

Review

A Review of Research Evidence on the Antecedents of Transformational Leadership

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Abstract: As the most-studied form of leadership across disciplines in both Western and Chinese contexts, transformational school leadership has the potential to suit diverse national and cultural contexts. Given the growing evidence showing the positive effects of transformational leadership on various school outcomes as it relates to school environment, teacher and student achievement, we wanted to explore the factors that gave rise to transformational leadership. The purpose of this study was to identify and compare the antecedents fostering transformational leadership in the contexts of both the United States and China. This paper reviews and discusses the empirical studies of the last two decades, concentrating on the variables that are antecedent to transformational leadership mainly in the educational context, but also in public management, business and psychology. Results show that transformational leadership is related to three sets of antecedents, which include: (1) the leader's qualities (e.g., self-efficacy, values, traits, emotional intelligence); (2) organizational features (e.g., organization fairness); and (3) the leader's colleagues' characteristics (e.g., follower's initial developmental level). Some antecedents were common to both contexts, while other antecedents appeared to be national context specific. The implications of the findings for future research and leader preparation in different national contexts are discussed.

Keywords: transformational leadership; antecedent; USA; China

1. Introduction

1.1. Background

In the last 20 years, accountability performance-based policies have been implemented in more and more countries, resulting in educational leaders struggling to meet the growing pressures to produce satisfactory student learning outcomes. As schools around the world change due to accountability pressures, educators must become change agents looking for new ways to meet the needs of their students. To create an environment that will foster and encourage innovation and trust, a leader needs to involve educators, stakeholders and even students to be a part of the change process. All of these are the strengths of transformational school leadership.

As part of the school restructuring and improvement movements in the late 1990s, scholars have developed several leadership models in their efforts to identify “effective leadership” to improve student learning outcomes. This includes, for example, instructional [1,2], transformational [3], participative [4], managerial [5] and, more recently, distributed leadership [6] and inclusive leadership [7]. Some of these models (e.g., instructional; moral leadership) were developed with school contexts in mind. The others were designed to be suitable for both educational and non-educational settings (e.g., managerial; participative leadership). Transformational leadership (TL) models are among the most-studied of the second type. A search of keywords in resources published from 1990 to 2003 in the PsycINFO

database revealed that there have been more studies on transformational or charismatic leadership than for all other popular theories of leadership combined [8]. More recently, a few overarching school leadership models have been developed in North America and New Zealand [9–11]. One of them is the “Core Leadership Practices” for schools, developed by Leithwood and his associates [9,12], with its original roots in transformational leadership. Transformational school leadership (TSL) could be one of the effective leadership models that suits the increasing demand and high expectation of improved student learning outcomes [3].

Transformational leadership in the U.S. was initially conceptualized by Burns [13] and fully developed by Bass [14] in non-educational contexts. In educational settings, transformational school leadership has undergone 30 years of development. The conceptual developments on TSL have mainly dealt with the identification and development of effective TSL practices, in regards to school impact, teacher and student outcomes, as well as theoretical underpinnings. The inclusion and classification of TSL practices varied in different TSL versions, and there is overlap across versions. It has been developed to its most current and mature form by Leithwood and his colleagues [3,15,16]. TSL, with its capacity to influence people’s beliefs and to transform organizations, has potential to fit the contexts that require constant change and has promise for school restructuring [3]. More recent evidence demonstrates significant positive impacts of TSL on student learning through various school conditions and teacher variables [16,17].

Emerging research on TSL in educational settings has appeared in many countries spanning across the world’s continents: Australia (e.g., [18]), Cyprus (e.g., [19]), Iran (e.g., [20]), Israel (e.g., [21]), Jordan (e.g., [22]), Kenya (e.g., [23]), Taiwan (e.g., [24]), Turkey [25], and the UK [26]. More recently, an increasing number of studies on TL have appeared in Mainland China. Mainland China, a country in constant transformation, provides such an ever-changing educational context in which politics and education have been under continual reform and reconstruction for years. Since TL’s introduction into China about two decades ago, first in the business sector and then later in education, TL has become a revolutionary conception and focus of inquiry in the field of management and leadership [27]. It has also become the most studied and empirically tested form of leadership in mainland China. These studies reported similar results as those reported in previous reviews [16,28] and those in the North American context, and have emphasized TL having strength to influence teachers’ emotions and their work engagement. In the Chinese context, TSL had large positive effects on teachers’ perceptions of leader effectiveness and job satisfaction [29,30]. It also had large positive effects on teachers’ commitment and organizational citizenship behaviors [31]. Lastly, it had moderate effects on teacher work engagement [32].

1.2. Purpose

Given the growing evidence showing the manifestation and positive effects of transformational leadership on various school outcomes across nations, we wanted to explore what factors gave rise to such leadership behaviors, i.e., antecedents of TL, and whether these factors were the same or different across cultures. The antecedents identified could help us understand the deep roots of TL beyond its overt behaviors and thus assist us to understand better how to nurture TL leaders to influence developing teachers, improve schools and students’ performances in various cultures.

The purpose of this study was to identify and compare the antecedents fostering TL in the contexts of both the U.S. and China. We reviewed and discussed the empirical studies of the last two decades, concentrating on the variables that were antecedent to transformational leadership mainly in the educational context, in addition to public management, business and psychology. The studies in other disciplines were included because we found, through our review, that the research on TL antecedents in educational settings was very limited and there were considerable overlaps in antecedents of TL across disciplines.

The study of antecedents on leadership in educational administration has been underway for sixty years. Earlier explorations on the association between personal variables and educational administrator behaviors have been disappointing, lacking cumulateness and being descriptive, rather

than analytic [28,33]. As already mentioned, there has been little comprehensive or theoretically-guided research on the antecedents of transformational leadership. Since the concept of TL was developed in the Western world, there is value in exploring the applicability of these concepts and approaches in other countries and cultures. The identification of universal and culturally-bounded determinants of TL would allow policymakers and practitioners to make changes and adjustments in their re-conceptualization of Western-based approaches and inform the preparation of transformational leaders.

In the following text, we first review the concept of TL and research on its antecedents. Then, we explain the review method and the sources of evidence. Next, results are presented, summarized and compared, followed by discussions. Finally, we conclude with the implications of the findings for research and practice in either national context.

1.3. The Concept of Transformational Leadership

The conceptualization of transformational leadership as an important approach to leadership is usually seen as beginning with Burns' [13] work, *Leadership*. According to Burns, the purpose of leadership is to motivate followers to work towards transcendental goals instead of immediate self-interest. Furthermore, TL strives towards achievement and self-actualization, rather than safety and security. Since the 1970s, TL has undergone major development by various scholars (e.g., [34–37]). Their research explored the following aspects of TL: leader characteristics, leader behaviors and interaction with context factors (e.g., culture).

The contemporary model of transformational leadership was predominately developed by Bass and his associates (e.g., [14,36]) in non-educational settings. They developed the two-factor theory: transformational and transactional leadership. Numerous factorial studies in the 1990s found variations in factor outcomes, but basically, the transformational leadership factors of idealized influence (charisma) and inspirational motivation, intellectual stimulation and individualized consideration held up [36]. Transactional leadership factors include contingent reward, active management by exception and passive management by exception. In the past three decades, with tests conducted in the areas of business, military, education, religious institutions, government and not-for-profit organizations, the transformational factors and contingent rewards correlated highly with the leader's effectiveness [36]. Bass envisions that there will be an increasing number of studies of multiple levels of analysis and continuing advances in biotechnology, genetic studies and brain research, which will provide a better understanding of leader perceptions, cognitions and behaviors and the ethical dimensions of transformational leadership. This knowledge relates to the study of the antecedents of TL.

In the educational setting, transformational leadership underwent 20 years of development. Parallel to Bass and his associates' work, the most systematic and most fully-developed work on transformational leadership theory in the educational context was done by Leithwood and his colleagues (e.g., [16,17,28,37–41]). Leithwood [3] identified seven factors that made up transformational (and transactional) school leadership (TSL) in schools, drawing more insights from the modification of Burns [13], Bass' [14] two-factor theory and Podsakoff and his associates [42]. Based on Leithwood and his associates' most recent work [16,17,28], TSL is conceptualized as including a total of fifteen specific practices classified into four broad categories: (1) setting directions; (2) developing people; (3) redesigning the organization; and (4) managerial aggregate. Leithwood and his colleagues developed the instrument, *The Nature of Leadership*, to measure TSL. Empirical research evidence shows that TSL has uniformly positive effects on teachers' commitment, satisfaction, perceived leader effectiveness, changing classroom practices and pedagogical or instructional quality. School culture, planning and strategies for change, as well as school organizational learning are also strongly related to TSL. TSL has a small, but, significant positive impact on student learning [16,17,28].

1.4. Antecedents of Transformational Leadership

Despite the positive impact of TSL on school, teacher and student outcomes, research evidence on the antecedents of TSL is scarce. Therefore, "more evidence about an expanded array of theoretically

defensible antecedents ought to be a significant item on the agenda for future transformational leadership research" [28] (p. 12). Existing accessible literature on the study of educational leadership antecedents dates back to the 1950s, at the earliest. Boyan [33] reviewed studies from the 1950s to the 1980s attempting to explain administrators' behavior. He concluded that: (1) personality remained important in attempts to explain administrator behavior; (2) decision making, problem solving and personalities were the central domain of research; and (3) despite the long-standing agreement since the 1950s on the three sources of shaping administrators' behaviors (personal, within-organizational and extra-organizational factors), the major findings from the scarce empirical studies illustrated that the following attributes positively affected principals to be successful: personal variables, professional preparation, enhanced reasoning, learning quickly, linguistically fluent, strong concerns with educational programs for students, encompassing higher conceptual complexity, a deeper understanding of administrative complexities, concerns with educational values, possessing a dominant marketing orientation, cooperating with teachers on values, engagement in strong and purposeful activities, aspirations for success and promotion, strong ability to relate to others, security in interpersonal relationships, being stable emotionally in the face of upsetting situations and having longer tenure.

Leithwood and Jantzi [28] examined research studies (32 in total) published between 1996 and 2005: 26 quantitative, 1 mixed methods and 5 qualitative studies. Nine of these studies provided antecedents to transformational school leadership. Five reported meaningful influence on leaders' transformational practices. Variables included organizational bureaucracy (one study), organizational values (one study), school reform initiatives (three studies), leaders' proactivity (one study) and formal training experiences (two studies).

Both Boyan's [33] review and Leithwood and Jantzi's [28] review of antecedent studies in educational administration and the review of transformational school leadership research shared the observation that leader practices resulted from internal and external influences (antecedents). In non-educational settings, Zaccaro, Kemp and Bader's [43] extensive review of empirical studies on leadership identified a series of antecedents regarding TL. Two broad categories were developed: internal and external antecedents. Internal antecedents are personal variables concerning leaders' individual internal states, dispositions, cognitive capacities, personality orientation, motives and values, social appraisal skills, problem-solving competencies and general or domain-specific expertise. External antecedents are situational or contextual variables in which leaders work with their staff's characteristics.

2. Methodological Approach

2.1. A Comparative Approach

Since this paper compared the antecedents of TL from studies conducted in the U.S. and China, the approach to the review falls under the generic umbrella of comparative education. The cross-national comparison was used to explain the similarities and differences in the regions [44]. The first comparisons are of the geographical dimension, which includes seven levels: continents, countries, states, districts, schools, classrooms and individuals. The second represents non-locational demographic groups, such as ethnicity, religion or entire population. The third dimension embraces aspects of education, such as curriculum, teaching methods, finance and management structures. This review touches upon, across these three dimensions, a specific type of leadership, schools, certain organizations and other groups of people in the U.S. and China.

Cross-cultural researchers make the *emitt* versus *etic* approach distinction in examining construct development and research methods [45,46]. An *emitt* approach assumes that constructs and measures are culture specific and not comparable; while an *etic* approach assumes that constructs are universal, but manifested differently in various cultures, with the possibilities of identifying differences and commonalities across cultures using functionally-equivalent concepts and measures [45]. To enable comparisons without making false assumptions of universality or eliminating culture-specific information,

cross-cultural psychologists suggested a middle ground, i.e., a pseudoetic approach that researchers begin with a construct that has emit culture and yet attempt to discover whether the construct is similar in different countries [45]. This review research adopted a pseudoetic approach to identify whether there are similar antecedents of transformational school leadership common in both the American and Chinese contexts. We also identified unique, cultural-specific factors that gave rise to TSL in either context.

The methodological approaches in comparative education are similar to those employed in empirical studies, including qualitative and quantitative methods, as well as review research [46]. Qualitative research is good at presenting the 'emic' aspects of the phenomenon examined, emphasizing the insider's perspective based on the subjects of research, and can help find similarities or commonalities across different cultural contexts when large-scale case studies are examined. That said, however, quantitative research is good at finding the general laws in each context with stronger claims (i.e., stronger emits) and help identify the general laws across contexts when comparing 'emits' across cultural contexts. This review is based on quantitative studies in both the U.S. and China. Thus, we not only focus on comparing and identifying common antecedents of TL across the two countries based on quantitative data, but also explore and discuss the unique antecedents of TL in either country.

2.2. Review Method

This study employed a narrative review. Quantitative studies were examined for TL practices and for antecedents exercised in both the American and Chinese contexts. Scholars in the field of educational leadership [47,48] call for the use of rigorous literature reviews as a means to organize, synthesize and advance the knowledge base in the field. For this study, we went through the following four steps as a response to this call:

- (1) Using refined and targeted descriptors and appropriate inclusion criteria, an exhaustive search was made for literature related to our topic;
- (2) Each study identified for inclusion was systematically mapped for its content, method and findings to inform readers and for cross-study analysis;
- (3) A systematic effort was made to compare and identify similarities and differences in the nature of TL and its antecedents across the two countries;
- (4) Themes identified that were specific to either culture were compared and discussed. Commonalities across nations were identified and discussed.

2.3. Inclusion Criteria and the Search for Studies

The search for literature was aimed at identifying studies that measured TL and its antecedents in both countries. As such, the studies had to meet the following criteria to be eligible for inclusion: (1) the studies had to report quantitative data about TL at the school level or in other disciplines; (2) the studies had to measure TL in schools or other organizations; (3) the studies had to investigate at least one factor that gave rise to TL; (4) the studies conducted at least one of the following types of correlational statistical analysis: correlation, regression, ANOVA or *t*-test. Finally, since transformational leadership was formally introduced to K to 12 educational settings in the 1990s in North America and at the end of the last century in Mainland China and since Leithwood and Jantzi [28] has reviewed the evidence on the antecedents of TL up to 2004, we set the time span for research evidence for both countries from 2001 to 2016. Although we tried our best to exhaust relevant literature in both countries, the studies reviewed in this research are not inclusive.

To locate the studies, we primarily focused on peer-reviewed journal articles and theses or dissertations. Although searching for peer-reviewed publications has the disadvantage of neglecting some studies (studies on the antecedents of TL with no significant correlation with TL are less likely to be published), it was a useful criterion for the first selection of studies for sufficient quality. For unpublished studies, we searched for theses and dissertations. This was due for four reasons: (1) unpublished theses or dissertations make up a body of the literature that might provide insights, as

yet, unreported in published literature; (2) the addition of unpublished theses or dissertations reduces publication bias; (3) unpublished theses or dissertations are original sources of which evidence is used for future publications; and (4) theses or dissertations have fairly good qualities, as Slavin argues, that it “may sometimes be easier to get a poorly designed study into a low quality journal than to get it past a dissertation committee” [49]. With this in mind, we searched the largest databases that housed dissertations for both countries.

2.4. Sources of Evidence

Evidence collected for this review was based on empirical studies that met the inclusion criteria outlined above, conducted in both the U.S. and Mainland China in the last 20 years. Below, we briefly describe how we obtained the studies included in this review.

2.4.1. Evidence from USA

The empirical studies reviewed for this paper were obtained through an extensive multiple and interdisciplinary database search. The following list shows the databases searched, which include major journals in the field of educational administration and psychology.

- Scholars Portal Search
- Web of Science
- Scopus
- JStore Basic search
- PsycInfo
- PsycARTICLES
- E-Journals @ Scholars Portal
- Social Sciences Abstracts @ Scholars Portal
- Digital Dissertations @ Scholars Portal
- ERIC
- Education Abstracts @ Scholars Portal
- Education: A SAGE Full-Text Collection
- Educational Administration Abstracts
- Proquest @ Scholars Portal
- PsycINFO
- Psychology: A SAGE Full-Text Collection
- Sociology: A SAGE Full-Text Collection

We first used the keywords “transformational leadership”, “school*”, “survey*” and “questionnaire*” to search for studies conducted in the K to 12 settings. These searches were combined with the Boolean technique of NOT “university*”, or “interview*”, or “qualitative” to narrow down the search. This resulted in a few hundred studies. One of the authors read all of the abstracts and identified 10 studies that met the inclusion criteria for our review.

Among these 10 studies, six of them were unpublished dissertations, and the others were journal articles. Seven of them were in educational settings, and the others were in non-educational settings. The achieved samples in these studies ranged from 25 administrators to 2649 teachers. All of the studies in educational settings were conducted in public schools.

2.4.2. Evidence from Mainland China

Studies conducted in the Chinese context and reviewed for this paper all originated from China, which included empirical studies published in major journals and unpublished dissertations or theses. Firstly, using the keyword “transformational leadership”, we searched the Chinese National

Knowledge Infrastructure online database and obtained four studies. We then expanded our search to include all disciplines of social science. This search identified 138 studies, three of which examined the antecedents of TL. In the third step, we searched the Chinese Excellent Dissertation and Thesis Database. This yielded 10 dissertations and 163 theses on TL, of which four studies were identified as meeting the inclusion criteria for this study. Lastly, we used related keywords, such as, “transforming leadership” and “transformative leadership”, to search further studies from the same databases. One more study was located this way. In total, we identified 12 studies that examined the antecedents of TL in the Chinese context. Among the 12 studies, half of them were journal articles with the rest being in the business sector. The achieved samples in the studies ranged from 85 managers to 408 teachers. The studies conducted in educational settings were mostly in public schools, except one in private schools in China.

3. Findings and Discussion

3.1. Comparing the Conceptualization of TL in the U.S. and China Findings

The most frequently-employed TL model by American studies is the two-factor theory developed by Bass and his associates [36,50–53]. These studies used the Multifactor Leadership Questionnaire (MLQ) to measure TL. MLQ measures seven factors: idealized influence, inspirational motivation, intellectual stimulation, individualized consideration, contingent reward, management-by-exception and laissez-faire. Most of the studies did not include the laissez-faire factor in their examination of TL. The Leadership Practices Inventory (LPI) as the measurement tool for TL was also used in one study, which was developed by Kouzes and Posner [54]. LPI includes five specific leader behaviors: inspiring a shared vision, modeling the way, challenging the process, enabling others to act and encouraging hearts. These two models conceptualize transformational leadership in slightly different ways and include more than a dozen specific TL items, which we synthesized into 13 practices. In the Chinese context, Bass’ model was mostly used or adapted to measure TL. In addition to this, one study used a self-designed instrument to measure transformational leaders’ competencies. The practices involved in the conceptualization of TL in both contexts were grouped into four categories: setting directions, developing people, redesigning the organization and transactional leadership (see Table 1 for details).

Table 1. Transformational leadership practices.

Leadership Practice	USA	China
1. Setting Directions		
• Developing a shared vision/inspiring a shared vision/inspirational motivation	23	20
2. Developing People		
• Providing individualized support/consideration/encouraging the heart	22	16
• Providing intellectual stimulation/challenging the process	21	7
• Modeling behavior/idealized influence: attributed, behavior or total/symbolization charisma/moral modeling	18	23
3. Redesigning the organization		
• Enable others to act/building collaborative processes	2	
• Strengthening school cultures	1	
• Organization design and policy execution/modifying organizational structures	1	1
4. Managing instructional programs/transactional leadership		
• Contingent reward	9	1
• Planning and supervising instruction	1	
• Providing instructional support	1	
• Monitoring the school’s progress (including student progress	1	
• Buffering staff from external demands unrelated to the school’s priorities	1	
• Management by exception (active, passive, total)	9	1

Note: The number in one cell of the table indicates the number of analyses conducted in the study examining the TL practice or the relationship between at least one antecedent and this practice.

The most frequently-examined leadership practices in both contexts were:

- Inspiring a shared vision and building goal consensus (43 analyses);
- Modeling (41 analyses);
- Providing individualized support (38 analyses).

These practices are related to the two domains of leadership: setting directions and developing people. That said, the ways that transformational leaders developed people differed. In the U.S., in addition to providing individualized support to staff, transformational leaders also provided intellectual stimulation more often than Chinese leaders. U.S. staff expected leaders to walk the talk, model high ethical behavior, instill pride, respect and trust staff, symbolize success, model best instructional practices and demonstrate a willingness to change own practices. Chinese leaders, on the other hand, stressed high ethical behaviors.

In both countries, TL practices related to organization redesign and managing instruction were less frequently examined compared to practices in the other domains. Though not frequently examined, transformational leaders in the U.S. made efforts to ensure that staff had adequate involvement in decisions concerning programs, instruction, organizational processes and working conditions that facilitate staff collaboration for planning and professional growth and the distribution of leadership roles among staff. Such endeavors were not evident in Chinese studies. Managing and improving instructional programs is the key to school leaders' job, which was not evident in Chinese studies either.

3.2. Antecedents of Transformational Leadership

Tables 2 and 3 outline the antecedents of TL in the U.S. and China. Three types of antecedents were identified: school leaders' internal qualities, organizational factors and leaders' colleagues' characteristics. At the internal level, leaders' self-efficacy (large effect), values, emotional intelligence (moderate effects) and cognitive capacities were predictors of TSL practices. For the outcomes that were researched only by a single study, collaborative cultures and organizational fairness were seen as positively related to TL. Supportive, positive and collaborative socialization with colleagues seemed important to the enactment of TL. These two antecedents are located at the organizational level. Followers' qualities, such as emotional intelligence and developmental levels, also had influence on the manifestation of their leaders. In the following texts, we will briefly illustrate these themes that emerged from both (U.S. and China) contexts and will discuss the findings as they relate to previous studies.

Table 2. Summary of research evidence on the antecedents of transformational leadership (TL) originated from the USA.

No.	Author	Location	Sample	Type of Organization	Measure of TL (Reliability)	Measure of Antecedent (Reliability)	Antecedent (Corr. <i>r</i> between TL and Antecedent)
1	Krishnan (2001) I [55]	USA	95 pairs of managers and subordinates	A large, non-profit, national human services organization	MLQ ^a $\alpha > 0.91$	-	A certain set of moral and social values + (e.g., peace, being responsible)
2	Daniel (2005) II [56]	USA	55 superintendents, 62 deputy, assistant and associate superintendents and 720 Ps	Public Ss in West Virginia	MLQ ^a -	DIT ^b -	Moral reasoning (0.09)
3	Dvir and Shamir (2003) I [57]	USA	320 infantry leaders	Military	MLQ-5X ^a $\alpha = 0.90$	-	Direct followers (0.30 **) Indirect followers (0.47 **)
4	Leithwood and Janzi 2008 II [58]	USA	96 administrators and 2764 teachers	134 E, M and H schools	Principal survey $\alpha = 0.83$	6-item survey $\alpha = 0.88$	Self-efficacy (0.33 **)
4	Lussiez (2009) II [59]	USA	25 S administrators	17 E, 2 M and 6 H schools	MLQ ^a $\alpha = 0.934$	TSES ^c $\alpha = 0.928$ MES ^d -	-Empathy (0.416 *)
5	Herbert (2010) II [60]	USA	30 Ps and 15 Ts in each S	30 E, M, H Ss	MLQ ^a $\alpha = 0.77$	MSCEIT ^e $\alpha = 0.91$	-Emotional intelligence (0.37 *)
6	Stoltzfus (2010) II [61]	USA	72 Ts	DUSD (Desert Unified School District) 2008	MLQ ^a $\alpha = 0.76$	TTQ ^f $\alpha = 0.83$	-Training transfer ($\eta^2 = 0.03$)
7	Saxe (2011) II [62]	USA	76 Ps and superintendents	Illinois State Board of Education	MLQ ^a -	ESCI ^g $\alpha = 0.78$	-Emotion and social competence (0.81)
8	Keung and Rockinson-Szapkiw (2012) I [63]	USA	193 international S leaders	Not reported	MLQ-5X ^a $\alpha = 0.76$	CIS ^h $\alpha = 0.93$	-Metacognitive cultural intelligence (0.37 **) -Cognitive cultural intelligence (0.35 **) -Motivational cultural intelligence (0.25 **) -Behavioral cultural intelligence (0.38 **)
9	Smith (2013) I [64]	USA	30 pre-service librarians	Six school districts in Florida	LPI ⁱ	Self-designed	-Mentor contact hours (0.14 *)
10	Davidson (2014) II [65]	USA	116 Ts	Elementary schools in Kansas	MLQ ^a -	ATHS ^j $0.74 < \alpha < 0.84$ (p. 38) GS ^k -	-Grit (0.453) -Hope (0.493)

I: Journal article; II: unpublished thesis or dissertation; “-” = Cronbach α not reported; “+” = positive or potentially positive association; H = high schools; M = middle schools; E = elementary schools; S = schools; P = principals; T = teachers; N/A = Not applicable or not reported; * $p < 0.05$; ** $p < 0.01$; *** $p < 0.001$; “Corr.” = Correlation; ^a Multifactor Leadership Questionnaire (MLQ-5X short) [36,50–53]; ^b Defining Issues Test-2 (DIT-2) [66]; ^c Teachers’ Sense of Efficacy Scale [67]; ^d Multidimensional Empathy Scale [68]; ^e Mayer–Salovey–Caruso Emotional Intelligence Test [69]; ^f Training Transfer Questionnaire; ^g Emotional and Social Competency Inventory (ESCI, [70]); ^h Cultural Intelligence Scale (CIS) [71]; ⁱ Leadership Practice Inventory (LPI) [54] is a 10-point Likert scale; ^j Adult Trait Hope Scale; ^k Grit Scale measures the subject’s score on the 12-item Grit Scale [72].

Table 3. Summary of research evidence on the antecedents of transformational leadership (TL) originated from China.

No.	Author	Location	Sample	Type of Organization	Measure of TL (Reliability)	Measure of Antecedent (Reliability)	Antecedent (Corr. <i>r</i> between TL and Antecedent)
1	Meng (2005a) I [73]	China	85 managers	58 enterprises of various scale and field	MLQ ^a $\alpha = 0.90$	BFFI ^b $\alpha = 0.83$	-supervisors' conscientiousness (0.467 ***)
2	Meng (2005b) I [74]	China	203 managers	72 enterprises of various nature (state-owned, private, foreign-funded) and field (manufacturing, service, high-tech)	MLQ ^c $\alpha = 0.90$	GOQ ^d $\alpha = 0.78$	-learning goal orientation (0.45 **) -avoiding goal orientation (-0.13) -proving goal orientation (0.15)
3	Chen (2006) II [75]	China	158 principals and school administrators	secondary school	MLQ ^e	EPQ ^f SEI ^g	-leaders' education (F = 0.24 <i>p</i> = 0.87) -leaders' self-efficacy (<i>r</i> = 0.42 **) -psychopathic personality (<i>r</i> = -0.19 *) -extrovert-introvert (<i>r</i> = 0.36 *)
4	Han (2008) II [76]	China	251 managers their subordinates	15 enterprises of various nature (state-owned, private, foreign-funded)	TLCQ ^h $\alpha = 0.87$	N/A	-leaders' education (knowledge and skill F = 85.31 **) -enterprise nature (employee orientation F = 66.53 **; achievement drive incentive F = 4.68 **; charismatic captain F = 4.47 **)
5	Li (2008) II [77]	China	234 staff members	Large state-owned enterprises (such as telecom, bank, restaurant and tobacco companies)	MLQ ⁱ $\alpha = 0.91$	OIJS ^j $\alpha = 0.82$	-organization fairness ($R^2 = 0.37$) (F = 137.96, <i>p</i> = 0.000)
6	Li, Duan and Zheng (2010) I [78]	China	208 leaders and staff members	some enterprises	MLQ ^k $\alpha = 0.90$	ECGN ^l $\alpha = 0.91$	-followers' individual group emotional intelligence (regression coefficient = 0.50 ***, F = 60.13 ***, $R^2 = 0.25$) -followers' team group emotional intelligence (regression coefficient = 0.46 ***, F = 45.88 ***, $R^2 = 0.25$) -followers' cross-team group emotional intelligence (regression coefficient = 0.51 ***, F = 59.91 ***, $R^2 = 0.26$)
7	Dou (2011) II [79]	China	328 staff members	3 enterprises (1 energy-technology company, 1 electronics enterprises, 1 consulting company)	TLQ ^m $\alpha = 0.92$	MPCQ ⁿ $\alpha = 0.92$ (from Table 5-4) QIQ ^o $\alpha = 0.81$	-manager psychological capital (<i>r</i> = 0.78 **)
8	Wang,Wang,Wang (2011) I [80]	China	281 excellent persons who in charge of research projects (175 national projects and 106 provincial projects)	N/A	TLQ ^p	SRPDCQ ^q	-competency-leadership (<i>r</i> = 0.53 **) -competency-research (<i>r</i> = 0.55 **) -competency-management (<i>r</i> = 0.53 **)

Table 3. Cont.

No.	Author	Location	Sample	Type of Organization	Measure of TL (Reliability)	Measure of Antecedent (Reliability)	Antecedent (Corr. <i>r</i> between TL and Antecedent)
9	Wang, Huang and Feng (2013) I [81]	China	408 primary and secondary school teachers	N/A	MLQ ^r $\alpha = 0.92$ (p.13)	N/A	School levels +
10	Ji (2014) II [82]	China	35 kindergarten principals 360 kindergarten teachers	35 kindergartens	KPTLQ ^s $\alpha = 0.96$	WLEIS ^t $\alpha = 0.94$ NEO-FFI ^u $\alpha = 0.82$	-teachers' education background ($F = 1.48^*$) -kindergarten principals' openness ($r = 0.38^*$), -agreeableness ($r = 0.33^*$), -conscientiousness (0.41^*), -neuroticism ($r = -0.10$) -extraversion ($r = 0.27$) -kindergarten principals' emotional intelligence ($r = 0.75^{**}$)
11	Song, Chen and Qin (2014) I [83]	China	211 staff members	3 enterprises in Beijing	MLQ ^v $\alpha = 0.91$	SRI ^w femininity inventory $\alpha = 0.86$ masculinity inventory $\alpha = 0.86$	-leader's masculine ($r = 0.66^{**}$) -leader's feminine role ($r = 0.68^*$) [from Table 2] -leader's gender role ($\Delta R^2 = 0.39^{**}$)
12	Wang (2014) I [84]	China	236 staff members, first-line administrator and middle managers	different scale private enterprise of Hubei province	TLQ ^x $\alpha = 0.91$	PCQ ^y $\alpha = 0.90$	-leader's self-efficacy ($r = 0.58^{**}$) -leader's hope ($r = 0.63^{**}$) -leader's optimistic ($r = 0.52^{**}$) -leader's resiliency ($r = 0.59^{**}$)

I: Journal article; II: unpublished thesis or dissertation; N/A= Not applicable or not reported; * $p < 0.05$. ** $p < 0.01$. *** $p < 0.001$; "Corr." = Correlation; ^a Multifactor Leadership Question (MLQ) [85] adapted from Multifactor Leadership Questionnaire (MLQ) [86]; ^b Big-five factor inventory [87] adapted from NEO- Personality Inventory -Revised (NEO-PI-R) [88]; ^c Multifactor Leadership Question (MLQ) [85] adapted from Multifactor Leadership Questionnaire (MLQ) [89]; ^d Goal Orientation Questionnaire (GOD) [90] adapted from Goal Orientation Questionnaire (GOD); ^e Multifactor Leadership Question (MLQ) (Zhang, 2005, cited in [89]) adapted from Multifactor Leadership Questionnaire (MLQ) [89]; ^f Eysenck Personality Questionnaire (EPQ) [91] adapted from Eysenck Personality Questionnaire (EPQ) [92]; ^g Self-Estimate Inventory (SEI) [93] based on Albert Bandura's related theories; ^h Transformational Leader Competency Questionnaire (TLCQ) [76]; ⁱ Multifactor Leadership Questionnaire (MLQ-5X form) [86]; ^j Organization Interactional Justice Scale (OIJ) [94]; ^k Multifactor Leadership Questionnaire (MLQ) [89]; ^l Emotional Competence Group Norms (ECGN) [95]; ^m Transformational Leadership Questionnaire (TLQ) [96] adapted from Multifactor Leadership Questionnaire [89]; ⁿ Manager Psychological Capital Questionnaire (MPCQ) [79] adapted from Psychological Capital Questionnaire (PCQ) [97]; ^o Organizational Identification Questionnaire (QIQ) adapted from Organizational Identification Questionnaire (QIQ) [98]; ^p Transformational Leadership Questionnaire (TLQ) [96] adapted from Multifactor Leadership Questionnaire [89]; ^q Scientific Research Project Directors Competency Questionnaire (SRPDCQ); ^r Multifactor Leadership Questionnaire (MLQ) [89]; ^s Kindergarten Principal Transformational Leadership Questionnaire (KPTLQ) adapted from Transformational Leadership Questionnaire (TLQ) [96]; ^t Wang and Law's Emotional Intelligence Scale (WLEIS) [99]; ^u NEO Five-factor Inventory (NEO-FFI) [88]; ^v Multifactor Leadership Questionnaire (MLQ) [14]; ^w Sex Role Inventory (SRI) [100] adapted from Bem Sex Role Inventory (BSRI) [101]; ^x Transformational Leadership Questionnaire (TLQ) [96], adapted from Multifactor Leadership Questionnaire [89]; ^y Psychological Capital Questionnaire (PCQ) [102] adapted from Psychological Capital Questionnaire (PCQ-24) [97].

3.2.1. Leaders' Internal Qualities

Self-efficacy

(1) Findings

Gathering from the limited studies collected from the U.S. and Mainland China, the most steadfast predictor of TL was leaders' self-efficacy. All six studies (e.g., [78]) reported moderately high or large impacts of leaders' self-efficacy on their transformational leadership. Leithwood and Jantzi [59] tested a model of the causes and consequences of school leader efficacy (both individual and collective), whereby data were collected through a principal survey of 96 school administrators and a teacher survey ($n = 2764$) across nine states in the USA. Correlations between school leader practices and aggregated efficacy and leaders' self-efficacy (LSE) are comparable (0.31 and 0.33). LSE had substantially higher correlations with leader behavior than leaders' collective efficacy (LCE). Correlations between LSE and the four separate dimensions of leader behavior were roughly similar, ranging from a low of 0.25 (developing people) to a high of 0.40 (setting directions). Regression results showed that the aggregate efficacy measure explained 8% of the variation in leader behavior; leader self-efficacy explained 10%; and leader collective efficacy had no unique effect.

Similarly, in the Chinese contexts, Wang [84] surveyed 236 staff members, first-line administrators and middle managers from Hubei province and found large correlations between administrators' TL and their self-efficacy ($r = 0.58^{**}$). In Dou's [79] study, the correlation between managers' confidence and resilience (key elements of self-efficacy) for TL was even higher (0.68^{**} ; 0.59^{**}).

(2) Discussion

"Self-efficacy is a belief about one's own ability (self efficacy), or the ability of one's colleagues collectively (collective efficacy) to perform a task or achieve a goal" [103] (p. 2). Efficacy beliefs develop in response to both cognitive and affective processes. Among the strongest cognitive influences on self-efficacy are beliefs about ability as either an "inherent capacity" or "acquired skill" and perceptions about what is controllable or alterable in one's working environment. Self-efficacy beliefs, according to Bandura [104], have directive effects on one's choice of activities and settings and can affect coping efforts once those activities are begun. "Such beliefs determine how much effort people will expend and how long they will persist in the face of failure or difficulty" [103] (p. 5).

Theoretically, the construct of efficacy is closely associated with the transformational type of leadership. The transformational leader is a change agent. In order to initiate and maintain change, it is essential that the leaders will continue to set challenging personal goals for themselves and organizational goals for the organization and that their colleagues will persist in pursuit of their shared goals and vision. Setting challenging goals and persisting in empowering organizational members to make steady efforts to achieve those goals in spite of challenging circumstances, among other things, requires the leader's high level of self-efficacy: the belief that he or she can do it and his or her staff can do it.

Sashkin [34] in his review of eight major theoretical approaches to transformational leadership concluded that no other personal characteristics apart from leader self-confidence (his term meaning self-efficacy) cuts across the eight approaches. Closely related to leader self-efficacy, Spreitzer and Quinn's [105] four-year longitudinal study showed that middle managers ($N = 3000$) with high levels of self-esteem, positive feelings about their job and social support were most likely to make transformational changes. Smith and Foti (1998, cited in [106]) reported that a configuration of general cognitive abilities, dominance and self-efficacy predicted 45% of the variance in leader emergence. Demir's [107] study, based on 218 teachers from 66 elementary schools in Turkey, demonstrated a large association between leaders' TL and their collective efficacy (0.49^{**}), as well as a close to large association between leaders' TL and their self-efficacy (0.44^{**}). The finding of this review is consistent with those reported in early studies and in other countries.

In sum, empirical research supported the claim that leader efficacy is an important predictor of transformational leadership. Its direct link with leadership behaviors may not be strong; but, it has more impacts on a leader's behaviors through its mediating influence on the leader's cognitive process, which in turn predicts and guides the leader's behaviors. Future research could further this line of inquiry by exploring its contribution as a regulatory mechanism mediating between cognitive abilities and behaviors, as well as its unique contribution as an independent contributor to transformational leadership.

Values

(1) Findings

Krishman [55] attempts to draw a value profile of a transformational leader. His study compares the terminal and instrumental value systems of leaders (measured by Rokeach's value survey) who are more transformational with those of leaders who are less transformational (measured by MLQ). Using a sample of 95 pairs of nursing managers and subordinates in the United States, a median and Wilcoxon test revealed that transformational leaders are likely to give high priority to "a world at peace" and low priority to "national security" and "a world of beauty" in terminal values. They gave higher rank to "responsible" (moral values) and lower rank to "cheerful" and "intellectual" (competence values) compared with those who are less transformational. They concluded that transformational leaders did have some identifiable patterns in their value systems, with a higher preference given by them to moral values rather than to competence values and to social values rather than those concerning only themselves.

In the Chinese context, though no studies examined the relationship between values and TL, most of the studies (e.g., [76]) conceptualized moralities as one of the important dimension of TL itself, or as it is called "moral modeling". This component includes the expectations of transformational leaders' holding and demonstrating the following values:

- Avoidance of the pursuit of personal benefits
- Putting the organization or others' interests in front of the self's
- Devotion to the job without the concern about rewards
- Not attributing staff's corporate accomplishments to self
- Not taking revenge or taking it personally if staff do not agree
- Working as hard as staff

In this conceptualization, the above-mentioned values underline and guide transformational leaders' behaviors.

(2) Discussion

Begley [108] defines a value as a conception of the desirable with a motivating force. "Values appear to be derived from both within the individual's psychology as well as from the individual's interaction with collective groups, organizations and societies" [108] (p. 356). Theoretically, according to Burns [13], the nature of transformational leadership is the elevation of motivation and morality both in the leader and the followers with the outcome of heightened effort from subordinates. Moral elevation is the source, purpose, soul and outcome of this type of leadership. Therefore, it is conceivable that transformational leadership is underpinned by a set of distinct values, and these values serve as antecedents that give rise to this type of leadership.

Sarros and Santora [109] examined the linkages among business executives' leadership behaviors (N = 181 from the top 500 Australian companies) and their value orientations. They used MLQ to measure leadership styles and Schwartz's value survey to measure their values' dimensions or orientations. Correlation results showed that transformational leadership styles were positively and significantly related to personal and professional value orientations, such as: the values

of achievement, benevolence, self-direction (intellectual autonomy) and stimulation (intellectual challenge). In comparison, the transactional leadership factors (management by exception and laissez-faire) were minimally or not significantly associated with these values. Contingent reward had a strong linkage with all value dimensions, particularly self-direction.

Consistent with the findings from the business sector, Leithwood and Steinbach [110], based on Bandura's [104] theory, suggested that the role of values in leaders' solving of problems was as follows: (1) values shaped one's view of the current and desired goal and figure centrally in the choice of actions to reduce the perceived gaps; (2) values served as part of the leaders' knowledge structures (schemata), and value repertoires inexplicitly and explicitly influenced administrators' actions (e.g., helping to interpret the problem and providing tools for finding solutions that were not contained within the problems themselves); (3) experts used values as substitutes for knowledge in solving ill-structured problems; (4) values guided one's actions through valued goals, through valued choices of means to achieve the goals and through the self-evaluation process; (5) values served as perceptual screens; and (6) values influenced the actions and thoughts of others as part of a cultural context. In sum, values contributed to the leaders' behaviors in two ways: by directly (1, 2, 3) and indirectly mediating the leader's cognitive process, which, in turn, influenced the leader's behaviors (4, 5, 6).

Treating values/principles and goals as two important components of the problem solving process, Leithwood and Steinbach [110,111] found that transformational principals shared goals for problem solving; interpreted problems in relation to the larger mission of the school or as grounded in a broader vision; valued staff discussion of goals; strongly valued consequences for the immediate client (students); kept the interest of the students at the center of purposes (professional values); valued participation (social values), knowledge and respect for others (basic human values); had a strong emphasis on responsibilities (professional value); had strong concern for understanding and arrived at goal consensus for all stakeholders (professional values); and used values as explicit instruments in problem solving focusing on making a difference in the value system of the students and others. Due to the qualitative nature of their study, these findings are tentative, suggesting that a specific set of values can be directly and indirectly (by mediating cognitive processes, such as problem solving) antecedent to transformational leadership. Future research can identify certain values that give rise to school and district leaders based on quantitative data. More sophisticated conceptual and statistical modeling can be used to tease out the mediating role of values on leaders' cognitive processes or capacities.

Turner and Barling [112] hypothesized that transformational leadership had benefits for organizational function and was more altruistic; therefore, transformational leaders would have relatively high levels of moral development. Managers ($n = 132$) completed the Defining Issues Test (testing moral reasoning level), and their subordinates ($n = 407$) completed MLQ. They found that managers scoring in the highest group of the moral-reasoning distribution exhibited more transformational leadership behaviors than leaders scoring in the lowest group. As expected, there was no relationship between the moral reasoning group and transactional leadership behaviors. They did not actually investigate the link between transformational leadership and the set of values antecedent to the emergence of this type of leadership, but rather the moral reasoning levels of leaders. Further research could examine to what extent value constructs correlate with cognitive abilities. Furthermore, what are the elements of cognitive capacities that explain transformational leadership independently and in conjunction with values? Lastly, how do values translate into the practice of transformational leadership? These are the topics that appear interesting for future research to clarify the roles values and cognitive abilities play in the enactment of TL.

Emotional Intelligence

(1) Findings

Based on survey data from principals and teachers from 30 elementary, middle and high schools within the United States and using the Mayer–Salovey–Caruso Emotional Intelligence Test,

Herbert's [60] study reported a moderately high correlation between principals' emotional intelligence and principals TL behaviors (0.37 *). Saxe [62] suggested that the ability of school leaders to manage relationships, understand the thoughts, feelings and perspectives of others, recognize the bigger picture, control disruptive impulses and be flexible in the face of change predicts behaviors that can lead to meaningful transformational leadership reform efforts and positive school outcomes. In the Chinese context, Ji's [82] study demonstrated a strong association between kindergarten principals' transformational leadership and their emotional intelligence (0.75 **) as measured by Wang and Law's Emotional Intelligence Scale (WLEIS) [99].

(2) Discussion

The studies in both contexts indicated a strong relationship between transformational leaders and their EI. Brown and Moshavi [113] classified the definitions of EI from literature into three groups, treating EI as: (1) a trait: an innate personal quality that enables emotional well-being; (2) an acquired competency: the set of acquired skills and competencies that underlie effective leadership and performance; and (3) an intellectual capability: the capacity to reason with emotion in four areas (to perceive emotion, to integrate it in thought, to understand it, and to manage it). These three ways of defining EI suggest that it has affiliations with personal characteristics (suggested by the first definition) and cognitive skills (suggested by the third). Therefore, the research that attempts to measure the contribution of EI to the emergence of transformational leadership may consider controlling the contributions from cognitive or attribution sources in order for the unique or augmentative effects of EI to be manifested (otherwise, the results may be inflated and leave ambiguity).

Theoretically, EI is a critical attribute of transformational leaders. The purpose of transformational leadership is to build a shared sense of purpose, inspiring higher values and encouraging greater effort. This entails the connecting of the individuals' values and personal goals to the organizational values and goals; hence, a transformational leader needs to listen and understand individual's values and goals. This requires EI. Furthermore, one of the essential outcomes of transformational leadership is to foster teacher commitment to change (e.g., [37]). Emotional arousal is one of the four important sources of teacher commitment to change [37] and to the maintaining of positive emotions. It is crucial for the leader to notice teachers' subtle emotions, such as feelings of being happy or defeated when trying new instructional methods. He/she should provide on-time positive feedback to teachers' during small initial moves to help teachers have positive emotions and to motivate as they go forward.

In non-educational contexts, Barling, Slater and Kelloway [114], controlling for leaders' attributional style (e.g., pessimism), found that EI was antecedent to transformational leadership's four dimensions (as measured by MLQ), i.e., idealized influence, inspirational motivation, individualized consideration and contingent reward. Their independent variable, EI, was measured by Bar-On's (cited in [114]) self-reported Emotional Intelligence Inventory, including five scales: intrapersonal, interpersonal, adaptability, stress management and mood. They explained that the reason why intellectual stimulation did not have a main effect was that its nature, such as presenting an intellectual challenge or getting people to think about old problems in new ways, was more cognitive than the other three leadership constituents and did not rely on any individual's emotional intelligence in the same way that the other three did. As to how much EI, as a whole, would contribute beyond cognitive abilities, future research is needed.

These findings are consistent with those in Bass' [36] review of previous studies: social intelligence measured by various instruments correlated with charisma from 0.21 to 0.32, with inspirational motivation from 0.23 to 0.33 and with intellectual stimulation from 0.18 to 0.29; Cattell's intelligence scale score correlated from 0.20 to 0.22 with MLQ ratings; persuasiveness correlated 0.14 to 0.22 with four MLQ transformational dimensions; when correlated with communication style with MLQ, transformational leaders were more careful listeners (0.32 to 0.41), open (0.55 to 0.64), informal (0.30 to 0.32), careful transmitters (0.45 to 0.48) and frank (0.45 to 0.51).

Mood, as an important component of EI, is associated with leadership effectiveness. Leithwood and his colleagues suggested that both principals and superintendents ought to limit signs of frustration and present themselves as calm and confident [110]. People in calm moods that self-monitor and cognitively process their performance perform best, according to Bandera [104]. Leithwood et al.'s research, though more correlative than causal in nature, showed that mood has an important influence on the degree of cognitive flexibility and that intensive moods reduce superintendents' flexibility.

In sum, for leaders to be effective in their leadership practices or for staff to have positive vicarious emotive learning from their leaders' modeling, the leaders' EI matters. Empirical research has begun suggesting links between transformational dimensions of leadership and emotional intelligence in various constructs. Future research can shore up this line of study by using causal statistical methods and refined instruments measuring EI and tapping the links specifically between TL and EI in order to explore the unique explanatory power of EI for TL.

Traits

(1) Findings

In the American context, Lussiez's [59] study, based on 25 school administrators from 17 elementary, two middle and six high schools, suggests that individual teachers seem to respond to the empathy of their principal positively ($r = 0.42$). Findings from Davidson's [66] study suggests that both 'hope' and 'grit' are positively related to transformational leadership behaviors even when controlled for age, gender, years of administrative experiences, high school grade point average, undergraduate grade point average, maternal level of education, and paternal level of education.

In the Chinese context, Dou's [79] study, based on 328 staff members from three enterprises, showed that manager's psychological capital, conscientiousness, grit, willingness to cooperate and hope as predictors of TL. Meng's [73] study of 85 managers also found a positive link between supervisor's TL and their conscientiousness (0.47^{**} as measured by the Big-Five Factor Inventory [87]). In addition, Song, Chen and Qin's [83] study, based on 211 staff from three enterprises in Beijing, showed that leaders' TL had a strong correlation with both the masculine feature ($r = 0.66$) and leaders' feminine role ($r = 0.68$). Ji's [82] study demonstrated similar results: kindergarten principals' transformational leadership was moderately related to such traits as openness ($r = 0.38$), agreeableness ($r = 0.33$) and conscientiousness (0.41^*) as measured by the NEO Five-Factor Inventory (NEO-FFI) [88].

(2) Discussion

Previous studies have shown similar results. Traits, in a relatively stable and coherent state, may foster a consistent pattern of leadership performance across a variety of groups and organizational situations. The "big five" personality factors (emotional stability, extroversion, openness, agreeableness, and conscientiousness) demonstrated a multiple correlation of 0.48 with leadership (Judge, Bono, Ilies and Gerhardt, 2002, cited in [112]). However, the research on the set of personalities as related to transformational leadership in the educational context is limited. According to Leithwood and Steinbach [110], "expert principals were open-minded, honest, careful, attentive to the group's needs, and attentive to their thinking" [110] (p. 117).

Referring to non-educational contexts, the amount of studies on personalities or traits of transformational leadership is relatively greater [8]. For Bass, "personality represents an integration of one's multiple intelligences" [36] (p. 106), including cognitive intelligence (this notion to Bass largely encompasses both academic intelligence and practical intelligence), social intelligence and emotional intelligence. The findings of empirical studies related to personalities, as termed in this paper and included in his review, are summarized as follows:

- a. The MLQ transformational leadership scale correlated respectively with such personality traits as self-confidence and personal adjustment, 0.63; pragmatism, 0.69; need for change, 0.39; nurturance, 0.67; feminine attributes, 0.54; lack of aggression, -0.47 ; and criticalness, -0.49 ;

- b. MLQ charisma and inspirational motivation correlated 0.11 to 0.18 with being energetic and other biodata traits, including strong work ethic, sense of responsibility, setting difficult self-goals, comfort in new situations, self-esteem and self-confidence;
- c. Thinking and feeling as measured by the Myers–Briggs Type Indicator (MBTI) correlated with MLQ transformational dimensions with mixed results; with MLQ composite scores, MBTI scales correlated about -0.30 ;
- d. The dimensions of The Epstein and Maier Constructive Thinking Inventory scale scores correlated negatively with MLQ scores from -0.20 to -0.26 , except naïve optimism (0.22);
- e. Inner-directed locus of control, as measured by various instruments, was significantly related in terms of path coefficients with individualized consideration (0.33), with intellectual stimulation (0.25), and with charisma (0.25);
- f. Personal Orientation Inventory scores correlated with four transformational dimensions of MLQ from 0.33 to 0.46;
- g. Hardness correlated with MLQ scores from 0.15 to 0.37.

These research findings above, as measured by various scales, do demonstrate the links between transformational leadership and traits. Of note, the various constructs concerning personality are overlapping. As in the case with other antecedents, future research is needed on the examination of the unique contribution of personality and its relationship with cognitive abilities and emotional intelligence.

Cognitive Capacities

(1) Findings

Keung and Rockinson-Szapkiw's [63] study, based on the survey data from 193 international school leaders, found significant links between TL and three types of cultural intelligence. Daniel's [56] study showed a significant relationship between levels of moral reasoning and the use of transformational leadership behaviors of public school administrators in West Virginia. Though oriented to values, this research essentially examined the link between transformational leadership and cognitive levels expressed by moral reasoning.

As for the Chinese context, Meng's [74] study, used the Goal Orientation Questionnaire (GOD) and from survey data of 203 administrators from 72 enterprises, resulted in a positive link between TL and learning goal orientation (0.45 **). Wang, Wang, and Wang [80], based on 281 persons considered as excellent in their fields of work, found that TL is strongly related to competency in leadership, research and management (0.53 **–0.55 **). Han's [76] study found a significant positive association between administrators' knowledge and TL behaviors based on 251 administrators and their subordinates from 15 enterprises of various natures. Leaders' competencies examined in these two studies have an overlap with school leaders' problem solving skills.

(2) Discussion

The limited evidence in this review is consistent with previous studies showing a link between transformational leaders' behaviors and their cognitive capacities. Pertaining to the educational context, Leithwood and his colleagues completed the most systematic explorations of the cognitive aspects of transformational leadership. They found that cognitive approaches "conceptualize educational leaders as problem finders and problem solvers with varying levels of expertise" [110]. Simply put, with problems defined as synonymous with tasks (something to be done, such as setting school goals), the nature of the work of educational administrators (who are surrounded by various problems each day concerning students, teachers and parents) is about prioritizing and having problems resolved in a consistent manner and in a desired direction. Leithwood and his colleagues did studies from grounded theory approaches [110,111,115,116] and developed a six-component model that captures

this problem-solving process. The model includes how administrators interpret or define problems; the goals they set for problem solving; the nature and use of values in problem solving; their orientation to constraints; the nature of their solution processes; and their mood or affective disposition toward the problem-solving process [110]. This research showed that expert administrators and non-expert administrators differed in the six components of the problem solving process. Stated in its simplest form, expert administrators had a clearer and comprehensive interpretation of problems and were more likely to align problems to larger missions or goals, used more principles, identify many fewer or no constraints in the solution process, demonstrated a higher level of cognitive flexibility and stayed more calm and relatively confident in their own abilities. In group problem solving, experts demonstrated a high degree of metacognitive control [32]. Leithwood and Steinbach [110] examined the relationship between expert thinking and transformational leadership practice based on ratings from 295 staff members. Results suggested that “the relationship between expertise and transformational practices seemed not linear” [110] (p. 267). That said, they concluded that expert thinking appeared to create a propensity to act transformationally in the long run. Expert leaders demonstrated a greater degree of interrelatedness/internal consistency among the six problem-solving components [110].

The construct of expertise or expert thinking Leithwood and his colleagues investigated is more or less in the same line as constructs such as practical intelligence. “Practical intelligence is the ability to find a more optimal fit between the individual and the demands of the environment through adapting to the environment, shaping or changing it, or selecting a new environment in the pursuit of personally valued goals” [117]. Practical intelligence correlated minimally with scores on traditional tests of academic intelligence. Both academic and practical intelligence independently predicted managerial and leadership success (not specifically conceptualized as transformational leadership). Leaders’ academic intelligence measured by high school achievement correlated from 0.13 to 0.16 with the charisma and inspiration motivation dimensions of MLQ scales; midlevel executives’ cognitive intelligence represented by good judgment correlated 0.33 with charisma and inspiration motivation and 0.23 with intellectual stimulation [36]. Practical intelligence involved using tacit knowledge (TK). The TK success as a leader overlaps with, but is not identical to, the needs to succeed as a manager [117]. TK correlated strongly with manager performance by 0.61; TK explained 32% of the variance in manager performance beyond scores on a traditional IQ test; and TK scores correlated significantly (0.14 to 0.42) with military leadership effectiveness [118].

In the non-school context, Wofford and Goodwin [119] investigated the cognitive antecedents unique to transformational leadership. They unpacked the cognitive processes of transformational leadership and transactional leadership behaviors using information processing theory. According to their conceptual work, transformational leaders and transactional leaders differ in working memory, long-term memory structure, encoding process and cognitive ability. Transformational leaders possess a self-schema (an organizational mechanism of information key to interpreting and guiding behavior), which includes more items associated with charismatic behavior, individualized consideration, intellectual stimulation and empowerment, as well as follower-schemata, which include more content regarding the follower’s loyalty, self-respect, self-confidence, trust, overall purpose, follower uniqueness, follower intellectual capability and creativity than is the case for a transactional leader. The transactional leader possesses a self-schema including more items associated with directness and social exchange and follower-schemata including more content related to goal difficulty and commitment, specific task skills, task knowledge, effort to performance and performance to reward expectancy, contingent rewards and punishments, role clarification and work assignment than is the case for transformational leaders. The self-schema and follower-schemata of transformational leaders include some components associated with transactional behaviors, whereas the self-schema and follower-schemata of transactional leaders do not include components associated with transformational behaviors. Higher levels of cognitive abilities are represented by higher levels of schemata richness and cognitive-attentional resource capacity. Compared with transactional leaders, transformational leaders possess organizational scripts (a type of schemata that is goal-seeking and includes conceptual

structures of action sequences) containing higher levels of abstraction; are more likely to recognize or respond appropriately to feedback relative to organizational visions; have a higher minimum level of cognitive-attentional resources capacity; and have a greater richness for schemata related to transformational behaviors. Their study of 51 managers showed that leader cognitions are linked with their respective leader behaviors rather than to leadership behavior in general; two of the transformational cognition variables (transformational motivational scripts and vision-idealization) had significant loadings on the transformational leadership cognitions latent construct. A management by exception (MBE) self-schema was a significant indicator of a transactional MBE cognition construct.

This line of research is least frequently examined in the educational setting in both countries. Further research can build on these studies by: exploring the process that how cognitive capacities lead to certain TL behaviors; developing well-tested psychological instruments from their problem solving model to test the expertise and cognitive capacities of transformational leaders; and using more maturely tested transformational leadership instruments and more robust statistical procedures. Thus, the nature and strength of the relationship between expertise or their cognitive capacities and transformational leadership could be made clearer.

3.2.2. Organizational Features

Findings

In relation to the Chinese context, Li's [77] study of 234 employees from large government-owned businesses (e.g., telecom, bank, restaurant and tobacco enterprises) showed that fairness in organizations is significantly related to their leaders' TL. This is the only study that examined the factor on organizational features in the two countries.

Discussion

Leithwood and Jantzi's [28] review suggests larger contexts can be antecedents of TL. For example, two studies carried out during Britain's nation-wide school reform reported evidence that transformational leadership behaviors matched well or were successfully promoted during the country's reform agenda. Therefore, the reform context served as an antecedent giving rise to transformational leadership. Along this line, the variables that had meaningful positive influence on leaders' transformational practices were less organizational bureaucracy, moderate in organizational innovativeness, prompting school reform initiatives, and collaborative and fair organizational cultures. Demir [107] found that transformational leadership behaviors of principals were associated strongly with a collaborative school culture. Moolenaar and Slegers [120] suggested principals' centrality in both networks could be associated with transformational leadership. Apart from context, which determines the specific enactment of effective transformational leadership behaviors in schools, Leithwood and Jantzi [28] asserted that neither wider social nor national culture were found to be antecedents of transformational leadership. Given the scarce evidence about external antecedents of TL, much more research is needed to explore group, organizational and larger contextual factors that may impact the enactment of TL.

3.2.3. Leaders' Colleagues' Characteristics

Findings

The third type of factor that gives rise to transformational leadership is associated with follower characteristics. Leaders may modify their leadership in recognition of followers' preferences, in order to anticipate followers' responses and to harmonize the actions of both leaders and followers with their common motives, values and goals [13]. In Dvir and Shamir's study [57], the followers' initial developmental level was defined as the initial level of self-actualization needs, internalization of the organization's moral values, collectivistic orientation, critical-independent approach, active

engagement in the task and self-efficacy. They collected data from 54 military units and their leaders (attending a four-month training course in the Israel Defense forces), with 90 non-commissioned officers (direct followers) and 729 recruits (indirect followers). Regression controlling initial transformational leadership levels indicated that the initial developmental level of indirect followers positively predicted transformational leadership ratings; whereas, this relationship was negative among direct followers. They concluded that transformational leadership was not solely inherent within a leader as a trait, but could be changed by leader-follower relations, over time.

Ji's [82] study in China looked at the responses from 35 kindergarten principals and 360 kindergarten teachers and found a small, but significant link between kindergarten principal transformational leadership and teachers' education background ($F = 1.48^*$). Further, Li, Duan and Zheng's [78] study of 208 leaders and staff from Chinese enterprises showed that various types of followers' emotional intelligence (individual, group and cross group intelligence) are significantly associated with leaders' enactment of TL.

Discussion

Leadership would not take place without the interaction with followers. As Burns' [13] conceptualized, the influence of transformational leadership is the elevation of motivation and morality both in the leader and followers, resulting in subordinates being motivated by the vision and making heightened effort to achieve it. From the theories of situational leadership or contingent leadership, it is believed that leaders behave in response to contexts. From leadership-member exchange theories, leaders and their colleagues influence each other, and leaders behave in response to their colleagues. Such inquires in the study of transformational leadership are rare, an area that warrants future research.

4. Conclusions

As a promising model of leadership, transformational leadership has been proposed and researched for two decades in the USA and for about one decade in Mainland China. Although transformational leadership practices and their positive effects on leadership effectiveness and various school outcomes have been documented, much less is known about what gives rise to TL behaviors. This review identified the key practices conceptualized in TL in both contexts and three categories of its antecedents. In the following text, we will briefly comment on the implications of the major findings of the study for research and practices.

The more frequent examination of TL practices in the domains of setting direction and developing people indicates that these two functions are the most powerful ones as expected from transformational leaders in both countries. That said, however, reshaping and developing collaborative and supportive cultures in schools conducive to teaching and learning is also critical to the success of students and schools [9]. The lack of the examination of this domain of TL in both countries may have been due to the application of Bass' TL model (i.e., MLQ) in most of the studies, which was developed to suit the context of the business sector. Built upon Bass' model, Leithwood and his associates [28] developed and included in the conceptualization of TL school leadership practices related to culture building and instructional improvement, which are more suitable to school contexts. In the USA, an increasing number of researchers in education has employed Leithwood' model of TL in the last decade, while in China, scholars are still at the stage of adapting Bass' models. Future studies may apply or draw insights from the former model to further examine TL in the domains of organizational redesign and instructional improvement, the "technical core" of school reform and school improvement.

Premised on the assumption that transformational leaders are ethical as in the initial concept of TL developed by Burns [13], Chinese scholars went further and developed the factor charisma or idealized influence into two factors: charisma and moral modeling. This modification reflects the emphasis on leaders' moralities over their professional skills in the Chinese context. This can be seen from the newly released professional standards for school leaders in China in 2012, where being ethical is the first of the five principles that are expected to guild school leadership. Such emphasis fits what

educators, such as Xingzhi Tao, have advocated over years about what the best educational leaders should be: the primary expectation of educational leaders is that they possess and model higher level of moralities [121,122]. This is a unique development, which is bounded to Chinese cultures. Methodologically, future research can investigate how this factor loads or clusters with the other factors in Chinese educational contexts through factor analysis and how this factor contributes to an array of school, teacher and learning outcomes.

The results of this review show that TL is related to three sets of antecedents. This includes: (1) leaders' own qualities (self-efficacy, values, traits, emotional intelligence, and cognitive capacities); (2) context factors; and (3) leaders' colleagues' characteristics (their emotional intelligence and development levels). In the first category, the steadiest antecedent to TL is leaders' self-efficacy. The implication of this finding is that in leadership preparation programs and training or professional development of in-service school leaders, various support should be given to aspiring or in-service school leaders to enhance their belief, confidence and capacities and develop their leadership knowledge and skills to lead in challenging situations and help each student succeed. Such support could include, for example, the introduction of cutting edge research on the nature and pathways that school leaders develop teachers, nurture effective school cultures and improve teaching and learning in schools, effective mentoring and internship, visiting exemplar schools, job shadowing and practicum experiences.

There is a considerable overlap between the constructs included in the first category. In terms of their contribution to the enactment of TL, some are statistically significant, and the others are weak. Much research is needed to compare and identify powerful predictors of TL in this category. In addition, as mentioned in the previous section, the way in which and the extent to which these antecedents are related to each other and foster the emergence of TL independently and collectively need to be examined and clarified. Methodologically, the most common or typical approach in the current studies is the application of correlational analysis to identify antecedents. Future studies can further this line of research by adopting more robust statistical procedures, controlling interrelated variables to identify the strong antecedents of and their unique and collective contribution to transformational leadership.

Among the antecedents of the first category, the least examined are leaders' cognitive capacities. The current educational context is characterized by performance-based accountability policies and large-scale education reforms. This complex nature requires transformational leaders to be flexible and to conduct higher levels of thinking. Limited research [36,111] and theoretical work [106] showed that transformational leaders demonstrated higher levels of metacognitive abilities. The identification of antecedents in this regard would inform the preparation of transformational leaders to develop certain knowledge and skills in order to cope with challenging policy contexts. This is an area that warrants future research. Compared with leaders' qualities, much less has been studied or is known about the antecedents in the categories of contextual factors and leaders' colleagues' characteristics, another area for future research.

This review identified a few antecedents of TL that were reported in both the USA and China, with the other ones that appeared to be unique to either context. This might suggest that some factors that give rise to this type of leadership could be universal and that some are culturally bounded. Due to the limited evidence included in this review, strong conclusions are hard to draw. Future research is much needed to identify the sets of antecedents that are culture-neutral and that are culture-specific.

Transformational leadership was introduced and argued for being suitable for school reconstructing initiatives in the 1990s in North America. Student populations have become more and more diverse, with more than 50 percent of students being minorities by 2010. Similar, in the last 20 years, students' migration from rural schools to suburban and urban cities in China has caused new challenges for school leaders. This situation requires leaders to respect, recognize and work with diverse individual students' needs and cultures. This will take an understanding of strengths and weaknesses, awareness of values and needs, the ability to help community members align personal goals with shared goals, to empower teachers and develop teachers' capacity to build a team of leaders

behind the school leader, and to enlist community members to strive for a shared vision. All of these are transformational aspects of leadership. In the last decade, Chinese principals have had less power in teacher hiring, reduced budgets, less say in teachers' salaries and less leverage they can use to motivate teachers from their positional power. Meanwhile, due to waves of educational reform initiatives, teachers' burnout, low morale and commitment have become new challenges to school leaders in China. Such a situation has made school leaders think of new ways to motivate and develop teachers instead of resorting to their positional powers. The introduction of TL suits such a call for this situation.

Much effort has been made in the field of educational administration to identify series of "effective leadership behaviors", such as those conceptualized in TL. In the complex real world, especially in different cultures, school leaders enact such practices differently. Hence, "such behavior-based theories are of limited practical value" because "the reductionism they entail so poorly reflects the complexity of administrators' real worlds" [110] (p. 8) and because expert administration is "a complex and contingent act" that varies in a broad and ultimately unpredictable host of contextual elements [110] (p. 7). As "what administrators do depends on what they think—their overt behaviors are the result of covert thought processes" [110] (p. 7), leaders' internal characteristics, such as their cognitive perspectives, in contrast, may produce appropriate variation in administrative behavior and serve as a relatively more stable mechanism from which to explain and better predict leadership effects. The study of the antecedents of TL will assist us in identifying a set of more "stable" characteristics of "effective" leadership. The identification of antecedents of TL contribute to efficient and effective training of leaders. Also, it can inform systematic selection, appointment, mobilization and transference of leaders to suit the various needs of students, teachers, schools and policy agenda.

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