

## **The Relationship between Emotional Intelligence and Transformational Leadership: An Investigation and Review of Competing Claims in the Literature**

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### **Abstract**

*Following a review of the literature on the relationship between emotional intelligence (EI) and transformational leadership (TL), this paper provides an analysis of the findings of 22 published papers, examining the range of instruments used to collect data, sample sizes, dates of publication and the reported conclusions. This review reveals that investigations into the relationship between EI and TL continue to yield mixed results, and have done so for almost 15 years now, indicating that this field of research continues to be a contested area. Recommendations for advancing the scientific investigation of the EI-TL relationship are put forward.*

**Key Words:** emotional intelligence, transformational leadership

### **Introduction**

Research into the relationship between emotional intelligence spans almost 15 years, and despite the bold claims in the popular literature (eg: Goleman, 1995) there remains limited empirical evidence that the two concepts are significantly related. Recognised experts in the field of EI, along with researchers in the area of transformational leadership, argue that elements of EI such as emotional recognition, empathy and emotional processing are central to transformational leadership behaviour (eg: Downey, Papageorgiou & Stough, 2005), yet a number of empirical studies over the past six years in particular have failed to find a significant relationship between EI and TL (Harms and Crede, 2010: 5). This is not to say that empirical evidence in support of the relationship doesn't exist. The present review has identified twelve such studies, indicating that the claims made by proponents of the EI-TL relationship are not unsupported by published research. This paper investigates the nature of the research undertaken in this important field to date, examining the findings that provide support for the relationship between EI and TL, as well as the findings and arguments presented by researchers who cast doubt on the strength of this relationship.

### **Transformational Leadership**

Transformational leadership is one of the most popular and widely researched approaches to leadership today. It has commanded a sustained high level of interest from the academic and management practitioner communities for almost three decades (Northouse, 2010; Ergeneli, Gohar & Temirbekova, 2007). Often referred to as the 'new leadership paradigm' (Bryman, 1992), transformational leadership emphasises the affective and emotive qualities of the leader in engaging with and heightening the motivational arousal levels of subordinates. Transformational leadership is conceived as a process that generates and builds an exceptional level of influence over followers, harnessing follower commitment and leading to accomplishments above normal levels of expectation (Bass & Avolio, 1990).

Commencing in the 1970s and gaining momentum in the mid-1980s, the dominant paradigm for leadership research began to evolve from its longstanding focus on *employee-centred* versus *task-centred* leadership, to an interest in the 'mode of exchange' between the leader and subordinates (Hollander, 1986; Hunt, 2010). Downton (1973) was the first to draw attention to the distinction between the two major types of exchange that were increasingly being seen to typify leader-subordinate interactions, a theme extended by Burns (1978) who used the term 'transforming leadership' to emphasise the distinctive features of leader-subordinate exchanges that resulted in very high levels of engagement, morale, motivation, and achievement.

Burns contrasted transforming leaders with 'transactional leaders', noting the much more modest levels of commitment and affective engagement attained through transactional leader-follower exchanges. Transactional leaders were characterised by a tendency to concentrate on standard levels of performance as a means to securing routine accomplishments (Burns, 1978). This paradigm was refined and expanded by Bass (1985a) who proposed that transformational exchanges were effectively 'augmentations' of the more routine but necessary transactional exchanges. Bass conceived transformational and transactional leadership as styles along a single continuum, and redefined Burns's concept of transformative leadership to include exchanges where the ultimate outcomes were not always ethically palatable (Northouse, 2010), focusing instead on the importance of heightened engagement between the leader and followers, thus giving greater attention to the emotional dimensions of transformational leadership.

Exploratory and confirmatory factor analytic research by Bass (1985a), Hater & Bass (1988), and Seltzer, Numerof & Bass (1989) indicated that transformational leadership has an underlying four-dimensional factor structure. Subsequent theories of transformational leadership (Avolio, 1999; Bass & Avolio, 1994) are based on this structure, which consists of the following elements: *idealized influence*, also described as *charisma*, refers to the leader who is a role model for followers, provoking them to embrace the leader's values and principles, and to seek to emulate the leader; *inspirational motivation*, describes leaders who inspire followers by projecting enthusiasm and articulating an attractive vision for the future; *intellectual stimulation*, refers to leaders who express new ideas that challenge conventional organisational thinking, encouraging followers to rethink established methods and practices; and *individualized consideration*, refers to leaders who recognise the unique needs of individual followers and who provide subordinates with special attention to bolster their self-efficacy.

Transformational leadership has been posited as a behavioural theory (Bass, 1998; Sims & Lorenzi, 1992) with the implicit assumption that transformational behaviours can be learned. More recently, however, studies into the links between 'personality' and leadership have indicated that styles of leadership are conceptually related to a range of personality traits (Brandt & Laiho, 2013; Judge & Long, 2012; Hunt, 2010), and that transformational leadership in particular correlates significantly with several personality dimensions (Cavazotte, Moreno & Hickmann, 2012; Bono & Judge, 2004; Hetland & Sandal, 2003; Judge and Bono, 2000). This suggests some clear dispositional antecedents to the transformational leadership construct. Recent research by Cavazotte, Moreno & Hickmann (2012) has also demonstrated that 'general intelligence' is highly correlated with transformational leadership, reinforcing an earlier finding by Atwater and Yamarino (1993) that higher levels of intelligence are related to transformational leadership.

### **Emotional Intelligence and Transformational Leadership**

Salovey & Mayer (1990: 189) define emotional intelligence (EI) as "the sub-set of social intelligence that involves the ability to monitor one's own and others' feelings and emotions, to discriminate among them and to use this information to guide one's thinking and actions", a definition that led others to connect the concept with transformational leadership (eg; Barling, Slater and Kelloway, 2000). Indeed as early as 1999, several researchers put forward the tentative proposition that there might be a relationship between emotional intelligence and transformational leadership (TL), calling for further investigation in this area (Dulewicz & Higgs, 1999; Alimo-Metcalfe, 1999). Since this time, EI has been proposed as an important construct capable of providing new insights into how leadership may be better understood and executed in contemporary organisational settings (Ashkanasy & Dasborough, 2003; Gardner & Stough, 2002). Downey, Papageorgiou & Stough (2005: 251) have argued that transformational leadership is "largely dependent upon the evocation, framing and mobilisation of emotions" and that EI is therefore an important antecedent of transformational leadership. Lopez-Zafra, Garcia-Retamero & Martos (2012: 100) echo this point in noting that "it is widely accepted that leadership is an emotion-laden process."

Reasoning conceptually, a number of authors have asserted the apparent strength of the relationship between transformational leadership and emotional intelligence (eg; Sivanathan & Fekken, 2002; Polychroniou, 2009). Kupers & Weibler (2006: 374) note that "as TL demands leaders who are emotionally self-aware and capable of emotional self-management, all transformational components require personal EI competencies." Similarly, Gardner & Stough (2002: 76) have posited conceptually meaningful links between emotional intelligence and various dimensions of transformational leadership in their claim that "emotional intelligence may underlie the ability of the leader to be inspirationally motivating and intellectually stimulating." While these claims appear to be well-founded in conceptual terms and also hold intuitive appeal, the empirical evidence for the relationship between emotional intelligence and transformational leadership has consistently yielded mixed results (Harms & Crede, 2010; Matthews, Zeidner & Roberts, 2012).

Antonakis (2004) argues that EI models are fraught with problems of validity and reliability, and suggests that support for the EI construct may be based more on speculative thinking than on empirical evidence. Lindebaum and Cartwright (2010) point to the problem of common method variance in studies using same-source data to investigate the relationship between EI and TL. Podsakoff, MacKenzie, Lee & Podsakoff (2003) have noted that correlations are artificially inflated when common method bias is not accounted for. This is a prevalent problem in several of the same-source research studies into the EI-TL relationship (Barbuto & Burbach, 2006). Cavazotte, Moreno & Hickman (2012: 451) indicate another potential problem with empirical research studies investigating the correlations between dimensions of EI and TL;

“When considered alone, emotional intelligence seems to be statistically related to transformational leadership. However, when ability and personality were controlled for, the effect became non-significant.”

Cavazotte et al. (2012) note that empirical findings from studies into the EI-TL relationship might be inflated when relevant predictors such as experience, ability or personality, are omitted from the research design, thus joining Antonakis (2009) and Lindebaum & Cartwright (2010) in calling for more carefully designed studies into this area of investigation.

Given the contested nature of the claims in the literature concerning the strength of the relationship between emotional intelligence and transformational leadership, it is timely to systematically review the empirical evidence reported in published papers in this field. Our investigation examines two sets of published research studies - those that report findings supporting the significance of the relationship between EI and TL, and those that challenge the strength of the relationship. An evaluation of the sample sizes, research instruments and findings is presented, followed by a series of recommendations for future research.

### **Method**

A literature search was undertaken based on the following paired key words; *transformational leadership* and *emotional intelligence*. The initial search was conducted using multiple international databases including ScienceDirect, Proquest, PsychINFO and ABI/INFORM Complete. The structured key word search was initiated with the following parameters; full-text, peer reviewed, scholarly journals, published in English between January 1999 and October 2013. This initial search yielded just over 1,300 published articles, many of which focused on either emotional intelligence or transformational leadership but not both. When the key word search was refined and limited to terms in the title only, a much more parsimonious sample of 27 journal articles was produced. This formed the basis of our initial sample.

Close visual inspection of these publications revealed that a small number tended to have a predominant focus outside the exploration of the EI-TL relationship. For example, one study focused primarily on organisational commitment, another concentrated largely on new venture growth, a third was concerned with cross-cultural issues, and a fourth centred its analysis on gender issues. Accordingly, these studies were excluded from the final set of journal articles selected for further investigation.

The next step in the research process involved a detailed content analysis of each of the 22 published papers retained in the sample, to determine (1) the research methodology, (2) the data-gathering process (including the sample size, the specific measurement instruments used, and whether same-source or multi-source data were collected, and (3) the key findings. This process enabled the classification of the articles into two distinct groups; those that found a significant positive relationship between emotional intelligence and transformational leadership, and those that produced findings which challenged the significance of the EI-TL relationship.

Following this classification process, a more detailed thematic analysis of the two groups of published literature was conducted, with the aim of evaluating the relative persuasiveness of the two distinct sets of claims, and to make an informed judgement about the strength of the findings in each case.

### **Results**

An examination of the reported findings from each of the 22 peer-reviewed journal articles has enabled the researchers to classify these studies into two distinct groups according to whether they provide evidence to support or challenge claims concerning the strength of the relationship between EI and TL. The first group consists of twelve empirical research studies providing evidence that emotional intelligence is positively related to transformational leadership. These studies are presented in Table 1, together with their salient features; sample size and type, research instruments used, and key findings reported.

The second group of studies consists of ten publications, comprising 7 independent empirical studies, one meta-analysis, one interpretative method study and one critical rejoinder. These studies all report findings that cast significant doubt on the strength of the relationship between EI and TL, and are presented in Table 2.

The first set of studies was published over the period between 2000 and 2012, with the majority of these papers appearing in journals on or before 2004. Notably, only three of these studies were published during the last 5 year period. The second set of studies spans the period from 1999 to 2012, with only two of these appearing before 2006. Eight of the ten articles from this set of studies were published between 2006 and 2012.

A comparison of the sample sizes used in each independent study shows some important differences between the groupings presented in Tables 1 and 2. Five of the research studies in the first group (Table 1) base their findings on relatively small samples ( $n < 50$ ). By contrast, the reported findings presented in Table 2 are derived from considerably larger samples. For example, study 3 in Table 2 (Brown, Bryant & Reilly, 2006) draws upon a data set of 161 managers and 2,411 followers, while study 10 (Cavazotte, Moreno & Hickmann, 2012) gathered data from 134 managers and 325 subordinates.

A further comparison of the data-gathering approach indicates an important methodological difference between the two groups. Seven of the twelve studies in Table 1 draw upon same-source data. That is, the leaders in these studies completed self-report questionnaires concerning both their transformational leadership propensity and their emotional intelligence. By contrast, all the empirical studies in Table 2 use multi-source data to investigate the EI-TL relationship. That is, the researchers gathered data on emotional intelligence from the leaders themselves, but utilised data gathered from subordinates to determine the leader's transformational qualities.

The preferred questionnaire employed to measure *transformational leadership* across both sets of studies is the Multifactor Leadership Questionnaire (Bass & Avolio, 1990b, 1995a). Measurement instruments employed to gather data on *emotional intelligence* however, differ considerably across as well as within the two groupings. Table 1 indicates that the Trait Meta Mood Scale (Salovey et al., 1995) was used in studies 2, 9 and 12, while the Emotional Quotient Inventory (Bar-On, 1997) was used in studies 1, 4 and 6. Both these questionnaires are classified in the International Handbook of Emotional Intelligence (Schultze & Roberts, 2005) as trait-based instruments (Perez, Petrides & Furnham, 2005), while elsewhere in the literature Bar-On's instrument is widely referred to as a 'mixed-model' because it combines emotional abilities with personality dimensions (Lopez-Zafra, Garcia-Retamero & Martos, 2012: 99). Table 2 indicates the use of Bar-On's Emotional Quotient Inventory in study 3, Carson's (2000) Emotional Intelligence Instrument in study 6, and a version of Wong & Law's (2002) Emotional Intelligence Test in studies 7, 9 and 10. The use of different instruments to measure emotional intelligence is an issue that will be discussed further in the next section of this paper.

## **Discussion**

Despite the evidence presented by each of the twelve empirical studies in Table 1, there is an increasing number of reported research findings indicating little or no significant relationship between emotional intelligence and transformational leadership (Table 2). To what might we attribute this discrepancy? There are three important areas of consideration in relation to addressing this question. 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. Each of these considerations is addressed below. *The size of the data set:* Brown, Bryant & Reilly (2006: 344) note that sample size is important to both the rigour of the analysis and the generalizability of the results. This is particularly important in quantitative studies seeking to establish correlations between items under investigation, with larger data-sets normally providing higher levels of statistical power (Charter, 1999). As reported earlier, several of the studies listed in Table 1 have yielded findings based on data sets that are relatively small, leading critics to question the robustness of their conclusions.

*The nature of the data-source:* Studies that rely solely on same-source data to test relationships and establish correlations are susceptible to common method bias, particularly when the data are gathered from the same source at the same time using the same measurement technique (Podsakoff, MacKenzie & Lee, 2003). This is to say that a form of self-report bias can emerge from same-source data when respondents unconsciously attempt to maintain a degree of consistency in their responses across items. This has a tendency to produce relationships that may not otherwise exist (Podsakoff et al., 2003). As noted earlier, the majority of studies listed in Table 1 employ same-source data as the basis of their analysis. By contrast, the empirical studies listed in Table 2 all use multi-source data to test the EI-TL relationship. Barbuto & Burbach (2006) conducted a study into the relationship between EI and TL in which they surveyed a sample of 80 leaders and 388 raters.

The leaders in this study completed both the MLQ and the emotional intelligence instrument, while the raters completed only the MLQ. This enabled the researchers to investigate the correlations between leader self-reports of EI and TL (same-source data) as well as the correlations between leader self-reports of EI and rater reports of leader TL (multi source data).

This research found positive support for correlations between leader self-reports of EI and TL, but little support for the EI-TL relationship when rater reports were correlated with leader self-reports. This assists in providing a perspective on many of the contrasting findings presented in Tables 1 and 2. Harms and Crede (2010) conducted a meta-analysis of studies on EI and TL, finding that same-source data tends to produce “greatly inflated validity estimates of the EI-leadership relationship compared with studies that used a more rigorous multi-method approach” (Harms & Crede, 2010: 12).

*The research instruments used:* While there appears to be a general consensus concerning the preferred measurement instrument for gauging transformational leadership (Bass & Avolio’s Multifactor Leadership Questionnaire), different conceptualizations of emotional intelligence continue to prevail, giving rise to an array of measurement instruments. Lopez-Zafra et al. (2012) refer to the three-fold classification system of EI models; the *ability model* which emphasises emotional information processing capabilities, the *trait model* which encompasses a range of emotion-related dispositions, and the *mixed model* which combines elements of information processing with dispositional elements. Matthews, Zeidner & Roberts (2012: 118-9) propose four distinct constructs relating to emotional intelligence: *temperament*, comprising broad-based personality traits associated with emotionality; *information processing*, consisting of specific cognitive processing of emotional information; *emotion regulation*, comprising traits relating to a person’s emotional management; and *emotional knowledge and skills*.

Each of these constructs has its own set of measurement instruments. Zeng & Miller (2001: 40) note that the array of tests relating to emotional intelligence is characterised by considerable diversity, both in terms of their theoretical conceptualization and in their approaches to measurement. For example, several of the self-report measures of EI relate strongly to dimensions of personality, whereas ability-based measures relate more closely to cognitive ability (Zeng and Miller, 2001). Matthews et al. (2012) note that a lack of clarity has emerged from this proliferation of different conceptual models, in that the term EI is used to refer to multiple, distinct constructs. The lack of an established and broadly accepted measurement instrument of emotional intelligence is perhaps part of the reason for the continued stream of mixed results reported in the published EI-TL literature. Different studies are using different instruments to measure different constructs.

### **Conclusion**

Concerns relating to methodology have led a number of researchers to call into question the findings reported by studies providing evidence for the strength of the EI-TL relationship. In particular, small sample sizes and same-source data sets are known to have a tendency to limit the generalizability of the findings and produce artificially inflated correlations. Examining the studies listed in Table 1, it is apparent that several of these are characterised by the methodological limitations noted above. However, four studies stand out in terms of their relative methodological robustness. Studies 1, 4, 8 and 11 all draw upon multi-source data, derived from a reasonable sample size, and accordingly, their findings concerning the positive relationship between emotional intelligence and transformational leadership cannot be ignored.

Whilst a clear and definitive statement about the relationship between emotional intelligence and transformational leadership is still some way off, there are some evident guidelines that will assist in the progress made by future research in this area. First, clearer distinctions need to be drawn between studies that investigate *trait-based* emotional intelligence and those that examine *ability* or *cognitive based* conceptions of EI. Failure to effectively differentiate between these two important definitional parameters may conflate and therefore misconstrue the concept of emotional intelligence, and as a consequence, may continue to confound attempts to investigate and determine the predictive validity of EI and its proposed relationship to transformational leadership. Second, multi-source data sets should form the basis of future research in order to limit the problem of common method variance. Third, there appears to be little merit in conducting quantitative analysis on very small data-sets, as these studies provide findings that cannot be generalized.

Research in this area has not benefitted from the lack of a “gold standard” instrument designed to effectively measure EI. This inhibiting factor continues to limit the progress and advancement of scientific investigations into the relationship between emotional intelligence and transformational leadership. Harms and Crede (2010) in their meta-analysis of 62 independent research samples drawn from 106 journal articles concerning the EI-TL relationship, found that trait-based EI measurement instruments demonstrated higher levels of validity than ability-based measures.

Petrides (2011; 657) notes that the distinction between trait-based EI and ability-based EI is now widely recognised and accepted in the scientific literature, along with the acknowledgement that trait EI and ability EI are different constructs. This acknowledgement appears to be more widespread in the psychology literature than in the literature on management, leadership or organisational behaviour, where it remains under-recognised. It is important that future researchers investigating the EI-TL relationship remain mindful of this pivotal distinction.

| Table 1: Published papers providing empirical support for the relationship between transformational leadership (TL) and emotional intelligence (EI)  |
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| <p>1. Barling, Slater &amp; Kelloway (2000) - <i>Leadership &amp; Organization Development Journal</i></p> <ul style="list-style-type: none"> <li>Bass &amp; Avolio's Multifactor Leadership Questionnaire (MLQ 5X Short)</li> <li>Bar-On's (1997) self-report Emotional Intelligence Inventory</li> </ul> <p><b>Sample:</b> 49 managers + 187 subordinates: multi-source data<br/> <b>Findings:</b> A positive relationship between EI and 3 aspects of TL (<i>idealised influence, inspirational motivation, individualised consideration</i>).</p>  |
| <p>2. Palmer, Walls, Burgess &amp; Stough (2001) - <i>Leadership &amp; Organization Development Journal</i></p> <ul style="list-style-type: none"> <li>Bass &amp; Avolio's (1995) MLQ: 45 items</li> <li>Salovey's (1995) <i>modified</i> Trait Meta Mood Scale: 41 items</li> </ul> <p><b>Sample:</b> 43 participants: same-source data<br/> <b>Findings:</b> Significant correlations between some components of TL (<i>idealized influence, inspirational motivation, individualized consideration</i>) and the EI subscales.</p>   |
| <p>3. Gardner &amp; Stough (2002) - <i>Leadership &amp; Organization Development Journal</i></p> <ul style="list-style-type: none"> <li>Bass &amp; Avolio's MLQ Form 5X: 45 items</li> <li>Swinburne University Emotional Intelligence Test (SUEIT): 65 items</li> </ul> <p><b>Sample:</b> 110 senior level managers: same-source data<br/> <b>Findings:</b> EI correlated highly with all components of TL (<i>idealised attributes, idealised behaviours, inspirational motivation, intellectual stimulation, individual consideration</i>).</p>   |
| <p>4. Sivanathan &amp; Fekken (2002) - <i>Leadership &amp; Organization Development Journal</i></p> <ul style="list-style-type: none"> <li>Bass &amp; Avolio's MLQ-5X: 36 items</li> <li>Bar-On's (1997) Emotional Quotient Inventory (EQ-i): 133 item self-measure</li> </ul> <p><b>Sample:</b> 58 subjects + 232 subordinates + 12 supervisors: multi-source data<br/> <b>Findings:</b> Leaders who reported higher levels of EI were perceived by followers as higher in TL.</p>  |
| <p>5. Duckett &amp; MacFarlane (2003) - <i>Leadership &amp; Organization Development Journal</i></p> <ul style="list-style-type: none"> <li>Annual appraisal scores + rankings by head office directors</li> <li>SMS-EQ Profile Tool – 13 dimensions</li> </ul> <p><b>Sample:</b> 13 store managers: same-source data for TL and EI components of the study<br/> <b>Findings:</b> A high level of commonality in the relationship between TL profiles and EQ profiles.</p>   |
| <p>6. Mandell &amp; Pherwani (2003) - <i>Journal of Business &amp; Psychology</i></p> <ul style="list-style-type: none"> <li>Bass &amp; Avolio's (1996) MLQ-5X-Revised: 45 items</li> <li>Bar-On's (1996) Emotional Quotient Inventory (EQ-i): 133 items</li> </ul> <p><b>Sample:</b> 32 managers: same-source data<br/> <b>Findings:</b> A significant linear relationship was found between EI and TL style.</p>   |
| <p>7. Leban &amp; Zulauf (2004) - <i>Leadership &amp; Organization Development Journal</i></p> <ul style="list-style-type: none"> <li>Multifactor Leadership Questionnaire (MLQ) – Form 5X</li> <li>Mayer Salovey Caruso Emotional Intelligence Ability Test (MSCEIT)</li> </ul> <p><b>Sample:</b> 24 project managers + team-members and stakeholders (unspecified n): multi-source data<br/> <b>Findings:</b> EI ability contributes to a manager's TL style.</p>  |
| <p>8. Rubin, Munz &amp; Bommer (2004) – <i>Academy of Management Journal</i></p> <ul style="list-style-type: none"> <li>Transformational Leadership Behaviour Measure (Podsakoff, MacKenzie &amp; Bommer, 1996): 22 items</li> <li>Goldberg's (1999) Big Five Inventory – agreeableness, extraversion: 5 + 5 items</li> <li>Watson, Clark &amp; Tellegen's (1988) Positive and Negative Affect Schedule (PA-NAS): 10 + 10 items</li> <li>Diagnostic Analysis of Nonverbal Accuracy (DANVA): 24 items</li> </ul> <p><b>Sample:</b> 145 managers + 480 subordinates: multi-source data<br/> <b>Findings:</b> Empirical evidence in support of one aspect of EI and its relationship to TL behaviour. Leaders who were better able to <i>recognise emotion accurately in others</i> were rated more highly on TL.</p> |
| <p>9. Downey, Papageorgiou, &amp; Stough, (2006) - <i>Leadership and Organization Development Journal</i></p> <ul style="list-style-type: none"> <li>Avolio, Bass &amp; Jung's (1995) MLQ-5X-Short: 45 item self-report measure</li> <li>Palmer &amp; Stough's (2001) Swinburne University Emotional Intelligence Test (SUEIT): 64 item self-report measure</li> <li>Salovey, Mayer, Goldman, Turvey &amp; Palfai's (1995) Trait Meta-Mood Scale (TMMS): 30 item self-report measure</li> </ul> <p><b>Sample:</b> 176 female managers: same-source data<br/> <b>Findings:</b> A positive relationship was found between EI and transformational leadership. This suggests that the abilities encompassed by EI are intrinsically related to the role of the transformational leader.</p>                           |
| <p>10. Polychroniou (2009) – <i>Team Performance Management</i></p> <ul style="list-style-type: none"> <li>Transformational Leadership – Measured with 12 items adapted from the MLQ (Bass, 1985)</li> <li>EQ Index (EQI) (Rahim et al. 2002, 2006): 19 items</li> </ul> <p><b>Sample:</b> 267 managers: same-source data<br/> <b>Findings:</b> Supervisors' EI components are positively associated with TL.</p>  |
| <p>11. Wang &amp; Huang (2009) – <i>Social Behaviour &amp; Personality</i></p> <ul style="list-style-type: none"> <li>Transformational Leadership</li> <li>Emotional Intelligence</li> </ul> <p><b>Sample:</b> 51 department managers + 252 employees: multi-source data<br/> <b>Findings:</b> EI is positively associated with TL.</p>  |
| <p>12. Lopez-Zafra, Garcia-Retamero &amp; Martos (2012) – <i>The Psychological Record</i></p> <ul style="list-style-type: none"> <li>MLQ (Reduced Version) (Bass 1985): 22 items</li> <li>Trait Meta Mood Scale (TMMS) (Salovey, Mayer, Goldman, Turvey &amp; Palfai, 1995): 24 items</li> </ul> <p><b>Sample:</b> 431 participants: same-source data<br/> <b>Findings:</b> EI predicts TL</p>   |

| Table 2: Published papers casting doubt on the strength of the relationship between transformational leadership (TL) and emotional intelligence (EI)   |
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| <p>1. Sosik &amp; Megerian (1999) – Group &amp; Organization Management</p> <ul style="list-style-type: none"> <li>• Bass &amp; Avolio’s Multifactor Leadership Questionnaire (MLQ 5X Short)</li> <li>• Composite Emotional Intelligence Questionnaire: 95 items measuring 9 dimensions</li> </ul> <p><b>Sample:</b> 63 managers + 192 subordinates + 63 superiors: multi-source data<br/> <b>Findings:</b> Correlations between EQ predictors of leadership behaviour differed based on categorizations of leader self-awareness.</p>   |
| <p>2. Antonakis (2004) - Organizational Analysis</p> <ul style="list-style-type: none"> <li>• A review of the published research claims concerning the relationship between TL and EI</li> </ul> <p><b>Cites:</b> 57 published research articles<br/> <b>Findings:</b> The state of empirical evidence for the relationship between EI and leadership remains weak after 15 years.</p>   |
| <p>3. Brown, Bryant &amp; Reilly (2006) - Leadership &amp; Organization Development Journal</p> <ul style="list-style-type: none"> <li>• Bass &amp; Avolio’s (1996) MLQ Form 5X: 45 items (A single measure of TL was computed by aggregating the four subscale measures)</li> <li>• Bar-On’s (1996) Emotional Quotient Inventory (EQ-i): 133 items</li> </ul> <p><b>Sample:</b> 161 managers and supervisors + 2,411 followers: multi-source data<br/> <b>Findings:</b> No indication that EI as operationalized and measured by the EQ-i is of any value in understanding or exploring leadership.</p>                         |
| <p>4. Kupers &amp; Weibler (2006) - Leadership &amp; Organization Development Journal</p> <ul style="list-style-type: none"> <li>• An analysis of the MLQ using a hermeneutic research focus.</li> <li>• Use of interpretive method to map emotional qualities derived from Goleman’s (1998) framework to existing TL dimensions of the MLQ</li> </ul> <p><b>Cites:</b> 69 published research articles<br/> <b>Findings:</b> TL covers some emotions, but is far away from the claim of a full-range theory. Specific emotions concerning individualised consideration are explicitly absent in the MLQ.</p>                     |
| <p>5. Moss, Ritossa &amp; Ngu (2006) – Journal of Individual Differences</p> <ul style="list-style-type: none"> <li>• Leadership Style Questionnaire</li> <li>• Emotional Intelligence Questionnaire</li> </ul> <p><b>Sample:</b> 263 pairs of managers and subordinates in Study 1; 166 pairs of nurses and their supervisors in Study 2: multi-source data<br/> <b>Findings:</b> Individuals who reported emotional intelligence (high EI) were not more likely to demonstrate transformational leadership.</p>  |
| <p>6. Barbuto &amp; Burbach (2006) – The Journal of Social Psychology</p> <ul style="list-style-type: none"> <li>• Bass &amp; Avolio’s (1995) MLQ: TL subscales only</li> <li>• Carson’s (2000) Emotional Intelligence Instrument: 30 self-report items</li> </ul> <p><b>Sample:</b> 80 leaders + 388 raters (leaders completed EI + MLQ; raters completed MLQ): multi-source data<br/> <b>Findings:</b> EI shared little significant variance with rater reports of intellectual stimulation and idealized influence. This result weakens support for previous findings that demonstrated a relationship between EI and TL.</p> |
| <p>7. Lindebaum &amp; Cartwright (2010) – Journal of Management Studies</p> <ul style="list-style-type: none"> <li>• Alimo-Metcalf &amp; Alban-Metcalf (2001) Transformational Leadership Questionnaire (TLQ-Public) short version: 32 items</li> <li>• Wong &amp; Law (2002) Emotional Intelligence test (WLEIS): 16 items</li> </ul> <p><b>Sample:</b> 55 managers + 110 team members + 62 line managers: multi-source data<br/> <b>Findings:</b> When using a strong methodological design, no relationship between emotional intelligence and transformational leadership is found.</p>                                      |
| <p>8. Harms &amp; Crede (2010) - Journal of Leadership &amp; Organizational Studies</p> <ul style="list-style-type: none"> <li>• A Literature Review of 106 journal articles investigating the relationship between TL and EI</li> <li>• A Meta-Analysis of 62 independent studies investigating the relationship between TL and EI</li> </ul> <p><b>Sample:</b> 62 independent samples representing a total of 7145 leaders<br/> <b>Findings:</b> To date there exists no well-designed study that validates the proposed EI-leadership relationship.</p>   |
| <p>9. Lam &amp; O’Higgins (2012) - Leadership &amp; Organization Development Journal</p> <ul style="list-style-type: none"> <li>• Bass &amp; Avolio’s (1997) MLQ-5X Short: 20 items that make up the transformational dimension</li> <li>• Wong (2002) Emotional Intelligence Scale (WEIS): 40 item forced choice</li> </ul> <p><b>Sample:</b> 54 managers + 269 team members: multi-source data<br/> <b>Findings:</b> The findings were not uniform across the study’s outcome variables. In some instances, TL style translates from emotional intelligence, and in others, TL operates independently of EI.</p>               |
| <p>10. Cavazotte, Moreno &amp; Hickmann (2012) – The Leadership Quarterly</p> <ul style="list-style-type: none"> <li>• Bass &amp; Avolio’s MLQ (1997): 20 items that make up the transformational dimension</li> <li>• Wong &amp; Law (2002) Emotional Intelligence Scale (WLEIS)</li> </ul> <p><b>Sample:</b> 134 managers + 325 subordinates: multi-source data<br/> <b>Findings:</b> When ‘other’ individual differences (intelligence, personality) associated with leadership are taken into account, the predictive power of emotional intelligence becomes frail.</p>   |

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