggests that the D scale will also correlate with transformational leadership but lesser than the i scale.

Similar to the D scale, the DiSC S scale also reflects some transformational leadership behaviors (Inscape Publishing, 2011; Freeman, 2011; Sugarman J. , 2009; Straw, 2002), but less than the number measured by the i scale. S scale transformational leadership characteristics include supportive, affiliate, agreeable, warm (van Eeden, Cilliers, & van Deventer, 2008), people oriented, relationship focused (Roush & Atwater, 1992), social (House & Aditya, 1997), coaching, inclusive (Bass & Riggio, 2010), and optimistic (Bono & Judge, 2004). The transformation behaviors reflected in the S scale indicate that the S measures will correlate with transformational leadership but not as much as the i scale.

The DiSC C scale generally reflects characteristics opposite from those considered as elements of transformational leadership (Inscape Publishing, 2011; Freeman, 2011; Sugarman J. , 2009; Straw, 2002) including inflexibility, passive, pessimistic (van Eeden, Cilliers, & van Deventer, 2008), process focused (Bass, 1999), and deliberate (Bono & Judge, 2004). The characteristics within the C scale suggest that C measurement will negatively correlate with transformational leadership.

The theoretical model proposed is intended to advance the understanding of how traits, specifically personality and leadership behaviors interact to create leadership effectiveness and one of the most effective methods of evaluating leadership effectiveness is through subordinate perceptions (Oyinlade, 2006). While many measures of leadership effectiveness as resulting from transformational leadership behaviors have been developed and applied, and transformational leadership has been shown to effect numerous of those measures including objective performance measures, one of the most consistently and strongly correlated outcomes

has been follower extra effort (Avolio & Bass, 2004; Bass, Two decades of research and development in transformational leadership, 1999; Bennett, 2009; Bono & Judge, 2004; Lord, De Vader, & Alliger, 1986; Brown & Reilly, 2009). Such a relationship is theoretically expected since transformational leadership behaviors inspire followers to look beyond their own self-interests and therefore would naturally result in followers willingness to do more than expected by their role or assignment (Avolio & Bass, 2004; Bennett, 2009; van Eeden, Cilliers, & van Deventer, 2008). Extra effort reflects the followers' motivation to succeed and do more than their role demands (Avolio & Bass, 2004). Emery and Barker (2007) suggested that transformation leadership is especially effective in encouraging extra efforts because it fosters emotional attachments creating exceptional motivation (Sadeghi & Pihie, 2012). Follower extra effort was selected as the dependent variable because of the importance in reflecting leader effectiveness and the consistent correlation with transformational leadership (Brown & Reilly, 2009; Lord, De Vader, & Alliger, 1986; Bennett, 2009).

Sadeghi and Pihie (2012) suggested that transformational leadership is not only behavior but includes traits and other factors and therefore likely mediates the personality to outcome relationship (Derue et al., 2011 (Sadeghi & Pihie, 2012)). Both Cavazotte et al. ( (2012) and Derue et al. (2011) tested the mediator theory and found that transformational leadership behaviors were acting as a mediator in the relationship between personality and effective leadership outcomes. A mediator variable is a third variable through which an "independent variable is able to influence the dependent variable of interest" (Baron & Kenny, 1986, p. 1173) which describes how or why the effect occurs. Since personality traits are connected to both transformational leadership and outcomes and transformational leadership are consistent antecedent of follower extra effort (Cavazotte, Moreno, & Hickmann, 2012), the model proposed

theorizes that transformational leadership mediates the DiSC personality characteristics to follower extra effort relationship. Both conceptual theories and empirical findings have supported that leadership behaviors mediate trait to leadership effectiveness relationships (Derue, Nahrgang, Wellman, & Humphrey, 2011), and Cavazotte et al. (2012) and Derue et al. (2011) confirmed such a mediation role for transformational leadership in their research.

While follower extra effort has consistently correlated with transformational leadership behavior (Bass, 1999), and transformational leadership has been shown theoretically and empirically to mediate the personality to outcome relationship (Cavazotte, Moreno, & Hickmann, 2012), any research on the herein proposed model should confirm the relationships to ensure there is nothing unusual in the study and test the validity and strength of the mediating influence of transformational leadership on the personality-extra effort relationship.

The model depicting the relationship between personality as measured by Everything DiSC® scales, transformational leadership as perceived by the follower, and follower extra effort is illustrated as Figure 2.

# Figure 2. Effects of Leader Personality on Follower Extra Effort
# Mediated by Transformational Leadership
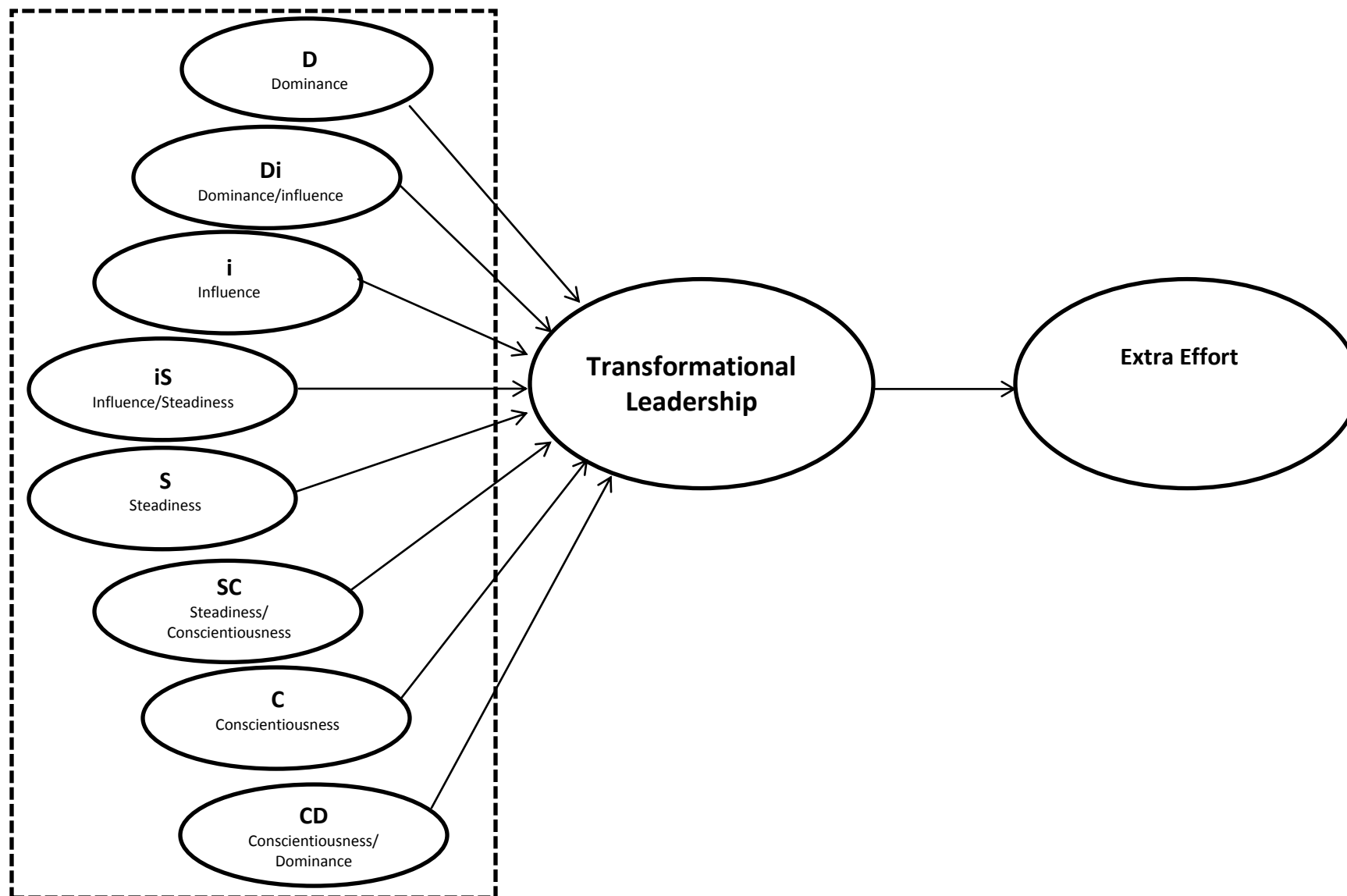


**Everything DiSC® Personality Style – Scales**

The circumplex nature of the Everything DiSC® model with its adjacent correlations and opposite scale negative correlations (Inscape Publishing, 2011) and considering the behaviors incorporated within each scale would suggest that transformational leadership will be correlated in decreasing amounts from i through C scales in the order I, iS and Di, S and D, SC and CD, and C.

Based on the research and theoretical arguments presented the theoretical propositions reflecting the relationship between personality as measured by the DiSC scales and transformational leadership are:

Proposition 1: There will be a positive relationship between the Everything DiSC® i scale score and perceived transformational leadership.

Proposition 2: There will be a positive relationship between the Everything DiSC® iS and Di scale scores and perceived transformational leadership which will be weaker than the relationship between the i scale and transformational leadership.

Proposition 3: There will be a positive relationship between the Everything DiSC® D and S scale scores and perceived transformational leadership which will be weaker than the relationship between the iS and Di scales and transformational leadership.

Proposition 4: There will be a positive relationship between the Everything DiSC® CD and SC scale scores and perceived transformational leadership which will be weaker than the relationship between the D and S scales and transformational leadership.

Proposition 5: There will be a negative relationship between the Everything DiSC® C scale score and perceived transformational leadership which will be weaker than the relationship between the D and S scales and transformational leadership.

Proposition 6: Transformational leadership will mediate the relationship between personality as measured by the Everything DiSC® instrument and follower extra effort.

**Exploring the Model**

Future studies to test the proposed model should employ diverse samples involving multiple locations and functions to better generalize the results (de Vries, 2012). DiSC attributes should be collected using the 79 question online instrument (Inscape Publishing, 2011) with the leader self-rating which unlike measures of leadership behavior have been found by research to be  generally consistent with followers and sufficient (de Vries, 2012). To reduce common source bias and since follower ratings have been found to reflect accurately transformational leadership behaviors (Brown & Reilly, 2009; Avolio, The "natural": Some antecedents to transformational leadership, 1994; Judge & Bono, 2000), transformational leadership should be measured through follower surveys involving multiple followers for each leader (Bono & Judge, 2004). The Multifactor Leadership Questionnaire (MLQ) is suggested for measuring transformational leadership behaviors since it is the most widely used, has "respectable psychometric properties" (House & Aditya, 1997), and has broad empirical support for reliability and validity across research (Bennett, 2009; Bono & Judge, 2004; Brown & Reilly, 2009; Felfe & Schyns, 2006; Kanste, Miettunen, & Kyngas, 2007; van Eeden, Cilliers, & van Deventer, 2008) as well as through over 28,000 subjects included in the developers' reliability and validity analysis (Avolio & Bass, 2004). The large body of research included Kanste et al. (2007) who also verified test-retest consistency over a year period. While the MLQ in its latest release includes 45 items, only the 20 transformational leadership items and 3 items for measuring extra effort would be needed (Avolio & Bass, Multifactor Leadership Questionnaire: Manual and Sample Set, 2004), however use of the entire instrument is suggested since the model and

application of DiSC are not empirically mature and inductive insights may be revealed through the greater data collection. Like transformational leadership, outcomes such as extra effort are best measured by followers (de Vries, 2012) so the MLQ can collect be used for that information as well. While most studies have used the MLQ for both transformational leadership and outcomes and objective performance measures have confirmed transformational leadership effectiveness (Brown & Reilly, 2009), an alternative extra effort scale can be employed is single-source bias is a concern.

Correlation between the continuous independent variables within DiSC, transformational leadership ratings as measure by the MLQ, and extra effort also measured by the MLQ will support or reject the propositions theorized and how strong and significantly valid are the relationships (Pallant, 2010). Multiple regression analysis, specifically examining the standardized coefficients (beta) may offer insight into which personality characteristics within the DiSC circumplex model make the greatest contribution in terms of predicting transformational leadership behavior and extra effort (Pallant, 2010; Judge & Bono, 2000). The relationship will also verify whether as proposed, transformational leadership acts as a mediator between personality and extra effort. Table 3 depicts the correlations expected between the DiSC personality characteristics and transformational leadership.

Table 3.

Expected correlations between DiSC personality attributes and transformational leadership

|      | TL  | i    | Di   | iS   | D     | S    | CD   | SC   | C |
|------|-----|------|------|------|-------|------|------|------|---|
| TL   | -   |      |      |      |       |      |      |      |   |
| i    | H   | -    |      |      |       |      |      |      |   |
| Di   | M   | M    | -    |      |       |      |      |      |   |
| iS   | M   | M    | M    | -    |       |      |      |      |   |
| D    | L   | L    | M    | None | -     |      |      |      |   |
| S    | L   | L    | None | M    | N     | -    |      |      |   |
| CD   | VL  | None | M    | N    | M     | None | -    |      |   |
| SC   | VL  | None | N    | M    | None  | M    | L    | -    |   |
| C    | N   | N    | None | None | L     | L    | M    | M    | - |

Legend: H=high, M=moderate, L=low, VL=very low, N=negative

## Significance of Model and Research

The relationship between personality, leadership and outcomes is important both theoretically and practically (McKenna, Shelton, & Darling, 2002) and this model is important in advancing that inquiry and providing a framework for further research. Personality traits and leadership relationships offer possibilities in the selection (Judge & Bono, 2000), development (Avolio, 1994; Sadeghi & Pihie, 2012), and placement (McKenna, Shelton, & Darling, 2002) of potential leaders. Properly aligning roles and personalities can reduce stress, increase satisfaction, and improve performance (McKenna, Shelton, & Darling, 2002, p. 318) while conversely, the current lack of understanding the personality-behavior relationship may result in a selection and training process that actually is harmful (Avolio, 1994, p. 1564).

Personality-based research is relatively undeveloped and DiSC has not been applied previously in researching the personality to leadership and outcome relationship, future research is likely to offer some yet undiscovered, inductively derived insights. It is in advancing that complex leadership paradigm that this theoretical development is targeted.

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**References**

Atwater, L. E., & Yammarino, F. J. (1993). Personal attributes as predictors of superiors' and subordinates' perceptions of military academy leadership. Human Relations, 46(5), 645.

Atwater, L. E., Dionne, S. D., Avolio, B., Camobreco, J. F., & Lau, A. W. (1999). A longitudinal study of the leadership development process: Individual differences predicting leader effectiveness. Human Relations, 52(12), 1543-1562.

Avolio, B. J. (1994). The "natural": Some antecedents to transformational leadership. International Journal of Public Administration, 17(9), 1559-1581.

Avolio, B. J., & Bass, B. M. (2004). Multifactor Leadership Questionnaire: Manual and Sample Set (3rd ed.). Palo Alto, CA: Mind Garden.

Avolio, B. J., & Howell, J. M. (2004). The impact or leadership behavior and leader-follower personality match on satisfaction and unit performance. Impact of Leadership, 225-235.

Baron, R. M., & Kenny, D. A. (1986). The moderator-mediator variable distinction in social psychology research: Conceptual, strategic, and statistical considerations. Journal of Personality and SOcial Psychology, 51(6), 1173-1182.

Bass, B. M. (1999). Two decades of research and development in transformational leadership. European Journal of Work and Organizational Psychology, 8(1), 9-32.

Bass, B. M., & Riggio, R. E. (2010). The Transformational Model of Leadership. In G. R. Hickman (Ed.), Leading Organizations; Perspectives for a New Era (pp. 76-86). Los Angeles, CA: Sage.

Bennett, T. M. (2009). A study of the managment leadership style preferred by IT subordinates. Journal of Organizational Culture, Communications and Conflict, 13(2), 1-25.

Bono, J. E., & Judge, T. A. (2004). Personality and transformational and trasactional leadership: A meta-analysis. Journal of Applied Psychology, 89(5), 901-910.

Brown, F. W., & Reilly, M. D. (2009). The Myers-Briggs type indicator and transformational leadership. Journal of Management Development, 28(10), 916-932.

Burns, J. M. (2010). Leadership. In G. R. Hickman (Ed.), Leading Organizations: Perpectives for a New Era (pp. 66-75). Los Angeles, CA: Sage.

Cabanda, E., Fields, D., & Winston, B. (2011). Organizational Leadership PhD-Quantitative Research Methods. New York, NY: McGraw-Hill Higher Education.

Cable, D. M., & Judge, T. A. (2003). Managers' upward influence tactic strategies: The role of manager personality and supervisor leadership style. Journal of Organizational Behavior, 24, 197-214.

Cavazotte, F., Moreno, V., & Hickmann, M. (2012). Effects of leader intelligence, personality and emotional intelligence on transformational leadership and mangerial performance. The Leadership QUarterly, 23, 443-455.

Conger, J. A. (2010). Charismatic Theory. In G. R. Hickman (Ed.), Leading Organizations: Perspectives for a New Era (pp. 96-100). Los Angeles, CA: Sage.

de Vries, R. E. (2012). Personality predictors of leadership styles and the self-other agreement problem. The Leadership Quarterly, 23, 809-821.

Derue, D. S., Nahrgang, J. D., Wellman, N., & Humphrey, S. E. (2011). Trait and behavioral theories of leadership: An integration and meta-analytic test of their relative validity. Personnel Psychology, 64(1), 7-52.

Dionne, S. D., Yammarino, F. J., Atwater, L. E., & Spangler, W. D. (2004). Transformational leadership and team performance. Journal of Organizational Change, 17(2), 177-193.

Dunn, M. W., Dastoor, B., & Sims, R. L. (2012). Transformational leadership and organizational commitment: A cross-cultural perspective. Journal of Multidisciplinary Research, 4(1), 45-59.

Emery, C. R., & Barker, K. J. (2007). The effect of transactional and transformational leadership styles on the organizational commitment and job satisfaction of customer contact personnel. Journal of Organizational Culture, Communication and Conflict, 11(1), 77-90.

Felfe, J., & Schyns, B. (2006). Personality and the perception of transformational leadership: The impact of extraversion, neuroticism, personal need for structure, and occupational sefl-efficacy. Journal of Applied SOcial Psychology, 36(3), 708-739.

Greenleaf, R. K. (2010). Servant Leadership. In G. R. Hickman (Ed.), Leading Organizations: Perpsectives for a New Era (2nd ed., pp. 87-95). Los Angeles, CA: Sage.

Hambrick, D. C., & Mason, P. A. (1984). Upper echelons: The organization as a reflection of its top managers. Academy of Management Review, 9(2), 193-206.

Hartog, D. N., Van Muijen, J. J., & Koopman, P. L. (1997). Transactional versus transformational leadership: An analysis of the MLQ. Journal of Occupational and Organizational Psychology, 70, 19-34.

House, R. J., & Aditya, R. N. (1997). The social scientific study of leadership: quo vadis? Journal of Management, 23(3), 409-473.

Howell, J. M., & Avolio, B. J. (1993). Transformational leadership, transactional leadership, locus of control, and support for innovation: Key predictors of consolidated-business-unit performance. Journal of Applied Psychology, 78(6), 891-902.

Inscape Publishing. (2008). DiSC Classic Validation Report. Minneapolis, MN: Author.

Inscape Publishing. (2011). Everything DiSC Research Report. Minneapolis, MN: Author.

Judge, T. A., & Bono, J. E. (2000). Five-factor model of personality and transformational leadership. Journal of Applied Psychology, 85(5), 751-765.

Leary, T. (1957). Interpersonal Diagnosis of Personality. New York, NY: Ronald Press.

Lord, R. G., De Vader, C. L., & Alliger, G. M. (1986). A meta-analysis of the relation between personality traits and leadership perceptions: An application of validity generalization procedures. Journal of Applied Psychology, 71(3), 402-410.

Marston, W. M. (1928). Emotions of Normal People. New York, NY: Harcourt, Brace & Company.

McKenna, M. K., Shelton, C. D., & Darling, J. R. (2002). The impact of behavioral style assessment on organizational effectiveness: A call for action. Leadership & Organization Development Journal, 23(6), 314-322.

Michael, J. (2003). Using the Myers-Briggs Type Indicator as a tool for leadership development? Apply with caution. Journal of Leadership and Organizational Studies, 10(1), 68-81.

Oyinlade, A. O. (2006). A method of assessing leadership effectiveness: Introducing the essential behavioural leadership qualities approach. Performance Improvement Quarterly, 19(1), 25-40.

Paunonen, S. V., & Jackson, D. N. (1996). The Jackson Personality Inventory and the Five-Factor model of personality. Journal of Research in Personality, 30, 42-59.

Piovanelli, P. (2005). Jesus' charismatic authority: On the historical applicability of a sociological model. Journal of the American Adademy of Religion, 73(2), 395-427.

Roush, P. E., & Atwater, L. (1992). Using the MBTI to understand transformational leadership and self-perception accuracy. Military Psychology, 4(1), 17-34.

Sadeghi, A., & Pihie, Z. A. (2012). Transformational leadership and its predictive effects on leadership effectiveness. International Journal of Business and Social Science, 3(7), 186-197.

Straw, J. (2002). The 4 Dimensional Manager: DiSC Strategies for Managing Different People in the Best Ways. San Francisco, CA: Berrett-Koehler.

Sugarman, J., Scullard, M., & Wilhelm, E. (2011). The 8 Dimensions of Leadership: DiSC Strategies for Becoming a Better Leader. San Francisco, CA: Berrett-Koehler.

van Eeden, R., Cilliers, F., & van Deventer, V. (2008). Leadership styles and associated personality traits: Support for the conceptualisation of transactional and transformational leadership. South African Journal of Psychology, 38(2), 253-267.

Yukl, G. A. (2010). Leadership in Organizations. Upper Saddle River, NJ: Prentice Hall.