Do personality and emotional intelligence predict transformational leadership qualities?

Uusi-Kakkuri, P., Brandt, T., Ghaffaripour, S., & B. Pape

Abstract

This research focuses on the impact of personality and emotional intelligence upon transformational (TF) leadership in a sample of 90 Finnish respondents. An intuitive personality and high emotional intelligence promote transformational leadership behavior. Preferences for the dimensions thinking-feeling and judging-perceiving have no significant impact upon TF leadership. The positive impact of extraversion upon TF leadership disappears after controlling for gender. Women have a stronger tendency to demonstrate transformational leadership behavior than men. A preference on the sensing-intuition dimension moderates the effect of emotional intelligence: Sensing persons must have high emotional intelligence to be considered transformational, whereas intuitive persons record high TF leadership scores regardless of their scores on emotional intelligence.

Keywords: transformational leadership, emotional intelligence and personality type

Contemporary leadership theory has been dominated by the significance of transformational (TF) leadership for approximately two decades (Bass, 1985; Brown & Reilly, 2008) since the theory was developed by Burns in 1978 and enhanced by Bass (1985, 1998). Previous research details how transformational leaders enhance performance, effort, satisfaction, and organizational effectiveness (Lowe, Kroek & Sivasubramaniam, 1996) in a wide variety of cultures and organizational settings. Rubin Munz, and Bommer (2005) have suggested that the relationships between transformational leadership and outcomes at the individual, group, and organizational levels have become self-evident.

While the empirical evidence supporting the relationship between transformational leadership and positive organizational outcomes seems strong (Brian, Moates & Gregory, 2011; Phipps & Prieto, 2011; Cavazotte, Moreno & Hickmann, 2012), advancing knowledge in the field would require knowing more about the potential individual predispositions of transformational leadership behavior (Bass, 1998; Popper, Mayseless & Castelnovo, 2000). Studies of the psychological aspects of transformational leadership focus on aspects of personality (Bono & Judge, 2004; Brandt & Edinger, 2015; Hautala, 2006; Judge
& Bono, 2000), emotions (Pescosolido, 2002), emotional intelligence (e.g.,
Barling, Salter & Kelloway, 2000; Gardner & Stough, 2002; Palmer, Gardner &
Stough, 2001), life experiences (Barbuto & Burbach, 2006), motivation (Barbuto
& Burbach, 2006) or gender (Brandt & Laiho, 2013), but only a few have studied
combined effects. Emotional intelligence (EI) is an essential factor in successful
leadership (Goleman, 1998a, 1998b; Gardner & Sough, 2002) and according to
Rosete and Ciarrochi (2005) leaders with higher levels of EI are more likely to
deliver business outcomes and be evaluated as effective leaders by their
subordinates and direct manager. Emotional intelligence affects leaders’ social
interactions and from that perspective plays an important role in the quality and
effectiveness of social interactions with others (House & Aditya, 1996). Moreover,
the ability of leaders to influence the emotional climate can strongly influence
performance (Humphrey, 2002).

It has been argued that among the precursors of transformational leadership are
corresponding personality configurations (Bass, 1985) and personality (and other
relevant predictors) should not be omitted when testing the relationship between
EI and leadership (Cavazotte et al., 2012). Other studies highlight another facet
of the personality of the transformational leader that includes emotional and
social competence, as well as developmental orientation toward employees
(Popper, Mayseless & Castelnovo, 2000).

In this study, we explore the capacities required for the advancement of
transformational leadership behaviors by studying the interaction of personality
and EI.

Theoretical Background and Hypotheses

Research has investigated the personal characteristics that might influence
transformational leadership in the hope of providing a holistic and
comprehensive understanding of the social influence process (Brown & Reilly,
2008). Coetzee, Martins, Basson and Muller (2006, p. 64) reviewed the theory of
Mischel (1999) and Worline, Wrzesniewski and Rafaei (2002) and concluded,
“behaviour is shaped by personal dispositions plus a person’s specific cognitive
and affective processes which may include perceptions of and feelings about
themselves in a particular situation that is meaningful to them”. There are several
characteristics relevant to the emergence of leadership, such as certain mental
abilities, personality traits, emotional capacity, leadership behaviors, and a
person’s physical attractiveness (López-Zafra, García-Retamero & Landa, 2008).

Since the connection between transformational leadership and desired outcomes
is well established (Lowe, Kroeck & Sivasubramaniam, 1996), new efforts tend to
investigate the relationship between dispositional characteristics and transformational leadership. Particular traits and competencies associated with leadership include integrity, confidence, extraversion, determination, resilience, the relentless pursuit of goals, the tendency to take risks, inventiveness, conscientiousness, the readiness to face uncertainty, innovativeness, adaptability, knowledge of the market, and the ability to learn from adversity (Connell, Cross & Parry, 2002).

**Emotional Intelligence and Transformational Leadership**

Emotional intelligence was first defined as “a set of skills hypothesized to contribute to the accurate appraisal and expression of emotion in oneself and in others” (Salovey & Mayer, 1990, p. 185). The concept of EI attracts interest both in the lay and applied fields, and dominates other classical psychological concepts, such as personality. The influential effect of emotions and feelings on work outcomes is seen to offer a suitable scientific framework in the organizational field to support employees at work, with respect to both evaluative and formative tasks (Berrocal & Extemera, 2006). The EI concept was originally seen as incorporating appraisal and expression of emotion (in the self and in others), regulation of emotion (in the self and in others) and utilization of emotion (flexible planning, creative thinking, redirected attention, and motivation) (Salovey & Mayer, 1990). However, issues related to definition and measurement, and to relationships with leadership and organizational outcomes remain unresolved (Brown & Moshavi, 2005; Leary, Reilly & Brown, 2009).

The findings of previous studies show that EI is essential for emotional competence, combining or interacting with other factors, leading to enhanced performance (Brown, Bryant & Reilly, 2006) and employee job satisfaction (Miao, Humphrey & Qian, 2016). Research suggests that the difference between a simply capable person and a capable manager is a person’s EI (Modassir & Singh, 2008).

There are several theoretical discussions around the association between EI and transformational leadership (Harms & Credé, 2010). The connection between TF leadership and emotions has already been established by Bass (1999, p. 18), who reveals that “leadership is as much emotional and subjective as rational and objective in effect.” Ashkanasy and Tse (2000) claim that TF leadership can be an essential factor in integrating emotional dimensions into extended leadership research.

In addition to the theoretical discussion, there is considerable support from empirical research for the relationship of EI and TF leadership (Barling et al.,
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2000; Gardner & Sough, 2002; Kerr, Garvin, Heaton & Boyle, 2006; Lam & O'Higgins, 2012; Palmer et al., 2001; Sivanathan & Fekken, 2002). Sivanathan and Fekken (2002) conclude that having high EI intensifies a person’s TF leadership behavior. Polychroniou (2009) finds support for a model suggesting that supervisors’ EI components such as social skills, motivation, and empathy are positively associated with transformational leadership increasing team effectiveness with subordinates. According to Palmer et al. (2001) the most important indicators of TF leadership are EI’s components of understanding emotions and emotional management. Another perspective views the inspirational motivation, idealized influence, and individualized consideration of components of TF leadership as associated with the ability to monitor and manage emotions (Barling et al., 2000; Gardner & Sough, 2002; Lam & O'Higgins, 2012; Palmer et al., 2001). According to Lam and O'Higgins (2012), managers’ EI might directly influence the formation and strength of transformational leadership.

Barling et al. (2000) offered some reasons to clarify why individuals high in EI would be more likely to implement transformational behaviors. First, leaders who know and can manage their own emotions could provide an inspiring model for their followers, thereby strengthening followers’ trust in, and respect for, their leaders. Second, with their focus on perceiving others’ feelings, leaders with high levels of EI understand the degree to which followers’ expectations could be raised, a sign of inspirational motivation, and according to George (2000) emotional appeals may be used by transformational leaders for inspirational motivation. Third, a major part of individualized consideration is the ability to recognize followers’ needs and to interact appropriately. With its emphasis on empathy and the ability to manage relationships positively, leaders manifesting EI would be likely to extend individualized consideration (Lam & O'Higgins, 2012). Such leaders also employ emotion to transmit a vision and to elicit responses (Kupers & Weibler, 2006). EI competencies such as self-confidence, self-awareness, transparency, and empathy are fundamental to communicating visionary messages (Goleman, 2002; Harms & Credé, 2010). In a similar manner, others suggested that an individual scoring higher in EI would recognize a social setting and emotional state more acutely than an individual with lower EI, and would accordingly be more likely to accept behaviors consistent with the transformational leadership dimensions (Brown & Moshavi, 2005; Harms & Credé, 2010).

Although the above mentioned studies show that TF leadership seems to be inherently associated with emotions and EI, many studies have failed to find a significant relationship between EI and TF leadership (e.g., Modassir & Singh,
2008; Sosik & Megarian, 1999; Antonakis 2004; Weinberger, 2004; Brown, Bryant, & Reilly, 2006; Kupers & Weibler 2006; Moss, Ritossa & Ng, 2006; Barbuto & Burbach 2006; Lindebaum & Cartwright 2010; Harms & Credé 2010; Lam & O’ Higgins 2010; Cavazotte et al., 2012). Three main reasons could account for the discrepancy. The first is the size of the data set, the second is the nature of the data source (same-source or multi-source data), and the third concerns the research instruments used (Hunt & Fitzgerald, 2013). However, we believe there is enough empirical evidence to support the relationship; thus, our first hypothesis is:

Hypothesis 1: Emotional intelligence is related to transformational leadership.

**Personality and Transformational Leadership**

Personality can be considered the dominant trait a person displays, but is more usually defined as a distinctive pattern of traits or behavior which includes thoughts and emotions (Mischel, 1986). The Myers-Briggs Type Indicator (MBTI) used in this study, offers a dynamic approach to assessing personality. The MBTI is widely used in the field of leadership and organizations (e.g., Gallén, 2009; McCarthy & Garavan, 1999; Storr & Trenchard, 2010), and is based on Jung’s (1971) work on psychological types. Its first dichotomy pair reveals a person’s habitual preference for an orientation of energy: extraversion directs their “energy toward the outer world and people” while introversion is more concerned with the “inner world of experiences and ideas” (Myers, McCaulley, Quenk, & Hammer, 1998, p. 6). The second pair addresses the process of perception and features dichotomies of sensing and intuition; a sensing orientation focuses on what can be perceived by the five senses, while intuition is focused on patterns, interrelationships and possibilities; the third pair relates to decision making and reveals whether a thinking preference is dominant, that is, has a desire for objectivity and a reliance on logical analysis in decision making, or if a person favors feeling, thus seeking understanding and drawing conclusions based on “personal or social values”. The final pair is the judging-perceiving dichotomy that reflects the attitude “toward dealing with the outside world.” People with a judging orientation prefer “decisiveness and closure that results from dealing with the outer world using” thinking or a feeling process, while those with a perceiving orientation are more flexible and spontaneous and prefer to apply sensing or intuition in decision making (Myers, McCaulley, Quenk, & Hammer, 1998, p. 6). The personality characteristics associated with transformational leaders include creativity, being open to novelty, innovativeness, propensity to risk, courage, belief in people, being value-driven,

Several studies concentrate on discerning transformational leaders’ personalities, using different personality measures to do so. Research applying the five-factor model of personality suggests a relationship between extroversion and leadership, and especially transformational leadership is very probable (Bass, & Bass, 2008; Bono & Judge, 2004; Hauta la, 2006; Judge & Bono, 2000; Judge, Bono, Ilies & Gerhardt, 2002; Lim & Ployhart, 2004; Ployhart Lim & Chan, 2001). Reichard et al. (2011) indicated a significant relationship between adolescent extraversion and adult workplace leader emergence and transformational leadership extending above and beyond adolescent intelligence, across a 12-year span. Such clear relationships of the other dimensions of the so-called big five to leadership are not supported empirically. For example, according to Judge and Bono (2000) agreeableness correlated to transformational leadership, whereas Ployhart et al. (2001) found a correlation with openness, and Cavazotte et al. (2012) with conscientiousness. According to Lim and Ployhart (2004) neuroticism and agreeableness correlated negatively with transformational leadership.

In the case of the Sixteen Personality Factor Questionnaire (16PF), research finds conformity predicts transformational behavior when superiors rated the participants. However, intelligence was also connected with transformational leadership in subordinates’ evaluations (Atwater & Yammarino, 1993). Hetland and Sandal (2003) studied four scales from the 16PF (warmth, reasoning, openness to change, and tension), finding warmth to be the strongest personality correlate. A significant negative relationship was present between tension and transformational leadership. Furthermore, each of the four scales explain the variance of transformational leadership significantly but modestly, according to subordinates. Furthermore, according to the superiors, openness to change predicted transformational leadership.

Most studies of leaders’ self-ratings using the MBTI find that extraversion, intuition, and perceiving preferences are more related to transformational leadership than their polar opposites: introversion, sensing, and judging (Church & Waclawski, 1998; Hautala, 2006). Some do not include extraversion (Van Eron & Burke, 1992) in the list, and some exclude both extraversion and intuition (Brown & Reilly, 2009). The results on subordinates’ appraisals of their leaders’ behavior are less clear cut. Some studies do not find any relationships (Brown & Reilly, 2009), some support similar results to those revealed by the leaders’ self-ratings (Church & Waclawski, 1998; Roush, 1992), and some produce wholly
opposite results indicating that sensing (Hautala, 2006; Roush & Atwater, 1992) and feeling preferences (Atwater & Yammarino, 1993; Roush & Atwater, 1992) are strongly associated with transformational leadership. Palmer, Walls, Burgess and Stough (2003) also search for the relationship between a self-report measure of EI, personality, and TF leadership. They find that EI, specifically the ability to perceive and understand emotions in others, accounts for most of the variance in transformational leadership when compared with personality measures. The above findings on the relationship of personality preferences and TF leadership leads to our next set of hypotheses:

Hypothesis 2: The personality preferences extraversion, intuition and perceiving are related to transformational leadership.

Hypothesis 3a: The relationship of EI and TF leadership is moderated by extraversion-introversion.

Hypothesis 3b: The relationship of EI and TF leadership is moderated by intuition-sensing.

Hypothesis 3c: The relationship of EI and TF leadership is moderated by perceiving-judging.

Method

Participants and Procedure

The data are elicited from 90 Finnish respondents of differing professions and ages, 69% of whom were female. The respondents completed a self-assessment of personality, EI, and leadership behavior. The personality and EI survey components were on the same online or paper form, but the leadership behavior questionnaire was in most cases completed separately.

Measures

Emotional Intelligence. Based on Mayer and Salovey’s (1990) model of EI, Schutte et al. (1998) created a self-assessment questionnaire, originally with 33 items, but shortened to 21 items for the purpose of the current research to enable inclusion in the questionnaire set and back-translation into Finnish. The items in the questionnaire were rated on a Likert scale anchored with I completely disagree (1) and I completely agree (5). The authors conducted principal component factoring with Varimax-rotation as suggested by Petrides and Furnham (2000) to ensure the validity of EI in the Finnish context. The KMO Measure of Sampling Adequacy was .752, and accordingly there was no reason to
examine the anti-image correlation matrix. As suggested, we carefully considered the number of factors in this case (Petrides & Furnham, 2000). The value for Bartlett’s test of sphericity was statistically significant ($p < .000$), indicating that the data were probably factorable. Based on the theoretical background, the factor analysis was set to extract four components, and those explained 56.6% of the variance. Based on the items and the literature, the four factors are labeled: 1) understanding emotions $\alpha = .77$ with factor loads ranging between .61 and .80. The factor consists of five items, for example “I console other people when they are down” and “It’s easy for people to share their feelings to me.” 2) perceiving emotions, $\alpha = .82$ and factor loads range between .83 and .72. The factor consists of four items, for example “I can recognize people’s emotional states by looking at their faces.” 3) Using emotions, $\alpha = .70$ and factor loads range between .80 and .62. The factor consists of four items, for example “I come up with new ideas when I’m in a positive mood.” 4) Managing emotions, $\alpha = .52$ and factor loads range between .73 and .60. The factor consists of three items, for example, “I look for hobbies and activities that make me happy.” Five items that did not load cleanly were removed.

Transformational leadership. Transformational leadership behavior is based on the interpretation of Kouzes and Posner (1988) who discovered that executives who persuaded others to join them followed the path of the vision-involvement-persistence model. The more specific dynamics of this model comprise five parts: challenging the process, inspiring a shared vision, enabling others to act, modeling the way, and encouraging the heart (Kouzes and Posner, 1988). Kouzes and Posner developed the Leadership Practices Inventory (LPI) that has subsequently spawned other research (see e.g., Carroll, 2010; Hautala, 2008). It is based on interviews with managers and is well suited to the appraisal by both leaders and subordinates of leadership behavior (e.g., Herold and Fields, 2004). The LPI is used in this study because it is well suited to Finnish culture (see e.g., Uusi-Kakkuri & Brandt, 2015; Hautala, 2005). The descriptions of the dimensions used in the LPI in the Finnish context are: Visioning, which means presenting the ideal future to others, making sure people hold common values, and communicating a view about the best way to lead the organization. Challenging includes risk-taking, innovating to improve the organization, and looking for challenging tasks and opportunities. Enabling means respecting others, allowing them the freedom to make their own decisions, creating a trusting atmosphere, and making others feel they have ownership of projects. Modeling includes consistency of organizational values and confidence in the philosophy of how to lead, alongside confirmation of planning and goal setting. Rewarding means celebrating and recognizing achievements when goals are met (Hautala, 2005).
The items in the questionnaire were rated on a Likert scale anchored with not at all or very rarely (1) and frequently if not constantly (5).

Personality. Personality was evaluated with the MBTI. It includes scores on four bipolar dimensions: extraversion-introversion (E/I), sensing-intuition (S/N), thinking-feeling (T/F), and judging-perceiving (J/P). Each item offered the respondents two alternatives. An individual is assigned a type classification based on one of 16 possible categories. In this study the focus is on the eight preferences rather than on the whole type. The MBTI’s “...validity is determined by its ability to demonstrate relationships and outcomes predicted by [Jung’s] theory” (Myers et al., 1998: 171). The MBTI’s construct validity has been proven by independent studies that investigated whether type distributions coincide with the requirements of certain professions. Correlations of other measures with the MBTI’s continuous scores and studies of behavioral differences between the types have also validated the system (see e.g., Myers et al., 1998). Gardner and Martinko (1996: 77) undertook a thorough review and concluded that the MBTI is “a reliable and valid instrument for studying relationships among managerial personalities, cognitions, behaviors, effectiveness, and situational variables.” The construct validity and reliability of the Finnish form (the F-version) have been proven during a validation process spanning several years (see e.g., Järlström, 2000). Järlström reported an internal consistency (Pearson’s correlation coefficients) of .65 to .76 and Cronbach’s coefficient alpha of .79 to .86.

Data Analysis. We regressed the score for transformational leadership behavior on EI centered around the neutral value 3 and four dummy variables representing the bipolar dimensions of the MBTI coded as follows: Extraversion = 0, introversion =1; Sensing = 0, Intuition =1; Thinking = 0, Feeling = 1; and judging = 0, perceiving =1. When controlling for gender, we coded the gender variable as Man=0 and Woman = 1.

Results

We started by regressing transformational leadership behavior upon the four MBTI dimensions and EI, in order to get a general feeling for the determinants of TF. The results are below on table 1.
Table 1. Parameter estimates from regressing transformational leadership upon all personality dimension and emotional intelligence

<table>
<thead>
<tr>
<th>Coefficient</th>
<th>Coefficient Estimate</th>
<th>Standard Error</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Constant</td>
<td>3.271</td>
<td>0.120</td>
<td>&lt;0.0005</td>
</tr>
<tr>
<td>Extraversion (E) – Introversion (I)</td>
<td>-0.258</td>
<td>0.094</td>
<td>0.008</td>
</tr>
<tr>
<td>Sensing (S) – Intuition (N)</td>
<td>0.266</td>
<td>0.106</td>
<td>0.014</td>
</tr>
<tr>
<td>Thinking (T) – Feeling (F)</td>
<td>-0.085</td>
<td>0.091</td>
<td>0.353</td>
</tr>
<tr>
<td>Judging (J) – Perceiving (P)</td>
<td>0.032</td>
<td>0.103</td>
<td>0.756</td>
</tr>
<tr>
<td>Emotional Intelligence (EI)</td>
<td>0.333</td>
<td>0.106</td>
<td>0.002</td>
</tr>
</tbody>
</table>

Emotional Intelligence has a positive effect upon transformational leadership behavior. Increasing the EI score by one yields an increase of 0.333 for the score on TF (p=0.002), thus the first hypothesis is supported. Extraverted persons record a TF score 0.258 higher than that for introverted persons (p=0.008) and intuitive persons record a TF score 0.266 higher than that for sensing persons (p=0.014). The second hypothesis is partly supported; extraversion and intuition is related to TF leadership, but our data do not support the relationship between perceiving and TF leadership. The MBTI dimensions thinking-feeling and judging-perceiving have no significant impact upon transformational leadership behavior.

We next checked whether the significant personality dimensions have any moderating effect upon the impact of EI by including the corresponding interaction terms as shown below in table 2.

Table 2. Parameter estimates from regressing transformational leadership upon E – I, S – N, EI, interaction of E – I and EI, and interaction of S – N and EI.

<table>
<thead>
<tr>
<th>Coefficient</th>
<th>Coefficient Estimate</th>
<th>Standard Error</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Constant</td>
<td>3.199</td>
<td>0.163</td>
<td>&lt;0.0005</td>
</tr>
<tr>
<td>Extraversion (E)– Introversion (I)</td>
<td>-0.450</td>
<td>0.193</td>
<td>0.022</td>
</tr>
<tr>
<td>Sensing (S) – Intuition (N)</td>
<td>0.551</td>
<td>0.198</td>
<td>0.007</td>
</tr>
<tr>
<td>Emotional Intelligence (EI)</td>
<td>0.380</td>
<td>0.177</td>
<td>0.035</td>
</tr>
<tr>
<td>(E – I)* Emotional Intelligence</td>
<td>0.305</td>
<td>0.215</td>
<td>0.160</td>
</tr>
<tr>
<td>(S – N) * Emotional Intelligence</td>
<td>-0.402</td>
<td>0.214</td>
<td>0.064</td>
</tr>
</tbody>
</table>
None of the interaction terms is significant, however the variance inflation factors of all coefficients except for EI are in the range 4.5 to 5, so the term for the interaction between sensing versus intuitive personality and EI with $p=0.064$ might have missed the significance point only due to multicollinearity. We therefore repeated the analysis above with the insignificant term ($p=0.16$) for the interaction between extraversion versus introversion and EI removed, see table 3 below.

**Table 3.** Parameter estimates from regressing transformational leadership upon E – I, S – N, EI, and interaction of S – N and EI.

<table>
<thead>
<tr>
<th>Coefficient</th>
<th>Coefficient Estimate</th>
<th>Standard Error</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Constant</td>
<td>3.060</td>
<td>0.131</td>
<td>&lt;0.0005</td>
</tr>
<tr>
<td>Extraversion (E)– Introversion (I)</td>
<td>-0.210</td>
<td>0.093</td>
<td>0.027</td>
</tr>
<tr>
<td>Sensing (S) – Intuition (N)</td>
<td>0.634</td>
<td>0.190</td>
<td>0.001</td>
</tr>
<tr>
<td>Emotional Intelligence (EI)</td>
<td>0.539</td>
<td>0.138</td>
<td>&lt;0.0005</td>
</tr>
<tr>
<td>(S – N) * Emotional Intelligence</td>
<td>-0.472</td>
<td>0.209</td>
<td>0.027</td>
</tr>
</tbody>
</table>

We see that the sensing-intuition dimension of the MBTI has a strong moderating effect upon the relationship between EI and transformational leadership behavior ($p=0.027$). While sensing persons record a highly significant ($p<0.0005$) increase of 0.539 on their TF score for a one-point increase on their EI score, the corresponding increase of 0.067 (=0.539-0.472) for an intuitive person is not significant at all ($p=0.666$). Extroversion carries a TF reward of 0.210 ($p=0.027$) and intuition carries a TF reward of 0.634 ($p=0.001$) for a person with an EI score of 3. Thus, hypotheses 3a and 3c were not supported, but hypothesis 3b was: the relationship between EI and TF leadership is moderated by intuition-sensing.

Including gender as an explanatory variable in the regression, as shown in table 4, reveals that men and women have different predispositions for transformational leadership behavior and there is no significant impact of the extraversion-introversion personality dimension upon TF after controlling for gender.
Table 4. Parameter estimates from regressing transformational leadership upon E – I, S – N, EI, interaction of S – N and EI, and gender.

<table>
<thead>
<tr>
<th>Coefficient</th>
<th>Coefficient Estimate</th>
<th>Standard Error</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Constant</td>
<td>2.827</td>
<td>0.161</td>
<td>&lt;0.0005</td>
</tr>
<tr>
<td>Extraversion (E)– Introversion (I)</td>
<td>-0.156</td>
<td>0.093</td>
<td>0.098</td>
</tr>
<tr>
<td>Sensing (S) – Intuition (N)</td>
<td>0.680</td>
<td>0.186</td>
<td>&lt;0.0005</td>
</tr>
<tr>
<td>Emotional Intelligence (EI)</td>
<td>0.523</td>
<td>0.135</td>
<td>&lt;0.0005</td>
</tr>
<tr>
<td>(S – N) * Emotional Intelligence</td>
<td>-0.491</td>
<td>0.204</td>
<td>0.018</td>
</tr>
<tr>
<td>Gender</td>
<td>0.267</td>
<td>0.113</td>
<td>0.020</td>
</tr>
</tbody>
</table>

Women on average receive TF scores that are 0.267 higher than those of men (p=0.020). The absolute value of the coefficient estimate for the extraversion-introversion dimension has decreased to 0.156 and is no longer significant (p=0.098). Removing this insignificant factor, we obtain our final model, as presented in table 5.

Table 5. Regressing of transformational leadership upon S – N, EI, interaction of S – N and EI, and gender

<table>
<thead>
<tr>
<th>Coefficient</th>
<th>Coefficient Estimate</th>
<th>Standard Error</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Constant</td>
<td>2.696</td>
<td>0.142</td>
<td>&lt;0.0005</td>
</tr>
<tr>
<td>Sensing (S) – Intuition (N)</td>
<td>0.755</td>
<td>0.183</td>
<td>&lt;0.0005</td>
</tr>
<tr>
<td>Emotional Intelligence (EI)</td>
<td>0.566</td>
<td>0.134</td>
<td>&lt;0.0005</td>
</tr>
<tr>
<td>(S – N) * Emotional Intelligence</td>
<td>-0.565</td>
<td>0.201</td>
<td>0.006</td>
</tr>
<tr>
<td>Gender</td>
<td>0.313</td>
<td>0.110</td>
<td>0.006</td>
</tr>
</tbody>
</table>

All coefficients are highly significant. With an EI score of 3, being an intuitive person rather than a sensing person carries a TF reward of 0.755. However, such people get no extra TF reward for EI (0.566-0.565=0.001, p=0.995) whereas sensing persons see a TF score increase of 0.566 for each point increase in EI. Intuitive persons obtain a high TF score regardless of their EI score, whereas sensing persons must earn a high TF score by being emotionally intelligent. This is also evident from the figures 1 and 2 below that display the TF scores as a function of EI separately for the subgroups of sensing and intuitive persons.
The model indicates women have TF scores 0.313 points higher than those of men. We also checked for interactions between gender and the variables above. Below in figures 3 and 4 are the TF scores for intuitive persons plotted separately for men and women.
While these figures suggest that the lack of susceptibility to EI might actually be limited to the TF leadership scores of intuitive women only, we are unable to prove that this is also the case due to the very small number of intuitive men in the sample (n=7). We tried introducing interaction terms with gender for all variables considered in the regression above, but none proved significant. We are therefore compelled to leave this question open for further research.

**Discussion**

The TF forecast for a person with high EI (remember that the x-axis shows EI minus 3) is about 3.7 no matter to which subgroup the person belongs. The difference is for intermediate to low EI. All other subgroups must be high in EI in order to be highly transformational.
The importance of both transformational leadership and EI, especially among leaders, is well established in the literature. However, research also suggests that despite the many empirical studies supporting the relationship of TF leadership and EI, the role of personality is meaningful (Cavazotte et al., 2012).

The current research indicates that an extraverted and/or intuitive personality and a high level of EI promote transformational leadership behavior. Preferences on the dimensions thinking-feeling and judging-perceiving have no significant impact upon TF leadership and the positive impact of extraversion on TF leadership disappears after controlling for gender. Women do have a stronger tendency to transformational leadership behavior than men do.

The preference for the sensing-intuition dimension moderates the effect of emotional intelligence: Sensing persons must have high levels of EI to acquire high TF leadership scores whereas intuitive persons get high TF leadership scores regardless of their scores on emotional intelligence. This can be explained by Higgs’ (2001) finding that intuition is the only MBTI function that is strongly positively related to EI, and this can be explained perhaps by the fact that intuitive people are interested in relationships, including the relationships of people. That interest places them in the best position to pay attention to and understand the people around them and to recognize how their emotions might influence other aspects of their working lives. Intuitively-oriented people are likely to see that the impact of emotions can be meaningful and that such emotions can also be influenced. It appears that intuitive people are naturally adept at every aspect of transformational behavior, and sensing leaders must have a high level of EI to be able to foster a strong people orientation. So if a leader is intuitive, he or she is probably behaving in a transformational way, but if he or she is of the opposite sensing type, then it would be important to have high levels of EI, or to focus on developing it, to spur effective transformational leadership behaviors. These results offer new ideas for further studies with a larger dataset. An interesting question is why EI affects sensing people’s leadership behavior, but not that of intuitive people. In addition, the role of gender in this relationship remains unclear. Sensing leaders with low or high levels of EI act differently, when intuitive people with low or high levels of EI act similarly. It may be that EI is an internalized process for intuitive people, and a more external process with sensing people.

Despite its contributions, the current research is affected by some limitations. The number of participants is rather low and therefore many aspects of the study would benefit from further research with broader data sets and perhaps using subjects from one field to make the subjects more easily comparable. The current
results can be generalized only with caution. Owing to the small dataset, the statistical analyses were conducted only on the general level for transformational leadership and EI, meaning that their specific dimensions were not studied. Common-method bias is also a risk, since all data were collected from the same source in the form of self-assessments.

George (2000) argued that emotionally intelligent leaders can promote effectiveness at all levels of an organization, but the current research indicates that some personality preferences (specifically intuition) can compensate for the lack of EI. The practical implications of this include that training EI for sensing people is especially important from the leadership point of view. It has been suggested that the MBTI could be used to develop EI (Higgs, 2001), the current results can support that goal, in that the strengths of intuitive people might be considered when planning EI development; or when planning mentoring pairs, intuitive people should be paired with sensing people.

References


