Transformational Instructor-Leadership in Higher Education Teaching: A Meta-Analytic Review and Research Agenda

Abstract

Researchers have shown that transformational leadership is applicable to higher education teaching, i.e., transformational instructor-leadership. However, such research is fractionated across diverse fields. To address the fractionated literature, the purpose of the current study was to conduct a meta-analytic review of transformational instructor-leadership, and to analyze research in which such leadership has been empirically associated with student outcomes. For the meta-analysis, the Hunter-Schmidt approach was adopted, and thus correlations were corrected for attenuation due to measurement error. The findings indicated that transformational instructor-leadership was positively associated with students’ motivation, satisfaction, perceptions of instructor credibility, academic performance, affective learning, and cognitive learning. Moderator analyses revealed that culture, course delivery, instrument, and gender were all significant moderators of the relationship between transformational instructor-leadership and specific student outcomes. The findings also showed that there were significant differences between the transformational leadership dimensions, thus supporting the notion that each dimension is conceptually distinct. The present meta-analysis drew from varied disciplines in contributing the first integrative review on transformational instructor-leadership. Future research needs to extend the literature with regards to context sensitivity, common method variance, causal conclusions, mechanisms, outcome measures, and control variables. Practically, higher education institutions should consider training transformational instructor-leaders.

Keywords: Transformational leadership, transformational instructor-leadership, leadership dimensions, teaching, student outcomes, meta-analysis.
Introduction

Leadership is “a process whereby intentional influence is exerted by one person over other people to guide, structure, and facilitate activities and relationships in a group or organization” (Yukl, 2006, p. 3). Researchers have examined leadership in various contexts, e.g., corporations, military, politics, education, and more (Avolio & Gardner, 2005; Derue, Nahrgang, Wellman, & Humphrey, 2011; Judge & Piccolo, 2004). In the higher education institution (HEI) context, researchers are becoming increasingly interested in a concept referred to as instructor-leadership (e.g., Balwant, Stephan, & Birdi, 2014; Bolkan & Goodboy, 2009; Pounder, 2008). To date, the literature has yet to provide a clear definition of instructor-leadership. To clarify the meaning of instructor-leadership, Yukl’s definition of leadership can be applied to the education context so that instructor-leadership is defined as a process whereby instructors exert intentional influence over students to guide, structure, and facilitate activities and relationships.

Adding to the proposed definition of instructor-leadership, conceptualizations of leadership often assert that leaders influence followers towards a goal (Yukl, 2006). With respect to instructor-leadership, instructors may set specific course goals or objectives regarding improvements in students’ subject knowledge, critical thinking skills, and interpersonal skills. Arguably, some goals may not always be collective goals as is typically associated with leadership theory. However, a shared goal with regards to learning or academic achievement is likely to exist (Peters, 2014). That is, students may strive for good grades for the prestige that is associated with good grades, career reasons, increased satisfaction, and so on. At the same time, instructors may also be concerned with good grades because grade is often a gauge for teaching effectiveness and quality, thus affecting promotional prospects.
In the HEI context, instructors influence students primarily in classroom interactions (sometimes referred to as ‘classroom leadership’), but may also influence students in other course-related interactions, e.g., office meetings or informal discussions after class. Note that a course refers to a series of lectures on a subject that typically lasts a semester. Perhaps the main reason for researchers’ interest in the applicability of leadership theories to the HEI course context is because of the assertion that a course shares key similarities with an organization.

The HEI course/classroom as a quasi-organization

Some argue that a HEI course/classroom can be regarded as a quasi-organization (Pounder, 2008; Weaver & Qi, 2005). That is, the HEI course, “like any other workplace, is a social organization where power is asserted, tasks are assigned and negotiated, and work is accomplished through the interplay of formal and informal social structures” (Weaver & Qi, 2005, p. 579). In the ‘small social quasi-organization’, the teacher or professor typically is the leader and students are the followers (Pounder, 2008; Weaver & Qi, 2005). From a broad perspective, Harrison (2011) explained that the HEI course and organizational context are both similar because instructors influence students by shaping the students’ future development, and inducting students into the subject discipline in a similar fashion to how organizational leaders influence and initiate employees. More specifically, like organizational settings, the instructor-leader to student-follower relationship features forms of communication, coordination, and control of activities (Kuchinke, 1999). In the HEI course context, an instructor leads by communicating what is to be learned, e.g., learning goals or outcomes; coordinates learning activities towards learning goals, e.g., assigned readings, lectures, and tutorials; and exercises control by evaluating students’ performance during the course, e.g., administering midterm exam
or coursework, and then taking corrective actions based on any deviations from expected performance, e.g., spending more time to teach a troublesome topic.

Furthermore, like organizational leaders, the relationship between instructor and students is characterized by power differentials. Power refers to “the capacity of one party (the agent) to influence another party (the target)” (Yukl, 2006, p. 146). The definition of power highlights the existence of a dependency relationship (Robbins & Judge, 2009). The greater the target’s dependence on the agent, the more power the agent has in the relationship. Because of an instructor’s authoritative position, level of autonomy, and resources that they command, all of Raven’s (2008) power bases can be observed in an instructor’s position. Specifically, instructors possess both formal and personal power. Formal power means that an instructor can use their authoritative position to obligate students to comply, and then use either (a) incentives such as praise, flattery, and/or extra credit to reward students’ compliance or (b) punishment and/or threats in order to gain students’ compliance towards a goal such as good grades (Johns & Saks, 2007; Raven, 2008). Personal power means that an instructor has the capacity to influence students via (a) identification and modeling, e.g., a student may observe classmates’ admiration for the instructor-leader’s friendliness and decide to emulate the instructor to receive such admiration, and (b) their superior knowledge, e.g., an instructor who has an internationally renowned publication record (Johns & Saks, 2007; Raven, 2008). Instructors may use a combination of formal and personal power to achieve their goals.

Even though the HEI course setting is similar to the organizational setting, both settings are not identical. Leadership in the quasi-organization course/classroom context is distinct to leadership in an actual organization in three main ways. First, the degree of distance in supervisor-employee relationships varies in the organizational context, depending on the
organization or profession (Antonakis & Atwater, 2002). However, in the HEI course context, the relationship between instructor and student is likely to be distant in most HEIs because of the trend towards large class sizes, and differences in both knowledge level and ascribed status between instructors and students. A distant relationship may have implications for how certain leadership behaviors translate to the HEI course context. Specifically, leader behaviors that are dependent on a close relationship may not be applicable to the course context.

Second, the instructor-student relationship is distinct to the supervisor-employee relationship because of the emergence of student consumerism (see Cain, Romanelli, & Smith, 2012; Delucchi & Korgen, 2002). Student consumerism means that students are treated as ‘customers’ because they pay for their education (Cain et al., 2012). According to the student consumerism view, education becomes a commodity in which instructors provide a service to their students. Therefore, students are not only followers in the instructor-student relationship, but also external customers (see Slaughter & Rhoades, 2009 for an extended discussion on students as customers).

Student consumerism presents a unique perspective for leadership research because consumerism means that accountability and entitlement are likely to operate differently in HEI courses than in organizational contexts in numerous ways. First, in an organizational context, employees are typically accountable to their supervisor, whereas in a HEI course context, students are primarily accountable to themselves. Therefore, students may respond differently to their instructors’ direction than employees do to their supervisor. Second, in the organizational context, employees may feel entitled to receive fair pay for their efforts, whereas in a HEI course context, students may feel entitled to receive high quality teaching for their tuition payments. Hence, students may expect their instructors to be high quality leaders in the course. Finally, in
an organizational context, employee evaluations of supervision quality are infrequently utilized (Bernardin, 1986), and when subordinate evaluations are used, these evaluations are *never* the sole measure of supervisor effectiveness (Comm & Mathaisel, 1998). However, in a HEI course context, students commonly evaluate the teaching quality for each course, with these evaluations being the *only* or *primary* method of measuring teaching effectiveness (Abrami, D’Apollonia, & Cohen, 1990). Student evaluations are then often used by administrators to justify rewards such as tenure and other job-related milestones, even though the practice of using student evaluations to evaluate instructors’ performance is a contentious topic (see Emery, Kramer, & Tian, 2003; Oppenheimer, 2008). Therefore, students often yield considerable power over the careers of their instructors, and may thus expect high quality teaching. Students’ expectations of high quality teaching may diminish the impact of constructive leader behaviors in a course context.

*Third,* the instructor-student relationship is short-lived unlike the typical supervisor-employee relationship. Even temporary organizational groups are different to temporary HEI course groups because the former is typically composed of individuals with diverse skills working on a common task. The temporary nature of HEI course groups is likely to have implications for how leadership behaviors translate from an organizational context to a HEI course context. Specifically, leader behaviors that necessitate a long-term relationship are not likely to be applicable to a HEI course context. Taken together, the prevailing distant relationship, follower as customer perspective, and temporary group nature all indicate that instructor-student relationships in the HEI course context is different to the typical supervisor-employee relationship in organizational settings.

In summary, the HEI course/classroom is sometimes referred to as a quasi-organization with instructor as leader and students as followers. While the HEI course and organizational
settings share key similarities, there are also important differences between the contexts, and these differences may mean that organizational-developed conceptualizations and operationalizations of leadership may not translate fully to the course context (which is explained later on). Nevertheless, the similarities between HEI courses and organizational settings suggest that instructors may indeed use leadership behaviors in classroom interactions, one-on-one meetings, mentoring relationships, supervisory relationships, and so on. Of the various leadership behaviors proposed in organizational behavior research, the main driver of instructor-leadership research is that of transformational leadership theory (Bass, 1985). In fact, instructor-leadership research only began to gain momentum at the beginning of the twenty-first century because of the increasing popularity of transformational leadership theory.

**Transformational Leadership**

Transformational leadership has become quite a dominant force in leadership research over the past 15-20 years. Transformational leadership is often referred to as a ‘new paradigm’ theory or ‘the new leadership’ approach (Bryman, 1992). In the literature, the term transformational is often used interchangeably with some of its dimensions, such as charismatic, visionary, or value-based (Anderson, Ones, Sinangil, & Viswesvaran, 2001). A transformational leader can be defined as one who “articulates a realistic vision of the future that can be shared, stimulates subordinates intellectually, and pays attention to the differences among the subordinates” (Yammarino & Bass, 1988, p. 2). Even though Yammarino and Bass (1988) refer to a leader’s targets as ‘subordinates’, Bass (1997) later acknowledges that transformational leadership can occur in less formal non-organizational settings, e.g., housewives active in their community or students in work groups.
Transformational leadership is typically conceptualized as four dimensions, including charisma, inspirational motivation, individualized consideration, and intellectual stimulation (Bass, 1990). First, *charisma*, stemming from the Greek word meaning ‘gifted’ or ‘favored’ (Johns & Saks, 2007), means that a leader articulates a sense of mission, emphasizes trust, cultivates commitment to success, and gains respect and trust (Bass, 1990, 1997). Second, *inspirational motivation* is the articulation of appealing visions through the use of optimism, enthusiasm, setting of high expectations, and use of symbols to focus efforts (Bass, 1990, 1997). Third, *individualized consideration* is the treatment of followers as unique individuals, giving specialized attention to followers’ needs and lending support when necessary so that the followers can realize their full potential (Bass, 1990, 1997). Fourth, *intellectual stimulation* involves the use of actions that challenge followers to conceptualize, comprehend, and analyze problems in new ways (Bass, 1990, 1997).

The notion that HEI instructors can apply the dimensions of transformational leadership theory to HEI course teaching has been gaining momentum. The HEI course setting appears especially conducive to an instructor-leader’s use of charisma and intellectual stimulation. Taken together, charisma and intellectual stimulation are likely to arouse and excite students in a course. However, as is explained later on, the uniqueness of the HEI course context with respect to distance and temporary groups may potentially minimize the applicability, and thus effects of individualized consideration and inspirational motivation respectively. Overall, transformational leadership theory may be applicable to the HEI course context, but in limited ways because of the differences between the course and the organization.
Hypotheses

Prior to presenting the hypotheses, the issue regarding the multidimensional nature of transformational leadership must first be addressed. Van Knippenberg and Sitkin (2013) argue that charisma, inspirational motivation, individualized consideration, and intellectual stimulation are conceptually distinct dimensions. However, empirically, the four dimensions lack discriminant validity (see Carless, 1998). The weak discriminant validity is especially evident in empirical research that utilize the most prominent measure of transformational leadership – the Multifactor Leadership Questionnaire (MLQ). For the MLQ, the mean correlation between the transformational leadership dimensions is very high (Judge & Piccolo, 2004). The debate regarding the dimensionality of transformational leadership is ongoing in the leadership literature. To tackle the dimensionality issue, hypotheses are first developed for transformational instructor-leadership as a single higher-order factor. Then, the present study extends previous transformational leadership meta-analyses by investigating differences between the four dimensions. The MLQ can be used to measure transformational leadership either as a single higher-order factor or as four dimensions, and thus facilitates an investigation of the dimensionality issue.

For the present study, transformational instructor-leadership was examined in relation to six outcomes. First, motivation was examined because a key characteristic of transformational leadership is the motivation of others (Avolio, 1999). Second, perceived instructor credibility was examined because the positive effects of transformational leaders should translate into followers rating the leader more favorably (Judge & Piccolo, 2004). Third, satisfaction was examined because the level of autonomy and challenge provided by a transformational leader is expected to promote follower satisfaction (Bass, 1999). Fourth, students’ performance was
examined because, by definition, transformational leadership behaviors are expected to push followers’ performance beyond expectations (Bass, 1985). Finally, affective and cognitive learning were examined because both are course-specific student outcomes that are important for understanding the degree to which learning is taking place in a HEI course.

**Motivation.** Motivation is defined as forces that drive an individual to exert effort toward achieving a goal (Pardee, 1990). A motivated individual is characterized by energy, effort, and direction. Transformational leadership has long been associated with the motivation of others (Avolio, 1999). Transformational instructor-leaders may encourage their students to exert more effort in order to help the students realize their full potential or higher order needs (Bass, 1997). Additionally, transformational leaders can influence students’ motivation via the process of emotional contagion. Emotional contagion is “a nonconscious process by which moods [and emotions] are transferred through mimicry of displays” (Barger & Grandey, 2006, p. 1229). According to emotional contagion, a transformational instructor-leader – one who is energetic and arousing – can transfer their positive moods and emotions to students. Consequently, students may then experience increased enthusiasm and motivation. Therefore, the first hypothesis (H1) tested was that transformational instructor-leadership is positively related to students’ motivation.

**Perceived instructor-leader credibility.** A credible leader is one who followers perceive as convincing, dependable, competent, trustworthy, and believable. Transformational leaders should be perceived as credible because these leaders use extraordinary behaviours (Conger, Kanungo, & Menon, 2000). Extraordinary behaviours consist of the articulation of a vision along with the use of unconventional behaviours to achieve said vision (Conger et al., 2000). Transformational leaders’ extraordinary behaviours should foster students’ admiration and
respect for the leader (Conger et al., 2000). Conger et al. (2000) added that transformational leaders can be perceived as credible because they (a) show concern for their individual followers’ needs as opposed to their own self-interests and (b) are typically perceived as knowledgeable and experts in their field. Therefore, the second hypothesis (H2) tested was that transformational instructor-leadership is positively related to students’ perception of instructor’s credibility.

**Satisfaction with leader.** Satisfaction refers to a feeling of gratification or contentment. In the HEI course context, students’ satisfaction is conceptualized as students’ positive emotional response to instructor-student interactions (Noland, 2005). Transformational instructor-leaders should enhance students’ satisfaction because these leaders provide meaningful goals and exhibit exemplary behaviors (Conger et al., 2000). Specifically, transformational instructor-leaders link course goals to students’ lives, which increases the meaningfulness of goals, and thus improves students’ satisfaction with the leader (Conger et al., 2000). Transformational leaders also display acts of self-sacrifice and expertise in helping students to realize course goals, and such exemplary behaviors are likely to build students’ affect towards the leader (Conger et al., 2000). Accordingly, the third hypothesis (H3) tested was that transformational instructor-leadership is positively related to students’ satisfaction with instructor-leader.

**Academic performance.** In education research, academic performance typically refers to the degree to which students accomplish an academic-related task or goal, e.g., grades or grade point average (GPA). Transformational instructor-leaders should enhance students’ academic performance because these leaders are both inspiring and supportive. Transformational instructor-leaders should inspire student-followers to perform beyond normal expectations (Bass, 1990). Additionally, transformational instructor-leaders use supportive coaching and mentoring
behaviors, which should improve students’ beliefs in their own abilities to achieve course goals, i.e., self-efficacy towards the course. Increased self-efficacy should enhance students’ academic performance (Bandura, 1986). Therefore, the fourth hypothesis \((H4)\) tested was that transformational instructor-leadership is positively related to students’ motivation.

**Affective learning.** Affective learning is defined as feelings or emotions directed toward the subject (Krathwohl, Bloom, & Masia, 1956). Very few studies examine the specific emotional responses experienced by a transformational leader’s followers. Arguably, the primary mechanism through which transformational leaders influence their followers is through emotions because these leaders inspire, stimulate, and support followers. Transformational instructor-leaders can increase students’ affective learning because these leaders use behaviors that enhance students’ self-efficacy. For instance, transformational instructor-leaders use intellectually stimulating behaviors that are likely to connect practice to theory. Teaching that provides practical exposure may provide a gateway for students to access experience, and thus students are more likely to feel connected to a subject matter (Wenger, 1999). When students feel connected to the subject matter, the connection should enhance their beliefs in their abilities to tackle the subject, thus leading to students’ experiencing positive feelings and emotions towards the subject and its content.

In addition to intellectual stimulation, transformational instructor-leaders use supportive behaviors that can positively influence students’ control- and value-related appraisals. Control-value theory is “based on the premise that appraisals of control and values are central to the arousal of … emotions” (Pekrun, 2006, p. 315). Students may perceive the learning activity as being sufficiently controllable by themselves because transformational leaders empower their followers. Students may positively value the learning material and the way in which it is taught
because transformational leaders show concern for the personal needs of followers by providing assistance in order to help followers actualize their own strengths. Taken together, transformational leadership behaviors should lead to followers developing positive appraisals of both control and values. A combination of positive control and values should enhance students’ affect towards the course (Pekrun, 2006). Hence, the fifth hypothesis (H5) tested was that transformational instructor-leadership is positively related to students’ affective learning.

Previous meta-analytic studies confirmed the proposed relationships between transformational leadership and followers’ motivation, perceptions of leader credibility, satisfaction with leader, performance, and satisfaction with context (Derue et al., 2011; Judge & Piccolo, 2004; Wang, Oh, Courtright, & Colbert, 2011). However, previous meta-analytic studies did not focus on the HEI course context, and thus ignored other outcomes that are particularly relevant to the HEI course setting. In the HEI course setting, one outcome that is often examined by educational psychologists is that of cognitive learning.

**Cognitive learning.** Cognitive learning deals with “the recall or recognition of knowledge and the development of intellectual abilities and skills” (Bloom, 1984, p. 7). A transformational leader uses intellectually stimulating behaviors that encourage followers to engage in creative problem solving (Johns & Saks, 2007). Therefore, in an instructor-student relationship, intellectually stimulating leader behaviors should create empowered thinkers and learners. Such instructor-leader behaviors may create a classroom culture that encourages students to make mistakes as part of the learning process, and this style of teaching should encourage students to engage with, understand, and apply course material (Biggs & Tang, 2007, p. 25). Moreover, a transformational instructor-leader uses charismatic behaviors that are likely to be seen as extraordinary and memorable. Charismatic behaviors supplement intellectual
stimulation by helping students to recall what they have learned. Hence, the sixth hypothesis (H6) tested was that transformational instructor-leadership is positively related to students’ cognitive learning.

**Individual leadership dimensions.** For H1 to H6, the hypothesized relationships are between a single transformational instructor-leadership factor and student outcomes. However, the strength of relationships between each dimension of transformational leadership and student outcomes may vary. As argued earlier, the transformational leadership dimensions are conceptually distinct. Furthermore, each dimension may function differently in the HEI course context because of the unique features discussed earlier. Specifically, the HEI course context contains two features that are rarely examined in transformational leadership research. First, the HEI course context is *distant*. Antonakis and Atwater (2002) explained that transformational leadership behavioral dimensions are sometimes based on the assumption of a lack of distance. For instance, ‘individualized’ consideration involves personalized attention, which infers a high degree of intimacy and closeness (Antonakis & Atwater, 2002). The assumption of closeness is not a realistic assumption in many HEI courses because of increasing class sizes. Towards the end of the twentieth century, class sizes have increased considerably because of increasing access to higher education around the world (Allais, 2014; Hornsby & Osman, 2014). The increasing class size phenomenon is often referred to as ‘massification’ in higher education (Allais, 2014; Hornsby & Osman, 2014). With such rapid increases in student enrollment, and the resulting increases in student to staff ratios, it is not uncommon to see first year undergraduate classes with over six hundred students (Allais, 2014). In such large classes, instructors may be limited by the extent to which they can be physically close to students, e.g., difficulties in recalling names in large classes or the need to stand on a platform or stage to
ensure visibility in large classes. Therefore, the effects of individualized consideration are likely to be tempered by the large class sizes that instructors face.

Second, the temporary nature of HEI course groups has implications for the inspiration of followers towards a vision – a core element of transformational leadership. Rafferty and Griffin (2004) defined vision as “[t]he expression of an idealized picture of the future based around organizational values” (p. 332). In the long-term, it is important for transformational leaders to repeatedly articulate the vision or ideology of their unit or organization in order to ‘rally the troops’. In other words, over time, followers may need to be reminded of the overall purpose of their group in order to rekindle their motivation. However, in the short-term, like the typical HEI course, articulation of a vision is of less importance and perhaps irrelevant. Instructors do not need to frequently express a picture of the future for students, because a course is usually completed in a few months. Taken together, the unique features of the HEI course mean that both individualized consideration and inspirational motivation are likely to be less applicable than the other transformational leadership dimensions in the unique HEI course context. Therefore the seventh hypothesis (H7) was that (a) the strength of relationships between individualized consideration and student outcomes are weaker than the relationships between both charisma and intellectual stimulation and student outcomes, and (b) the strength of the relationships between inspirational motivation and student outcomes are weaker than the relationships between both charisma and intellectual stimulation and student outcomes.

**Methods**

The purpose of the present study was to conduct a meta-analytic review of transformational instructor-leadership literature in higher education, and to analyze research in which such leadership has been empirically linked to the hypothesized student outcomes. In
comparison to individual studies, a meta-analysis provides more precise estimates of the effect sizes for the association between transformational instructor-leadership and student outcomes including its generalizability.

**Inclusion Criteria**

In the present study, quantitative studies derived from higher education research were used. The reason for limiting the search to quantitative studies was that the objective of the current study was to examine empirical relationships between transformational instructor-leadership and student outcomes. No restrictions were placed on geographic location, gender, and age. The transformational instructor-leadership construct had to explicitly reference transformational or charismatic leadership theory including its dimensions. Transformational leadership theory in HEI course interactions was the focus of the search. Outcome measures were restricted to the hypothesized outcomes.

**Search Methods for Identification and Selection of Studies**

Both published and unpublished works qualified for the search. Electronic searches were conducted using SciVerse Scopus, Web of Knowledge (WoK), and Google Scholar. Keywords used in the electronic searches are shown in Table 1. No language or date restrictions were applied. Any articles found in the initial electronic search were used as a basis for conducting both a backward and forward search.

A backward search refers to the reviewing of citations from articles identified in the keyword search to find prior articles on the topic (Webster & Watson, 2002). For the backward search process, both a backward reference search and a backward authors search were conducted. A backward reference search involved reviewing all relevant references from the articles to find further relevant research on the topic (Levy & Ellis, 2006). Reviewing references
sometimes involved second and third level backward searching in which references within reference lists were reviewed (Levy & Ellis, 2006). A backward authors search involved reviewing previous publications of the authors (Levy & Ellis, 2006).

A forward search involves identifying articles which cited the key articles identified during keyword and backward searches (Webster & Watson, 2002). Similar to a backward search, forward searching also involved reference and author searches. A forward reference search involves identifying articles which cited the key articles identified during keyword and backward searches (Webster & Watson, 2002).

Table 1

| Study Flow Table for Review of Transformational Instructor-Leadership |
|-------------------------|-----------------|-----------------|-----------------|
|                        | SciVerse Scopus | Web of Knowledge, Web of Science | Google Scholar | Number of results | Selection by abstract |
| Instructor teacher leadership | 56              | 62              | 150 of 132,000 | 268              | 3                  |
| Classroom leadership higher education | 168             | 116             | 150 of 696,000 | 434              | 6                  |
| Transformational teaching Transformational teacher leader | 380             | 299             | 150 of 102,000 | 829              | 7                  |
| Transformational teacher leadership | 76              | 59              | 150 of 42,800  | 285              | 2                  |
| Instructor transformational leadership | 184             | 267             | 150 of 68,100  | 601              | 8                  |
| Transformational classroom leadership | 17              | 32              | 150 of 20,800  | 199              | 15                 |
| Transformational leadership and students | 30              | 24              | 150 of 41,500  | 204              | 14                 |
| Professor as a leader and students | 210             | 231             | 150 of 73,400  | 591              | 14                 |
| Total number of records | 1,341            | 1,205           | 1,350           | 3,896            | 73                 |
| Records after duplicates removed |                 |                 |                 |                  | 35                 |
| Records from backward/forward search and author communications |                 |                 |                 |                  | 5                  |
| Studies removed |                 |                 |                 |                  | 18                 |
| Total studies included in review |                 |                 |                 |                  | 22                 |
search involved reviewing articles that cited the article (Levy & Ellis, 2006). A forward authors search involved a review of the authors follow-up work after the article (Levy & Ellis, 2006).

In conducting the backward and forward search, personal communications with one researcher was necessary to source a full-text copy of a relevant study that was not available via electronic databases. In addition to the electronic, backward, and forward searches, publication bias was further minimized by consulting two researchers who have been publishing transformational instructor-leadership research regarding any unpublished studies, i.e., San Bolkan and Alan Goodboy. Consultation with Bolkan and Goodboy yielded one additional study, but the study did not meet the inclusion criteria because it examined an outcome that was not hypothesized, i.e., student resistance. The cut-off date for the search was April, 2015.

Search Findings

For the keyword search, the databases retrieved 3,896 records. For Google Scholar’s database, a limit of 150 results for each keyword was set due to the large number of search results. After screening the results, 73 abstracts remained. After removing duplicates from the 73 abstracts, 35 remained and full-text versions of the studies were retrieved (see Table 1).

A backward and forward search was then conducted using the 35 retrieved studies. Based on the searches, along with consultations with researchers in the transformational instructor-leadership area of research, 5 additional studies were sourced. Therefore, a total of 40 studies were found, and these studies consisted of 35 articles and 5 dissertations. From the 40 studies, 18 were excluded. Of the 18 excluded studies, one did not provide enough information to calculate correlation coefficients, one was a conference publication that could not be sourced even after emailing the authors, and the remaining 16 did not comply with the inclusion criteria, e.g., 1 was a case study, 2 did not measure any of the hypothesized outcomes, 2 examined only intellectual
Table 2

Summary of Findings

<table>
<thead>
<tr>
<th>Author/s</th>
<th>Source of study</th>
<th>Country</th>
<th>Course/program</th>
<th>Sample</th>
<th>Course delivery</th>
<th>Type of student</th>
<th>Measure of TIL</th>
<th>Dependent variables used</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nischan (1997)</td>
<td>ProQuest Dissertations &amp; Theses</td>
<td>USA</td>
<td>Business</td>
<td>Students</td>
<td>Face-to-face</td>
<td>Undergraduate</td>
<td>MLQ</td>
<td>Extra effort, effectiveness, satisfaction</td>
</tr>
<tr>
<td>Kuchinke (1999)</td>
<td>Journal of Vocational Education</td>
<td>USA</td>
<td>Instructional design, instructional technology, T&amp;D, business principles</td>
<td>Students</td>
<td>Face-to-face</td>
<td>Graduate</td>
<td>MLQ (adapted - 15 of 24 items used)</td>
<td>Extra effort, effectiveness, satisfaction</td>
</tr>
<tr>
<td>Ojode et al. (1999)</td>
<td>Midwest Academy of Management</td>
<td>USA</td>
<td>Human Resource Education</td>
<td>Students</td>
<td>Face-to-face</td>
<td>Graduate</td>
<td>MLQ</td>
<td>Extra effort, effectiveness, satisfaction</td>
</tr>
<tr>
<td>Harvey et al. (2003)</td>
<td>Psychological Reports</td>
<td>Canada</td>
<td>Humanities, Social Sciences, Business Admin., Education, Natural Sciences</td>
<td>Students</td>
<td>Face-to-face</td>
<td>Undergraduate</td>
<td>MLQ</td>
<td>Instructor's performance rating, student involvement</td>
</tr>
<tr>
<td>Walumbwa et al. (2004)</td>
<td>Journal of Management Development</td>
<td>USA</td>
<td>N/A</td>
<td>Students</td>
<td>Face-to-face</td>
<td>Undergraduate and Graduate</td>
<td>MLQ</td>
<td>Extra effort, effectiveness, satisfaction</td>
</tr>
<tr>
<td>Noland (2005)</td>
<td>Masters dissertation</td>
<td>USA</td>
<td>Numerous departments</td>
<td>Students</td>
<td>Face-to-face</td>
<td>Undergraduate</td>
<td>MLQ</td>
<td>Cognitive and affective learning, satisfaction</td>
</tr>
<tr>
<td>Pounder (2008)</td>
<td>Leadership</td>
<td>Hong Kong</td>
<td>Strategic Management (Business)</td>
<td>Students</td>
<td>Face-to-face</td>
<td>Undergraduate</td>
<td>MLQ</td>
<td>Extra effort, effectiveness, satisfaction</td>
</tr>
<tr>
<td>Bolkan and Goodboy</td>
<td>Journal of Instructional Psychology</td>
<td>USA</td>
<td>Communication</td>
<td>Students</td>
<td>Face-to-face</td>
<td>Undergraduate</td>
<td>MLQ</td>
<td>Cognitive and affective learning, satisfaction, participation, instructor credibility</td>
</tr>
<tr>
<td>Gill et al. (2011)</td>
<td>Business and Economics Journal</td>
<td>India</td>
<td>Commerce</td>
<td>Students</td>
<td>Face-to-face</td>
<td>Undergraduate</td>
<td>Created scale</td>
<td>Student performance</td>
</tr>
<tr>
<td>Livingston (2010) 2010</td>
<td>Doctoral dissertation</td>
<td>USA</td>
<td>Business Administration</td>
<td>Students/ Lecturers</td>
<td>Online</td>
<td>Undergraduate</td>
<td>MLQ</td>
<td>Extra effort, effectiveness, satisfaction</td>
</tr>
<tr>
<td>Harrison (2011)</td>
<td>Emerging Leadership Journeys</td>
<td>USA</td>
<td>Leadership</td>
<td>Students</td>
<td>Online</td>
<td>Graduate</td>
<td>MLQ</td>
<td>Cognitive and affective learning, teacher credibility, satisfaction, grade</td>
</tr>
<tr>
<td>Shiva Prasad (2011)</td>
<td>Proceedings of the World Congress on Engineering</td>
<td>India</td>
<td>Engineering</td>
<td>Students</td>
<td>Face-to-face</td>
<td>Undergraduate</td>
<td>MLQ</td>
<td>Cumulative grade point average</td>
</tr>
<tr>
<td>Khan et al. (2011)</td>
<td>Interdisciplinary Journal of Research in Business</td>
<td>Pakistan</td>
<td>Numerous departments</td>
<td>Lecturers</td>
<td>Face-to-face</td>
<td>Not stated</td>
<td>MLQ</td>
<td>Extra effort and satisfaction</td>
</tr>
</tbody>
</table>
Table 2

Summary of Findings

<table>
<thead>
<tr>
<th>Author/s</th>
<th>Source of study</th>
<th>Country</th>
<th>Course/program</th>
<th>Sample</th>
<th>Course delivery</th>
<th>Type of student</th>
<th>Measure of TIL</th>
<th>Dependent variables</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gill et al. (2010)</td>
<td>The Open Education Journal</td>
<td>Canada</td>
<td>N/A</td>
<td>Students</td>
<td>Face-to-face</td>
<td>Undergraduate and Graduate</td>
<td>Created scale</td>
<td>Educational satisfaction</td>
</tr>
<tr>
<td>Cerda Suarez and Hernandez (2012)</td>
<td>European Journal of Engineering Education</td>
<td>Portugal &amp; Spain</td>
<td>Market Research (masters); Signals and Systems Theory (undergraduate)</td>
<td>Students</td>
<td>Face-to-face</td>
<td>Graduate and undergraduate</td>
<td>Created scale</td>
<td>Performance of the professor</td>
</tr>
<tr>
<td>Young-In and Nan-Hee (2012)</td>
<td>Korea Women's Sport Association</td>
<td>Korea</td>
<td>Physical education</td>
<td>Students</td>
<td>Face-to-face</td>
<td>Not stated</td>
<td>Created scale</td>
<td>Satisfaction and trust</td>
</tr>
<tr>
<td>Bogler et al. (2013)</td>
<td>Educational Management Administration &amp; Leadership</td>
<td>Israel</td>
<td>Numerous courses</td>
<td>Students</td>
<td>Online</td>
<td>Not stated</td>
<td>MLQ (adapted - invalid items removed)</td>
<td>Satisfaction, participation, academic achievement</td>
</tr>
<tr>
<td>Kahai et al. (2013)</td>
<td>British Journal of Educational Technology</td>
<td>USA</td>
<td>Introduction to Management Information Systems</td>
<td>Students</td>
<td>Online</td>
<td>Undergraduate</td>
<td>MLQ</td>
<td>Cognitive effort, discussion satisfaction, decision quality</td>
</tr>
<tr>
<td>Peters (2014)</td>
<td>Doctoral dissertation</td>
<td>USA</td>
<td>Introductory Psychology</td>
<td>Students</td>
<td>Face-to-face</td>
<td>Undergraduate</td>
<td>TLI</td>
<td>Effort, satisfaction, and performance</td>
</tr>
<tr>
<td>Balwant et al. (2014)</td>
<td>Academy of Management Best Paper Proceedings</td>
<td>UK</td>
<td>Various faculties</td>
<td>Students</td>
<td>Face-to-face</td>
<td>Undergraduate</td>
<td>MLQ</td>
<td>Extra effort, effectiveness, satisfaction, student achievement</td>
</tr>
<tr>
<td>Hardee (2014)</td>
<td>Doctoral dissertation</td>
<td>USA</td>
<td>Business department</td>
<td>Students</td>
<td>Face-to-face and hybrid</td>
<td>Undergraduate</td>
<td>MLQ</td>
<td>Extra effort, effectiveness, satisfaction</td>
</tr>
</tbody>
</table>

Note. TIL = transformational instructor-leadership; TLI = Transformational Leadership Inventory.
stimulation, and a few did not examine any outcomes. Hence, the final number of studies included in the meta-analysis was 22 (see Table 2 for a summary of the findings).

**Meta-Analytic Procedures**

The analyses were conducted using Microsoft Excel, and then the calculated values were verified using SPSS syntax provided by Field and Gillett (2010). For the analyses, meta-analytic methods proposed by Hunter and Schmidt (2004) were used. Following the Hunter-Schmidt approach, each effect size was corrected for attenuation due to measurement error for both the predictor and the criterion in each study. The correction provided an estimated ‘true-score’ correlation. To calculate the true-score correlation, the reliability coefficients reported in each study were used. For two of the studies, reliability was not reported, and thus the average of the reliabilities reported in other studies were then used. The mean reliabilities were .88 for transformational instructor-leadership, .81 for charisma, .77 for inspirational motivation, .82 for intellectual stimulation, .78 for individualized consideration, .86 for motivation, .84 for instructor credibility, .84 for satisfaction with leader, .94 for academic performance, .92 for affective learning, and .87 for cognitive learning. For the correlations, the variability of these estimates were also reported. Both 80% credibility intervals and 90% confidence intervals were provided. The credibility intervals indicate variability in the correlations for the individual studies, whereas the confidence intervals estimate the variability for the mean correlation.

In conducting the present meta-analysis, there were three issues to consider. First, clear coding definitions along with consensus among raters was necessary to ensure coder consistency (Schmitt & Klimoski, 1990). For the studies that met the inclusion criteria, two raters collaborated to code the outcome variables into categories. Then, using the categories and an ‘other’ option, two final-year doctoral students independently coded the outcome variables.
Inter-coder agreement was 95%, which indicated high inter-rater agreement. Second, two of the studies each provided values for two independent samples, and thus each subsample was treated as a separate study. Therefore, in presenting the findings later on, \( k \) represents the number of samples or correlations rather than the number of studies. Third, as mentioned earlier, transformational instructor-leadership was treated as a single higher-order factor to test H1 to H6. For the studies that only provided multiple correlations and reliabilities for the individual transformational leadership dimensions, the average of the correlations were computed – an approach that was used in other transformational leadership meta-analyses (e.g., Judge & Piccolo, 2004; Wang et al., 2011). Similarly, to test H7a and H7b, the average of the correlations were computed for attributed idealized influence and behavioral idealized influence for the few studies that divided charisma into these two sub dimensions.

**Results**

The findings supported H1 to H3, H5, and H6 (see Table 3). Transformational instructor-leadership was positively related to students’ motivation (\( \hat{\rho} = .47 \)), perceived instructor credibility (\( \hat{\rho} = .72 \)), and satisfaction with leader (\( \hat{\rho} = .62 \)). Undoubtedly, motivation, credibility, and satisfaction were the most common outcomes, which was to be expected given that measures for these criteria were included with the MLQ. Nonetheless, transformational instructor-leadership was also positively related to learning outcomes. The findings showed that transformational instructor-leadership was positively related to students’ affective learning (\( \hat{\rho} = .73 \)) and cognitive learning (\( \hat{\rho} = .52 \)). For all five criteria, the mean correlations were distinguishable from zero, in that the 90% confidence intervals did not include zero. Additionally, the 80% credibility intervals excluded zero indicating that more than 90% of the individual correlations were greater than zero.
Table 3

Relationship Between Transformational Instructor-Leadership and Students' Outcomes

<table>
<thead>
<tr>
<th>Criterion</th>
<th>$k$</th>
<th>$N$</th>
<th>$\bar{r}$</th>
<th>$\hat{\rho}$</th>
<th>80% $CV_\rho$</th>
<th>90% $CI_{\bar{\rho}}$</th>
<th>$Q$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Motivation</td>
<td>17</td>
<td>2676</td>
<td>0.40</td>
<td>0.47</td>
<td>0.05</td>
<td>0.89</td>
<td>0.34</td>
</tr>
<tr>
<td>Perceived instructor credibility</td>
<td>15</td>
<td>1889</td>
<td>0.62</td>
<td>0.72</td>
<td>0.50</td>
<td>0.95</td>
<td>0.65</td>
</tr>
<tr>
<td>Satisfaction with leader</td>
<td>20</td>
<td>3362</td>
<td>0.53</td>
<td>0.62</td>
<td>0.33</td>
<td>0.90</td>
<td>0.53</td>
</tr>
<tr>
<td>Academic performance</td>
<td>7</td>
<td>1493</td>
<td>0.16</td>
<td>0.19</td>
<td>-0.08</td>
<td>0.46</td>
<td>0.05</td>
</tr>
<tr>
<td>Affective learning</td>
<td>4</td>
<td>665</td>
<td>0.68</td>
<td>0.73</td>
<td>0.63</td>
<td>0.83</td>
<td>0.66</td>
</tr>
<tr>
<td>Cognitive learning</td>
<td>4</td>
<td>665</td>
<td>0.47</td>
<td>0.52</td>
<td>0.38</td>
<td>0.66</td>
<td>0.42</td>
</tr>
</tbody>
</table>

*Note.* $k$ = number of samples/correlations; $N$ = combined sample size; $\bar{r}$ = sample-size weighted mean uncorrected correlation; $\hat{\rho}$ = estimated corrected mean correlation or true-score correlation; $CV$ = credibility interval; $CI$ = confidence interval.
In comparison to the other criteria, transformational instructor-leadership had a relatively weaker, yet still positive relationship with students’ academic performance ($\hat{\rho} = .19$). Also, the 90% confidence intervals did not include zero. However, the 80% credibility intervals included zero, indicating that more than 10% of the correlations included in the analysis were negative. Therefore, the findings partially supported H4.

Regardless of the strength and generalizability of most of the estimates, the $Q$-statistic values were all significant, indicating that there was significant heterogeneity among the included studies. To determine the source of the heterogeneity, potential moderator variables were determined based on the search findings. Note that no moderator effects were hypothesized earlier because potential moderators were unknown prior to the literature search. Therefore, potential moderators were identified based on the search results, i.e., in a post-hoc fashion like other transformational leadership meta-analytic reviews (e.g., Judge & Piccolo, 2004; Wang et al., 2011). Based on the search findings in the current study, potential moderators may include culture ($1 = $ Western, $0 = $ Eastern), course delivery ($1 = $ face-to-face, $0 = $ online), use of MLQ ($1 = $ MLQ, $0 = $ other measure), and gender ratio (percentage of males to females). Note that moderator effects of transformational instructor-leadership on affective and cognitive learning were not examined because few studies investigated these outcomes, i.e., $k = 4$ for each of these outcomes.

To examine potential moderators, full-information maximum-likelihood weighted generalized least squares regressions (i.e., meta-regressions) specifying random effects models were used (see Tables 4 and 5). Table 4 shows multivariate meta-regressions for culture, course delivery, and MLQ usage. Table 5 shows bivariate meta-regressions for gender. The reasons for excluding gender from the multivariate meta-regressions was that sample size was markedly
Table 4

Inverse Variance Weighted Regression Analyses (Random Intercept, Fixed Slopes Model) Showing the Moderation Effect of Culture, Delivery, and MLQ Usage on the Relationships Between Transformational Instructor-Leadership and Students’ Motivation, Perceptions of Instructor Credibility, Satisfaction With Leader, and Academic Performance.

<table>
<thead>
<tr>
<th>Variables</th>
<th>Motivation</th>
<th>Instructor credibility</th>
<th>Satisfaction with leader</th>
<th>Academic performance</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>$B$</td>
<td>$SE_B$</td>
<td>$\beta$</td>
<td>$B$</td>
</tr>
<tr>
<td>Constant</td>
<td>- .51*</td>
<td>.22</td>
<td>.00</td>
<td>.36**</td>
</tr>
<tr>
<td>Culture</td>
<td>.38**</td>
<td>.11</td>
<td>.51</td>
<td>.33**</td>
</tr>
<tr>
<td>Delivery</td>
<td>.34**</td>
<td>.12</td>
<td>.43</td>
<td>.04</td>
</tr>
<tr>
<td>MLQ usage</td>
<td>.53*</td>
<td>.17</td>
<td>.45</td>
<td>.10</td>
</tr>
<tr>
<td>Mean ES</td>
<td>.56</td>
<td>.73</td>
<td>.66</td>
<td>.01</td>
</tr>
<tr>
<td>$k$</td>
<td>17</td>
<td>15</td>
<td>20</td>
<td>7</td>
</tr>
<tr>
<td>$R^2$</td>
<td>.61**</td>
<td>.73**</td>
<td>.43**</td>
<td>.75**</td>
</tr>
</tbody>
</table>

Note. MLQ = Multifactor Leadership Questionnaire; ES = effect size; $k$ = number of samples/correlations.

*p < .05  
**p < .01

Table 5

Inverse Variance Weighted Regression Analyses (Random Intercept, Fixed Slopes Model) Showing the Moderation Effect of Gender on the Relationships Between Transformational Instructor-Leadership and Students’ Motivation, Perceptions of Instructor Credibility, Satisfaction With Leader, and Academic Performance.

<table>
<thead>
<tr>
<th>Variables</th>
<th>Motivation</th>
<th>Instructor credibility</th>
<th>Satisfaction with leader</th>
<th>Academic performance</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>$B$</td>
<td>$SE_B$</td>
<td>$\beta$</td>
<td>$B$</td>
</tr>
<tr>
<td>Constant</td>
<td>.71**</td>
<td>.16</td>
<td>.00</td>
<td>.76**</td>
</tr>
<tr>
<td>Gender</td>
<td>-.19</td>
<td>.19</td>
<td>-.32</td>
<td>.01</td>
</tr>
<tr>
<td>Mean ES</td>
<td>.57</td>
<td>.75</td>
<td>.65</td>
<td>.20</td>
</tr>
<tr>
<td>$k^*$</td>
<td>13</td>
<td>12</td>
<td>15</td>
<td>5</td>
</tr>
<tr>
<td>$R^2$</td>
<td>.07</td>
<td>.05</td>
<td>.01</td>
<td>.61**</td>
</tr>
</tbody>
</table>

Note. ES = effect size; $k$ = number of samples/correlations

*a. In comparison to Table 4, a reduced sample size was used to examine the moderating effects of gender because fewer studies provided gender data.

**p < .01
reduced for each regression (i.e., reduction in \(N\) ranging from 18.24% to 34.44%), the reduced number of samples led to a limited representation of Eastern culture, and the reduced number of samples led to degrees of freedom being zero for the academic performance regression. The meta-regressions were conducted using the software provided by Lipsey and Wilson (2000).

The moderator analyses showed that each of the four moderators were significant in at least one of the regression analyses. For culture, effect sizes for the relationship between transformational instructor-leadership and motivation, instructor credibility, and satisfaction with leader were significantly larger in Western cultures than in Eastern cultures (respectively \(\beta = .51, .75, .56; p < 0.01\)). Given that culture using a Western-Eastern classification was a significant moderator, separate meta-regressions were conducted using Hofstede’s cultural dimensions. However, none of Hofstede’s dimensions were significant in any of the regression models (i.e., all \(p\)’s > .05). Pounder (2008) explained that the cultural values of Eastern cultures might temper the impact of transformational instructor-leadership behaviors. For instance, students from Eastern cultures tend to value reflective interactions with instructors in which the instructors take time to process responses rather than rapid ‘off the cuff’ interactions that may work better in Western cultures.

For course delivery, the effect sizes for the relationship between transformational instructor-leadership and both motivation and academic performance were significantly larger in face-to-face courses than in online courses (respectively \(\beta = .43, .97; p < 0.01\)). The difference between the two course delivery methods was not surprising given that face-to-face interaction is the ‘natural’ state for leadership behavior (Avolio, Walumbwa, & Weber, 2009). Bogler et al. (2013) explained that many of the status symbols that are featured in face-to-face teaching are absent in online interactions, e.g., standing in front of the room, controlling the physical space,
allocating time, etc. The absence or less explicit representation of the stated leadership mechanics in online settings may explain why transformational instructor-leadership is more strongly associated with students’ motivation and performance in more formal face-to-face settings.

For MLQ usage, the effect size for the relationship between transformational instructor-leadership and motivation was significantly larger for studies that measured transformational instructor-leadership with the MLQ than in one study that used the Transformational Leadership Inventory (TLI) (i.e., Peters, 2014) ($\beta = .45, p < 0.05$). The larger effect size when using the MLQ may be a signal that the TLI does not fully capture aspects of transformational instructor-leadership that promote students’ motivation. Alternatively, another plausible explanation is that the MLQ studies used a measure of motivation that was more likely to be highly associated with transformational leadership.

Finally, for gender, the effect size for the relationship between transformational instructor-leadership and academic performance was significantly larger for males than for females ($\beta = .78, p < 0.01$). Douglas (2012) explained that, in comparison to female followers, male followers might be more sensitive to the degree to which their leader uses transformational leadership behaviors. Perhaps males’ biological or psychological characteristics might explain why they respond better academically to transformational instructor-leaders than females (McNabb, Pal, & Sloane, 2002). In a similar vein, Bellou (2011) explained that men and women may attempt to fit into certain roles according to societal stereotypes, i.e., social-role theory. Following Bellou’s (2011) notion, male students might be more hierarchical, dominant, and aggressive than female students who might be more cooperative, unselfish, and nurturing (Bellou, 2011). Perhaps the stated male characteristics complement dynamic and charismatic
teaching, thus leading to improved academic performance under transformational instructor-leadership conditions. There is a dearth of research on followers’ gender and transformational leadership, and the association between both concepts requires further exploration in order to improve our understanding of such gender effects.

To compare the meta-analyzed correlations as proposed in H7, the web utility designed by Lee and Preacher (2013) was used. The web utility calculates the difference between two dependent correlations according to Steiger (1980) (see Table 6). The findings partially supported H7a. Specifically the correlations between individualized consideration and motivation, perceived instructor credibility, and satisfaction were significantly weaker than the correlations between charisma and the same outcomes. The correlation between individualized consideration and perceived instructor credibility was also significantly weaker than that between intellectual stimulation and perceived instructor credibility. However, there were no significant differences between the correlations for individualized consideration and intellectual stimulation with respect to motivation and satisfaction.

As shown in Table 6, H7b was not supported. Interestingly, the correlations between inspirational motivation and both perceived instructor credibility and satisfaction were significantly stronger than the correlations between intellectual stimulation and the same outcomes. The stronger correlations for inspirational motivation appear to contradict the argument that vision is of less importance in the HEI course context. However, the reason for the high correlations between inspirational motivation and the stated outcomes was likely because the MLQ was adapted by researchers to suit the HEI course context. In adapting the MLQ, researchers reworded the items that captured inspirational motivation to measure short-term goals or objectives rather than a long-term vision. Measuring short-term goals as opposed to a
Table 6  

*Test of Hypothesized Differences Between Transformational Leadership Dimensions’ Correlations*

<table>
<thead>
<tr>
<th>Outcome</th>
<th>First transformational leadership dimension</th>
<th>Second transformational leadership dimension</th>
<th>$k$</th>
<th>$N$</th>
<th>$\hat{\rho}_{jk}$</th>
<th>$\hat{\rho}_{jh}$</th>
<th>$\hat{\rho}_{kh}$</th>
<th>$z$-score</th>
</tr>
</thead>
<tbody>
<tr>
<td>Motivation</td>
<td>Individualized consideration</td>
<td>Charisma</td>
<td>7</td>
<td>1239</td>
<td>.35</td>
<td>.38</td>
<td>.81</td>
<td>-2.36*</td>
</tr>
<tr>
<td></td>
<td>Individualized consideration</td>
<td>Intellectual stimulation</td>
<td>7</td>
<td>1239</td>
<td>.35</td>
<td>.35</td>
<td>.81</td>
<td>-0.43</td>
</tr>
<tr>
<td></td>
<td>Inspirational motivation</td>
<td>Charisma</td>
<td>5</td>
<td>957</td>
<td>.28</td>
<td>.30</td>
<td>.87</td>
<td>-1.62</td>
</tr>
<tr>
<td></td>
<td>Inspirational motivation</td>
<td>Intellectual stimulation</td>
<td>5</td>
<td>957</td>
<td>.28</td>
<td>.27</td>
<td>.79</td>
<td>0.43</td>
</tr>
<tr>
<td>Perceived instructor</td>
<td>Individualized consideration</td>
<td>Charisma</td>
<td>6</td>
<td>908</td>
<td>.48</td>
<td>.69</td>
<td>.57</td>
<td>-9.32***</td>
</tr>
<tr>
<td>credibility</td>
<td>Individualized consideration</td>
<td>Intellectual stimulation</td>
<td>6</td>
<td>908</td>
<td>.48</td>
<td>.64</td>
<td>.61</td>
<td>-7.34***</td>
</tr>
<tr>
<td></td>
<td>Inspirational motivation</td>
<td>Charisma</td>
<td>4</td>
<td>626</td>
<td>.60</td>
<td>.63</td>
<td>.72</td>
<td>-1.72</td>
</tr>
<tr>
<td></td>
<td>Inspirational motivation</td>
<td>Intellectual stimulation</td>
<td>4</td>
<td>626</td>
<td>.60</td>
<td>.35</td>
<td>.62</td>
<td>8.28***</td>
</tr>
<tr>
<td>Satisfaction</td>
<td>Individualized consideration</td>
<td>Charisma</td>
<td>7</td>
<td>1335</td>
<td>.56</td>
<td>.63</td>
<td>.37</td>
<td>-2.91**</td>
</tr>
<tr>
<td></td>
<td>Individualized consideration</td>
<td>Intellectual stimulation</td>
<td>7</td>
<td>1335</td>
<td>.56</td>
<td>.54</td>
<td>.43</td>
<td>0.87</td>
</tr>
<tr>
<td></td>
<td>Inspirational motivation</td>
<td>Charisma</td>
<td>6</td>
<td>1170</td>
<td>.58</td>
<td>.59</td>
<td>.70</td>
<td>-0.61</td>
</tr>
<tr>
<td></td>
<td>Inspirational motivation</td>
<td>Intellectual stimulation</td>
<td>6</td>
<td>1170</td>
<td>.58</td>
<td>.51</td>
<td>.60</td>
<td>3.17***</td>
</tr>
</tbody>
</table>

*Note. $k =$ number of samples/correlations; $N =$ combined sample size; $\hat{\rho}_{jk}$ = true-score correlation between outcome and the first transformational leadership dimension; $\hat{\rho}_{jh}$ = true-score correlation between outcome and the second transformational leadership dimension; $\hat{\rho}_{kh}$ = true-score correlation between first and second transformational leadership dimensions. Academic performance, affective learning, and cognitive learning were omitted because very few studies examined the individual transformational leadership dimensions in relation to these outcomes.*

* $p < .05$

** $p < .01$

*** $p < .001$
long-term vision is better suited to the temporary nature of course groups, and thus likely explains why inspirational motivation shared strong correlations with the stated outcomes.

Overall, the findings in the present review follow a similar pattern to that of the meta-analysis conducted by Judge and Piccolo (2004) (see Table 7). As shown in Table 7, the effect sizes for the relationship between transformational leadership and perceived leader credibility and affect towards context are both significantly stronger in the HEI course context than in other settings examined by Judge and Piccolo (2004). The stronger findings in the HEI course context highlight the value of transformational instructor-leadership in shaping students’ impressions and feelings towards instructor and course. Nonetheless, Table 7 also shows that the effect sizes for the relationship between transformational leadership and motivation, satisfaction with leader, and performance, are significantly weaker in the present review compared to that of Judge and Piccolo (2004). A weaker relationships may exist because, as explained earlier, students may feel

<table>
<thead>
<tr>
<th>Table 7</th>
</tr>
</thead>
</table>

Comparison Between Transformational Instructor-Leadership and Transformational Leadership Effect Sizes Using the Fisher z Transformation

<table>
<thead>
<tr>
<th>Criterion</th>
<th>$\hat{\rho}_a$</th>
<th>$n^a$</th>
<th>$\hat{\rho}_b$</th>
<th>$n^b$</th>
<th>z-score</th>
</tr>
</thead>
<tbody>
<tr>
<td>Motivation</td>
<td>0.47</td>
<td>2676</td>
<td>0.53</td>
<td>4773</td>
<td>-3.31***</td>
</tr>
<tr>
<td>Perceived leader credibility</td>
<td>0.72</td>
<td>1889</td>
<td>0.54c</td>
<td>7541</td>
<td>11.79***</td>
</tr>
<tr>
<td>Satisfaction with leader</td>
<td>0.62</td>
<td>3362</td>
<td>0.71</td>
<td>4349</td>
<td>-7.06***</td>
</tr>
<tr>
<td>Affect towards course/job</td>
<td>0.73d</td>
<td>665</td>
<td>0.58d</td>
<td>5279</td>
<td>6.46***</td>
</tr>
<tr>
<td>Performance</td>
<td>0.19</td>
<td>1493</td>
<td>0.26</td>
<td>6197</td>
<td>-2.56**</td>
</tr>
</tbody>
</table>

Note. $\hat{\rho}$ = estimated corrected mean correlation or true-score correlation.

a. Transformational leadership in higher education course settings (present review).
b. Transformational leadership in corporate, military, and other formal leadership positions (Judge & Piccolo, 2004).
d. Affective learning was compared to job satisfaction because both measured satisfaction with the context.

* * * $p < .01$

* * * * * $p < .001$
entitled to receive high quality teaching in return for their tuition payments. Therefore, transformational leadership in the HEI course context may not be as extraordinary as it is in the organization context because such leader behavior may be expected by students in the course. The relatively weak relationship between transformational instructor-leadership and academic performance is particularly surprising because transformational leaders are expected to motivate followers to achieve high levels of performance. Perhaps the relationship between transformational instructor-leadership and performance may differ across performance criteria (Wang et al., 2011). For instance, even though academic performance was analyzed in the present study, transformational instructor-leadership may be more strongly related to students’ extra-role performance, e.g., helping students in class (see Balwant et al., 2014), or students’ creative performance (Wang et al., 2011). Moreover, the findings showed that while the overall effect size for transformational instructor-leadership and academic performance is relatively weaker than other effect sizes, both delivery and gender moderate the leadership-performance association.

**Discussion**

In recent times, leadership researchers are paying more attention to transformational instructor-leadership, drawn to its potential to capture effective teaching via a leadership lens. The current study’s meta-analytic findings showed that transformational instructor-leadership was positively associated with desirable student outcomes. Hence, transformational leadership theory appears to be relevant to HEI course teaching.

The present meta-analysis contributes the first integrative review of transformational leadership theory in HEI course teaching. Previous meta-analyses examined transformational leadership primarily in corporate, administrative, military, and religious settings (see Derue et
al., 2011; Judge & Piccolo, 2004; Lowe, Kroeck, & Sivasubramaniam, 1996). As such, the relationships between transformational leadership and student outcomes in HEI course settings were previously not well understood. The present review shows that there is value in employing transformational leadership principles in HEI course teaching. Furthermore, in instructor-student relationships, transformational leadership is even more strongly related to certain follower outcomes than in other formal leadership settings.

A key contribution of the present study is that it provides the first meta-analytic review of transformational leadership that investigates the differences between the leadership dimensions. The findings in the HEI course context support the stance adopted by van Knippenberg and Sitkin (2013) because there are significant differences between the dimensions with respect to the strength of the correlations with student outcomes. Even the unexpected finding for inspirational motivation showed significant differences between the leadership dimensions. The finding for inspirational motivation suggests that instructors may need to focus on short-term goals or objectives (Treslan, 2006). HEI courses are typically designed to achieve (1) general objectives, which usually state what students should understand at the end of a course and (2) specific learning goals for each session. Transformational instructor-leaders may need to focus on directing students towards accomplishing short-term learning objectives/goals rather than articulating a vision.

Another contribution of the present meta-analysis is that it draws upon data from various disciplines. Prior to the present review, transformational instructor-leadership research was fractionated across diverse domains such as education, management, psychology, economics, engineering, sports, etc. (recall Table 2). Transformational instructor-leadership is examined in various disciplines because of two reasons. First, the multidisciplinary nature of transformational
instructor-leadership means that it crosses disciplinary boundaries between education, communication, management, and psychology. Second, transformational instructor-leadership describes higher education teaching, and thus research on transformational instructor-leadership can exist in any discipline. Research on the same topic across distinct domains can be problematic when advancements are occurring in parallel vacuums. Therefore, in the present study, not only is transformational instructor-leadership research assimilated, but suggestions for developing future research based on recent advancements are also provided.

**Limitations of Included Studies and Suggestions for Future Research**

The studies included in the present meta-analytic review have been conducted over the past two decades. While there have been considerable improvements in recent studies, many of the studies are characterized by issues regarding context sensitivity, common method variance, causal conclusions, mechanisms, outcome measures, and control variables.

**Uniqueness of the HEI Course Context**

Because the HEI course context in higher education is characterized by distance and short-term group length, future research should consider refining and perhaps developing a more context sensitive measure of transformational instructor-leadership. Both Bogler et al. (2013) and Kuchinke (1999) have taken steps to amend the MLQ for the HEI course context by removing items that students regard as invalid. Furthermore, Balwant et al. (2014) and Bolkan and Goodboy (2011) have taken initial steps towards developing entirely new measures that are suited to the HEI course context. Future research should build upon the abovementioned studies in developing and validating a context sensitive measure of transformational instructor-leadership. Perhaps a more context-sensitive measure may further highlight the conceptual distinctions between the transformational instructor-leadership dimensions.
Common Method Variance

In many of the included studies, common method variance (CMV) is a potential source of measurement error. CMV is defined as “variance … attributable to the measurement method rather than to the constructs the measures represent” (Podsakoff, MacKenzie, Lee, & Podsakoff, 2003, p. 879). CMV is a potential problem because most of the data is collected using a single measure that is distributed at one point in time. CMV can adversely affect reliability and convergent validity of the scales (Podsakoff, MacKenzie, & Podsakoff, 2012). In addition, CMV may also bias estimates regarding predictors of criterion variables (Podsakoff et al., 2012).

Although the effects of common method bias are not usually strong enough to invalidate research findings, it can be a cause for concern (Doty & Glick, 1998). Consequently, future research may wish to adopt techniques that are used in a few of the included studies in order to reduce common method bias. For instance, Walumbwa et al. (2004) and Harrison (2011) attempted to minimize the potential effects of common method bias by using mean-centred variables and controlling for social desirability respectively. Other studies collect data from different sources, e.g., measuring participation using posts in an online course (e.g., Bogler et al., 2013) or academic performance using grades (e.g., Bogler et al., 2013; Harrison, 2011; Peters, 2014). Multi-source approaches can minimize measurement error, and therefore improve confidence in the resulting estimates.

Causal Conclusions

Although most of the studies showed associations between transformational instructor-leadership and student outcomes, causal relationships between transformational instructor-leadership and student outcomes could not be deduced. The studies included in the present meta-analytic review relied primarily on survey techniques at a single point in time and predominantly
used statistical tests such as correlation and multiple regression. As a result, one cannot draw any causal conclusions – the evidence can indicate an inverse relationship, i.e., student outcomes influence transformational instructor-leadership (see Skinner & Belmont, 1993 for such reciprocal effects found in grades 3 to 5 classrooms). Two of the included studies used experimental designs, and thus provide some evidence of causal direction (see Kahai et al., 2013; Peters, 2014). Building on the two studies, future research may wish to adopt randomized controlled trials – the gold standard for evaluating the outcomes of an intervention.

**Mechanisms**

All but one of the included studies examined the relationship between transformational instructor-leadership and immediate outcomes. The one exception is Kahai et al. (2013), and they showed that some of the immediate outcomes such as motivation can be precursors to other outcomes such as students’ performance. Kahai et al.’s (2013) study builds theory in the transformational instructor-leadership research domain because their study helps to address the query of ‘why’ (Colquitt & Zapata-Phelan, 2007; Sutton & Staw, 1995), i.e., why is transformational instructor-leadership related to student performance. Therefore, in order to further develop transformational instructor-leadership research, researchers need to further explore why transformational instructor-leadership influences outcomes that are further in the causal chain. To address the ‘why’ question, future research should examine potential mechanisms through which instructor-leadership behaviors influence student outcomes.

Although there are a variety of mechanisms that can be investigated, one promising framework is that of engagement. To date, only one study examined the relationship between transformational instructor-leadership and student engagement. Drawing from organizational behavior research, Peters (2014) explained that engagement is a highly activated and positive
state for which both students and employees can be emotionally, behaviorally, and cognitively invested. Specifically, Peters (2014) proposed that students can immerse themselves in their work (e.g., during class, homework, and studying) in the same way that employees immerse themselves in their work. Peters’ (2014) findings showed that transformational instructor-leadership is positively related to student engagement. However, like the organization context (Kopperud, Martinsen, & Humborstad, 2014; Kovjanic, Schuh, & Jonas, 2013), engagement itself is likely to be a mechanism in the relationship between transformational instructor-leadership and more distal outcomes such as students’ performance.

Outcome Measures

For student motivation, perceived instructor credibility, and satisfaction, most of the studies used the MLQ to measure these outcomes. Future research should consider using multiple sources for outcome data in order to minimize measurement error. For instance, student motivation can be measured by observations of participation in class (e.g., Bogler et al., 2013) along with judgements on the quality of contributions. In measuring instructor credibility, it may be worth considering not only students’ views, but also instructors’ perceptions of their own effectiveness and/or performance (e.g., Livingston, 2010). Satisfaction can not only be measured by the MLQ, but also by other measures suited to the HEI course context, e.g., communication satisfaction (Bolkan & Goodboy, 2009) or discussion satisfaction (Kahai et al., 2013).

Control variables

In most of the transformational instructor-leadership studies, the influence of extraneous factors that can affect student outcomes are not included. However, findings in educational research showed that there is a strong association between students self-concepts and learning outcomes in a HEI course (e.g., Heikkilä & Lonka, 2006). As such, controlling for student
factors can illuminate whether transformational instructor-leaders can influence student outcomes beyond students own influence.

**Practical Implications**

HEIs should strive to have teaching staff that comprise of transformational instructor-leaders. The benefits of doing so are two-fold. First, such leadership is associated with increased students’ motivation and learning, which are directly related to HEIs’ visions of developing and improving students’ knowledge, skills, and abilities. Motivation and learning may also directly translate into improvements in graduation rates. Secondly, transformational instructor-leadership is associated with perceptions of instructor credibility and student satisfaction, which are especially important for universities because instructor credibility and student satisfaction can directly improve a HEI’s marketability to students. For instance, many students report on their satisfaction and professor’s credibility on increasingly popular websites such as ratemyprofessors.com. To create a staff of transformational instructor-leaders, HEIs need to focus on training.

The training of instructor-leadership can be described in four phases, including assessment, design, implementation, and evaluation (DeSimone & Werner, 2006). In the *needs assessment* phase, teaching performance gaps can be identified using student feedback questionnaires, discussions with heads of departments, and/or the use of trained observers. Once a teaching performance gap has been identified, the program can be *designed* and *implemented* by following key activities. First, objectives should be set and these can be based on transformational instructor-leadership behaviors identified in survey measures. Second, the trainer or vendor can be selected by using an institution’s own staff and/or external trainers. Third, training methods and media can comprise of discussion method and behavior role
modeling. For behavior role modeling the use of both positive and negative role models can be useful for training transformational instructor-leadership behaviors and changing ineffective behaviors. Fourth, the training program should be scheduled in the form of modules for each dimension of leadership. A modular design is intuitive, efficiently uses resources, and does not stretch instructors beyond their capabilities. For the design and implementation phase, the MLQ can be used to develop the training program (see Avolio & Bass, 2004). After design and implementation, the final phase is the evaluation of the training program for which Kirkpatrick’s (2004) model can be used to judge trainees’ reaction, learning, behavior, and results.

Conclusion

Transformational instructor-leadership is a concept that is receiving increasing attention in recent times. The present meta-analytic review supports the notion that transformational leadership theory can be useful in HEI course teaching. Specifically, transformational instructor-leadership is positively associated with students’ motivation, perceptions of instructor credibility, satisfaction, academic performance, affective learning, and cognitive learning. The present study extends previous transformational leadership research by (a) uncovering the importance of novel moderators and (b) showing that a single construct of transformational leadership masks differences between each leadership dimension and specific outcomes. The present study also highlights numerous ways that future research can enhance our understanding of how transformational leadership works in the HEI course context. Notwithstanding the need for further improvements in researching transformational instructor-leadership, HEIs should consider training transformational instructor-leaders. After all, the findings suggest that transformational instructor-leaders may indeed turn ordinary students into extraordinary students (Anding, 2005).
References marked with an asterisk are included in the meta-analysis.


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