

Components of Transformational and Transactional Leadership: Predicting Academic Performance Beyond and Below Expectations

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This study investigates the combined effects of transformational and transactional leadership on higher-education students' performance both beyond and below students' historic scholastic achievement. Instructors' intellectual stimulation behaviors, a component of transformational leadership, and their preemptive corrective oversight in the form of management by exception active, a component of transactional leadership, are correlated with grades students earned in a course. Findings suggest that beyond a student's near-past academic performance, an instructor's transformational and transactional behaviors influence a student's performance in a class either positively or negatively, respectively. Instructors' transformational and transactional leader behaviors also had opposing effects on grades after controlling for near-past academic performance. These findings underscore the need for instructors to engage in a combination of transformational and transactional leadership behaviors to support students' pursuit of high academic achievement.

Transformational leadership plays a role in both employee motivation and satisfaction (Jiang et al., 2015; Schmitt et al., 2016), and in organizational development (Brewer et al., 2016; Hamstra et al., 2014; Kovjanic et al., 2013; Noruzy et al., 2013; Weng et al., 2015). Early leadership research suggested that leadership effectiveness is partially a function of context, but that transformational leadership alters the environment, creating a positive experience that enhances subordinates' outcomes (Bass et al., 1987). Transformational leaders are development-oriented regarding change, and they recognize the importance of the exchange relationship between leaders and subordinates; a leader's ability to focus on an individual subordinate's development enhances performance and leads to individual and organizational growth (Burns, 1978). Such leaders "integrate creative insight, persistence and energy, intuition and sensitivity to the needs of others" (Bass & Avolio, 1993, p. 112).

Transactional leadership behaviors define tasks that focus on achieving management goals by providing or withholding rewards (Conger, 1999); it maintains the status quo and represents "an exchange process between leaders and followers, whereby followers reap immediate, tangible rewards for carrying out the leader's orders" (Locke, 1999, p. 5). Clarifying leaders' and followers' responsibilities, setting clear goals, and providing rewards for meeting performance expectations characterize such leadership (Bass, 1999). Transactional leaders ultimately "develop exchanges or agreements with their

followers, pointing out what the followers will receive if they do something right as well as wrong" (Bass & Avolio, 1993, p. 112). Transactional leadership's positive outcomes, such as satisfaction and performance of organizational members, were common topics in early leadership research (Hunt & Schuler, 1976). More recently, with the rise of a new type of independent and challenging workforce, transactional leadership is characterized as having negative influences on employees (Dumdum et al., 2013).

The effects of transformational and transactional leader behaviors have been investigated in classroom contexts, suggesting that they influence student outcomes similarly to how they influence employees. Instructors' transformational leadership behaviors enhance students' cognitive and affective learning (Harrison, 2011) and engagement (Leithwood & Jantzi, 2000). Transactional leader behaviors in the classroom were originally hypothesized to improve the learning environment (Kotter, 1996), but more recently, such leadership was found to influence student satisfaction and the effectiveness of the student experience negatively due to searching for mistakes and deviations, and enforcement of university rules, associated with transactional behaviors (Barbuto et al., 2011).

Transformational and transactional leadership styles have been characterized as both antagonistic (Burns, 1978; Felfe & Schyns, 2004) and complementary (Bass, 1985; Day et al., 2016), though that interplay is negative;

transformational leader behaviors, such as intellectual stimulation, correlate more positively with employee performance when transactional behaviors, such as contingent rewards, are low (Vecchio et al., 2008). Thus, transformational and transactional leadership “are orthogonal constructs that can exist alongside each other” (Jia et al., 2018, p. 9). In the classroom, this interplay suggests that transformational leadership relates to student progress in intrinsic outcomes, such as motivation, satisfaction, and both cognitive and affective learning (Balwant, 2016), and transactional leadership accounts for academic outcomes and completing tasks (Jung & Avolio, 2000; Robinson et al., 2008). The current study suggests that given the rise of a new type of ethnically and racially diverse, achievement-oriented, tech-savvy, time-stressed population of students who value mental health and wellbeing (Mintz, 2019), transformational leadership enhances, and transactional leadership diminishes, student performance.

Studies of education leadership continue to evolve, but early research in higher education focused on schools’ senior managers, with limited research on the role that instructors and professors play (Macfarlane, 2011). The relationship between instructors’ transformational and transactional leadership in colleges and student outcomes is thus understudied, which is surprising because research suggests that a student’s relationship with an instructor is fundamental to the student’s happiness (Schiller & Hinton, 2015), and because a growing body of research suggests that happiness and wellbeing correlate with students’ academic achievement (Okun et al., 2009; Karwacinski, 2017; Kryza-Lacombe et al., 2019).

A recent meta-analysis that explores the link between instructors’ transformational leadership and student outcomes assesses academic performance measured by grade point average (GPA), but it includes only one study that measures GPA directly, and it uses academic performance to explain the effects of an instructor’s transformational leadership style on student motivation, rather than GPA (Balwant, 2016). Few studies focus on the influence of an instructor’s transactional leadership style and student performance, though one unpublished study conducted among Thai students found no association between instructors’ leadership style—transformational or transactional—and students’ GPAs (Srimanee et al., 2015).

This study addresses this gap by investigating the combined effects of transformational and transactional leadership components on student performance, measured using GPA. Instructors’ intellectual stimulation, a component of transformational leadership, and their corrective oversight, a component of transactional leadership called management by exception active, were correlated with students’ GPAs. We focus on these two components of leadership because they link directly with student performance; intellectual stimulation encourages students to perform by promoting rationality and problem-solving skills (Bass, 1985), and management by exception active tracks performance since leaders who engage in the behavior vigilantly monitor performance and correct devia-

tions as they arise (Willis et al., 2017). Findings suggest that these leader behaviors have opposing effects on grades, even after controlling for near-past academic performance. Instructors’ intellectual stimulation correlated positively with course grade, and management by exception correlated negatively with the same grades.

This paper makes two contributions to the discussion on outcomes of instructors’ leadership. First, by exploring the influence of transactional and transformational leader behaviors of the same instructor on student performance, we advance understanding of what constitutes effective classroom leadership. The study suggests that transformational and transactional leadership behaviors must be examined simultaneously, since it is possible that the intensity of an instructor’s transactional behaviors might cancel the positive effects of transformational behaviors on students’ GPA. Examining such behaviors separately can distort the influence of an instructor’s leadership style on student performance, and it limits opportunities to leverage instructors’ leadership behaviors to enhance student wellbeing. Second, students who performed well scholastically in the past are expected to perform well in the future due to enhanced self-efficacy and thus a heightened belief in their ability to achieve a desired grade. Nevertheless, this study suggests that an instructor’s leadership affects a student’s current performance independent of past performance. High past GPAs correlate positively with current grades in a course, but evidence suggests that the current performance of students with high, near-past GPAs is affected directly by instructors’ leadership behaviors, and thus students can perform beyond or below the expectations that past grades would suggest. These findings suggest that instructors’ leadership behaviors represent more than simply habits or approaches to teaching and learning; they alter learners’ sensibilities (Karimi et al., 2023) in ways that increase or decrease scholastic performance by stimulating intellects and focusing on performance exceptions, respectively.

Literature Review

Leadership research commonly restricts leaders and followers to traditional contexts through which followers are led, including those found in corporations (Behie et al., 2023) and the military (Abdurachman et al., 2023). Leadership behaviors between instructors and students as predictors of scholastic performance have been given less attention (cf. Jacques et al., 2012), with learning theories dominating in this context (Sobhaninejad, 2023; Zawacki-Richter & Jung, 2023). However, stimulating intellects and tracking deviations from expected performance are behaviors that instructors and leaders share, suggesting that the behaviors in which instructors engage represent leadership, or the process that occurs at the nexus of a leader, some followers, and a situation (Sumardi & Efendi, 2017). Hughes et al.’s (2009) interactional framework suggests that leaders represent personality, position, and expertise, followers represent values, norms, and cohesiveness, and situations represent tasks, stress, and the environment. Together, these three comprise the process

of leadership. We argue that in any learning environment, instructors are leaders, students are followers, and learning is the situation through which the former leads the latter. However, the framework is general, and a question remains regarding which type of leadership, among the many that the literature discusses, is best for learning.

Transformational leadership reflects five behaviors—idealized attributes, idealized behaviors, individualized consideration, intellectual stimulation, and inspirational motivation (Bass, 1985; Judge & Piccolo, 2004)—which parallel charismatic leadership behaviors. Charismatic leaders are perceived as dynamic, confident, competent, and successful. Individualized consideration in leadership refers to the ability to customize interactions with subordinates based on individual capabilities and the circumstances, and intellectual stimulation challenges followers to rethink prior beliefs, positions, and ideas, and question concepts in new ways (Bass, 1985; Seltzer & Bass, 1990). Inspirational motivation means articulating a vision that appeals to and inspires followers (Judge & Piccolo, 2004). Transformational leadership empowers followers, and when such leaders and followers work together, followers' motivation and morale increase, along with their performance, through redesigned perceptions, values, expectations, and aspirations (Burns, 1978; Owen, 2014). Transformational leadership has a positive influence on followers' job satisfaction, satisfaction with the leader, employee motivation, and perceived leader effectiveness (Judge & Piccolo, 2004). Thus, transformational leadership has overall positive effects on followers (Humphrey, 2012).

Transactional leadership comprises three components—contingent reward and both passive and active management by exception (Judge & Piccolo, 2004). Contingent reward concerns the specification of goals, assessment of outcomes, and rewards that correspond to performance (Bass, 1999). Management by exception passive entails corrective actions after problems have occurred, and management by exception active requires managers to anticipate and correct problems associated with subordinates' performance deviations from expected standards, which might have otherwise caused mistakes (Judge & Piccolo, 2004; Jung & Avolio, 1999). Of the three transactional leadership components, contingent reward correlates positively and both types of management by exception (i.e., passive and active) correlate negatively with various organizational outcomes (Lowe et al., 1996). If leaders and subordinates are likened to instructors and students, these findings should hold regarding transformational and transactional leadership in college (Owen, 2014). Both leadership styles influence student satisfaction and learning outcomes (Bogler et al., 2013), including a school's academic performance (Day et al., 2016).

Transformational Leadership and Student Performance

Organizational leadership theories have been assessed in the classroom (Baba & Ace, 1989; Cheng, 1994; Harvey et al., 2003; Pounder, 2008; Walumbwa et al., 2004),

but the relationship between intellectual stimulation from transformational teachers and students' course grades remains understudied, with extant literature containing limited references to instructors as leaders. Transformational leadership is based on influencing learners, inspiring motivation of a future vision, intellectually stimulating independent and creative thought, and considering students' individual learning needs (Bass, 1999). Research suggests that the quality of student-instructor relationships associates with positive student outcomes such as efficacy, social connectedness with peers, expectancies, and academic performance (Deale et al., 2006). Transformational leadership behaviors, such as individualized communication and development of one-on-one student-instructor relationships, contribute positively to student academic performance and success (Jacques et al., 2012). The time that transformational leaders dedicate to developing students and the timing of transformational experiences also appear to influence student outcomes (Bean & Kroth, 2013).

Intellectual stimulation allows transformational instructors to challenge and empower students to analyze long-term embedded beliefs and reframe them from a perspective of academic learning, significantly increasing student involvement in learning (Harvey et al., 2003). Students' view of transformational leaders as credible and trustworthy helps them reframe new learning concepts and allows them to rethink preconceived notions and expand on past positions and beliefs (Myers & Bryant, 2004). Transformational leadership also associates positively with other student outcomes, such as cognitive learning (e.g., information retention), affective learning (e.g., feelings and emotions), motivation to learn (e.g., linking classroom concepts to lifelong learning), and communication satisfaction (e.g., articulating communication expectations; Bolkan & Goodboy, 2009).

The positive influence of transformational leadership on student outcomes holds across cultural boundaries. Traditionally, studies of classroom transformational leadership focus on student learning perceptions based on three outcome variables—learning effort, satisfaction with the instructor, and perceptions of teaching effectiveness (Harvey et al., 2003; Pounder, 2008; Walumbwa et al., 2004). A study of Hong Kong students suggests that transformational leadership influences all three outcomes positively (Pounder, 2008). The positive effects of transformational leadership in the classroom were also apparent in a meta-analysis that assessed studies from Canada, Australia, England, Israel, the Netherlands, New Zealand, and Singapore (Robinson et al., 2008). We argue that intellectual stimulation is particularly potent in learning environments, where students must escape their comfort zones, accept new information as truth, and rethink their convictions so that critical thinking and creativity, and thus learning, can occur. McCauley and Yost (2021) argue that "by taking individuals to the edge of their comfort zone, these experiences offer both the opportunity and the necessity to learn" (p. 204). Unlike the other com-

ponents of transformational leadership (i.e., idealized attributes, idealized behaviors, individualized consideration, and inspirational motivation), intellectual stimulation has the greatest potential to encourage positive student involvement in learning (Harvey et al., 2003). Uusi-Kakkuri et al. (2016) found that young innovative students' preference for transformational leadership is driven by intellectual stimulation, reflecting instructor behaviors that encourage students to challenge themselves and question deep-rooted ideas, and that associates with students' extra effort and rethinking of core values and beliefs (Owen, 2014). Transformational leadership behaviors push followers' performance beyond expectations (Bass, 1985), and since it challenges followers to conceptualize, comprehend, and analyze problems in new ways (Bass, 1990), influenced by an instructor's intellectual stimulation, students perform beyond expectations to complete tasks and achieve higher grades. In a study of Indian engineering students, Shiva Prasad (2011) found that teachers' transformational leadership, including intellectual stimulation, associates positively with students' cumulative GPAs. Therefore:

H1a: An instructor's intellectual stimulation correlates positively with a student's course grade.

Transactional Leadership and Student Performance

Transactional leadership in education has attracted some criticism as "too readily having the potential for 'facades of orderly purposefulness', 'doing things right rather than doing the right thing', 'building in canvas', or 'procedural illusions of effectiveness'" (Mulford & Silins, 2003, p. 191). Research suggests that young (e.g., 18–30 years), creative students (where creativity proxies the degree of and attitudes toward innovation and willingness to change) regard transactional leadership, such as management by exception, as unwelcome behaviors (Uusi-Kakkuri et al., 2016, p. 552), and that transactional leadership environments are unsuitable when creativity and teamwork cohesion, as essential characteristics of successful student performance, are expected (Kohtamäki, 2013). Both active and passive management by exception do not correlate with student resilience, a coping mechanism developed when experiencing and overcoming stressful situations (Harland et al., 2005). Passive management by exception associates negatively with students' extrinsic motivation for learning (Barnett et al., 2001), and active management by exception similarly correlates negatively with student motivation (Asimadi, 2013).

Students do not perceive that transactional leadership increases learning, viewing instructors as more effective when they are transformational rather than transactional (Walumbwa et al., 2004). Management by exception active behaviors identify and correct errors, increasing students' extra effort. However, searching for mistakes and deviations, combined with enforcement of university rules, affects students' satisfaction and effectiveness negatively (Barbuto et al., 2011). Such behaviors also associate with increased frustrations (Lowe et al., 1996). In-

structors' transactional leadership provides little room for students to challenge themselves and think critically to enhance learning, and it makes students feel corrected, guided closely, and stifled from thinking creatively (Walumbwa et al., 2004). Research suggests that searching for stable, corrective, authoritative knowledge, typically associated with a transactional instructor, is detrimental to students' performance, and students with higher GPAs reject such notions (Wielkiewicz et al., 2005).

When followers do not expect active management by exception from their leaders, satisfaction with work and attitudes toward their leaders are affected negatively (Ivey & Kline, 2010). Management by exception is based more commonly on negative rather than positive reinforcement with contingent rewards, focusing on reaching desired outcomes on the leader's own agenda, rather than on followers' needs and personal development (Cote, 2017). It is thus unsurprising that transactional leadership, associated with provision of negative feedback, fails to produce optimal student performance and diminishes learning motivation (Walumbwa et al., 2004). Consistently reprimanding followers, a behavior associated with active management by exception, fosters follower hostility, effort reduction, and subpar performance (Howell & Hall-Merenda, 1999). We thus argue that as a component of transactional leadership, management by exception active reduces students' perceptions that an instructor is concerned about students' learning, and instead that the instructor is preoccupied with standards, records, and the status quo, external to students and their learning. The focus is on recording past performance, rather than on future learning, which is especially true when instructors and students hold disparate views on what constitutes an exception (Lewis, 1976). The other components of transactional leadership (i.e., management by exception passive and contingent reward) certainly can be expected to influence student learning. However, passive management is less salient to students because passive behaviors cannot be observed until deviations from standards sink below an instructor's threshold. If standards never cross the threshold, such behaviors cannot be observed or corrected (Hasija et al., 2019). Contingent rewards during instruction are typically laid out prior to learning, especially in syllabi. In such documents, students learn about the purpose of a course, its requirements, and what measures will be used to gauge performance. In higher education, contingent reward rarely deviates from such syllabi because learning is transient, lasting only a few months and typically fewer than 50 hours of total instruction in a course. Contingent reward in the classroom is stable during short semesters, which leave little time for major deviations from performance-reward contracts that syllabi suggest (Parkes & Harris, 2002). We thus argue that management by exception active is the most salient and potent component of transactional leadership in higher education.

Recent research suggests that the association between management by exception active and student course grade is negative. Influenced by an instructor's transactional

style, students perform below expectations at completing tasks, thus achieving lower grades. Although aspects of transactional leadership have been linked to some positive student outcomes for early millennial students (i.e., born 1982–1986) who are in many respects more similar to late Gen X (i.e., 1975–1981) than late millennials (i.e., 1987–2003; Kowske et al., 2010), we argue that with the more recent rise of late millennial students, who are socially conscious, open and eager, tech-savvy, pressured to succeed, and who learn best by discovery (Markulis et al., 2011), transactional leadership is increasingly ineffective as an instructional leadership style. Stasio (2013) describes millennials as “engaged, empowered, and entitled” (p. 35), arguing that a millennial student “learns differently from the way that older instructors teach” (p. 36). A disconnect thus exists between the way millennial students learn and the teaching methods used in higher education; students are learning what they want to learn rather than what teachers want them to learn (Stasio, 2013). To reduce this gap, Stasio (2013) proposes a model of classroom experience based on active rather than passive learning—that is, student- rather than teacher-centered—and that focuses on synthesis and evaluation instead of knowledge, comprehension, and application, during which the teacher is no longer a judge but during which students have opportunities for self, peer, and authentic evaluation. We argue that creation of such classroom experiences requires transformational methods, and that transactional behaviors are detrimental. Therefore:

H1b: An instructor’s management by exception active behaviors correlate negatively with a student’s course grade.

Near-Past Performance and Current Grade

Personal academic beliefs correlate with early perceptions of academic performance, predicting students’ future academic performance (Jacques et al., 2012); students who have done well in recent classes are likely to continue to do well. Therefore, a student’s past performance is a powerful predictor of a current grade. The mechanism by which this occurs is rooted in the ability of past performance to affect an individual’s self-efficacy, or beliefs regarding the ability to succeed and achieve a desired degree of performance, which in turn affects current performance (Bandura, 1992). A meta-analysis corroborated the significance of past performance on self-efficacy, suggesting that current performance disparities between people with high and low self-efficacy are a result of high self-efficacy individuals having been successful in the past (Sitzmann & Yeo, 2013). Therefore:

H2: A student’s near-past performance correlates positively with his/her course grade.

Instructor’s Leadership After Controlling for Near-Past Performance

Research suggests that leadership contributes to an individual’s performance independent of past performance; a tenet of transformational leadership is that it encourages

individuals to perform beyond expectations (Bass, 1985). The predictive power of transformational leadership regarding follower performance has been found in meta-analyses (Wang et al., 2011), and the positive effect holds across diverse research contexts (Mujkic & Softic, 2019), even after controlling for individual factors such as a follower’s personality, effort, age, and gender (Kammerhoff et al., 2019). A leader’s intellectually stimulating behaviors encourage followers to think differently about problems, thus encouraging them to challenge the status quo and the ways they completed tasks in the past. Past performance is thus no longer the standard by which future performance is judged, raising followers to a new understanding of performance and how to perceive what is acceptable and what is exceptional. Followers are responsible for determining the standards by which to judge their own performance, making leaders out of followers (Bader et al., 2023). For students led by a transformational instructor, past performance such as GPA is not the standard by which they should judge performance. Instead, the focus is on exceeding standards, facilitated by the leader’s intellectually stimulating behaviors. Therefore:

H3a: An instructor’s intellectual stimulation behaviors correlate positively with a student’s course grade after controlling for the student’s near-past performance.

Conversely, transactional leadership focuses heavily on the past, treating past performance as the standard by which to judge current performance. Management by exception active particularly sets the standards, determined in the past, that followers must meet, not exceed, and thus followers’ performance is judged using a past metric (Jacobsen et al., 2022). The transactional leader determines the past metrics to be met, leaving followers little control over what represents acceptable performance. Under a management by exception active leader, followers are not encouraged to exceed standards, causing frustrations for those who cannot meet standards and those who can exceed them. For students led by a transactional instructor, past performance represents a dominant standard to meet. The leader focuses on meeting minimum standards, such as passing the course or getting a certain grade on a test. A numerical reward, such as a grade, is commonly the standard to meet, ignoring other aspects to learning such as personal achievement or readiness for future employment. Therefore:

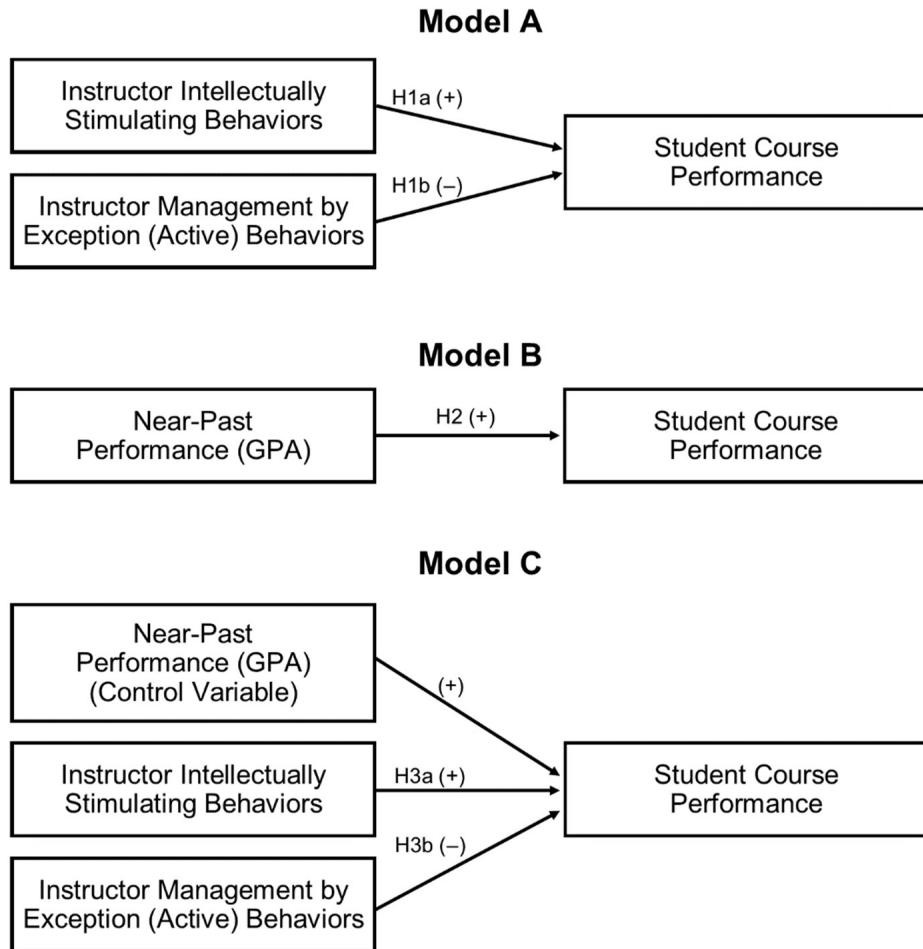
H3b: An instructor’s management by exception active behaviors correlate negatively with a student’s course grade after controlling for the student’s near-past performance.

Methods

The model suggested by the hypotheses appears in Figure 1, which shows the three models tested to demonstrate the importance of two leadership behaviors to a student’s academic outcome in a course, after near-past performance’s variability is removed from that outcome (i.e.,

Figure 1

A Model of Instructors' Intellectually Stimulating and Management by Exception Active Behaviors as Predictors of Students' Course Performance



grade). Model A suggests that an instructor's intellectually stimulating leader behaviors correlate positively with students' course performance, and that an instructor's management by exception active leader behaviors correlate negatively with students' course performance. Model B suggests that near-past performance in coursework correlates positively with students' current course performance, and Model C suggests that although near-past performance correlates positively with current course performance (Model B), the relationships suggested by Model A remain demonstrable.

Participants

Three-hundred twenty-one management students enrolled in 25 sections of 18 courses at a mid-sized, comprehensive, regional university located on the east coast of the United States participated in the study. One-hundred ninety-eight of the participants were male (62%) and 120 were female (37%). Three participants did not report their gender (1%). The average age of the participants was

24.53 years ($SD=9.03$). Five participants did not report their age (2%). The leaders rated by the participants consisted of 7 male and 6 female course instructors.

Measures

The multifactor leadership questionnaire (MLQ) is a common instrument when surveying leaders' transactional and transformational behaviors (Avolio & Bass, 2004; Bass & Avolio, 1995). The instrument has been translated into many languages and has been used by both researchers and practitioners worldwide. Five transformational, three transactional, one laissez-faire, and three outcome scales are included in the MLQ. The outcome criteria included in the MLQ are followers' extra effort, effectiveness of a leader's behavior, and followers' satisfaction with their respective leaders. The MLQ has been used in both workplace and academia, and it was chosen for this study based on its instrumental validity and reliability (Rowold, 2005).

Intellectual stimulation was measured using 4 items

from the MLQ (Bass & Avolio, 1995), rated on a Likert-type scale that ranged from “not at all” (zero) to “frequently, if not always” (4). These items focus on reexamining critical assumptions, seeking different perspectives for problem-solving, encouraging assessment of problems from various viewpoints, and suggesting new ways to accomplish assignments. A sample item for intellectual stimulation is “[The person I am rating] seeks differing perspectives when solving problems.” Management by exception active was measured using 4 items from the MLQ. These items ask raters to evaluate whether their instructor focused on mistakes, exceptions, and deviations, if complaints and failures were the primary concentration, if the instructor tracked mistakes, and if attention was directed toward an inability to adhere to standards provided by the instructor. A sample item for management by exception active is “[The person I am rating] focuses attention on irregularities, mistakes, exceptions, and deviations from standards.” Both course grade and GPA were collected by petitioning the university’s registrar for each participant’s grade received in his/her respective course for which he/she rated a professor, and for participants’ cumulative GPAs prior to completion of the course. Course grades and cumulative GPAs ranged from 0.00 (F) to 4.00 (A).

Procedures

Near the end of the semester, participants completed and returned a survey to assess an instructor’s leadership regarding intellectual stimulation and management by exception active. Since multiple items were collected for each variable, means of the items were calculated to estimate leadership constructs. Data were analyzed using statistical software to calculate means, standard deviations, and reliabilities for each construct. Multiple regression was used to obtain standardized betas, F-statistics, and squared (multiple) correlations to test each hypothesis. Means, standard deviations, correlations, and reliabilities appear in the Table 1.

Results

Results appear in Figure 2. All effect sizes reported in the Figure and discussed below are standardized. H1a was supported, with intellectual stimulation correlating posi-

tively with course grade ($\beta=0.22$, $p<0.001$). H1b was supported, with management by exception active correlating negatively with course grade ($\beta=-0.20$, $p<0.001$). GPA correlated positively with course grade ($\beta=0.72$, $p<0.001$) in support of H2. When the variation of near-past performance was controlled for, intellectual stimulation correlated positively with course grade, supporting H3a ($\beta=0.15$, $p<0.001$). Similarly, when the variation of near-past performance was controlled for, H3b was supported, with management by exception active correlating negatively with course grade ($\beta=-0.08$, $p<0.05$). Squared (multiple) correlations for the endogenous variables were 0.10, 0.51, and 0.54 for Models A, B, and C, respectively.

We conducted an exploratory factor analysis (i.e., principal component analysis) to report the factor loadings associated with each item in the intellectual stimulation and management by exception active scales. We used varimax, orthogonal rotation and set eigenvalues to 1 to allow free discovery of the number of factors in the data (Jackson, 2014). Results appear in Table 2. As expected, two factors emerged during analysis, with items for intellectual stimulation comprising a first factor and those for management by exception active comprising a second. No cross-loadings were greater than 0.4, suggesting that the two factors are demonstrable in the data (Fabrigar & Wegener, 2011).

Discussion

Research provides little evidence regarding how transformational leadership affects student learning. The positive influence of intellectual stimulation on students’ academic performance suggests that management and organizational behavior concepts are relevant to and operate in classrooms concerning learning and student assessment. Management by exception active similarly correlates negatively with students’ academic performance, defined as GPA. Leadership constructs are not commonly used as predictors of student performance, but based on findings from this study, leadership appears to contribute to students’ academic success. Instructors commonly use transactional practices in teaching to correct errors and guide performance (Stasio, 2013). We argue that such practices are detrimental to student performance and wellbeing,

Table 1

Means, Standard Deviations, and Correlations

Variable	Mean	SD	1	2	3	4
1. GPA	3.00	0.60	— ^a			
2. Intellectual stimulation	3.73	0.62	0.11*	(0.75)		
3. MBEA	2.78	0.70	-0.19**	-0.09	(0.63)	
4. Course grade	2.74	1.08	0.72**	0.24**	-0.22**	— ^a

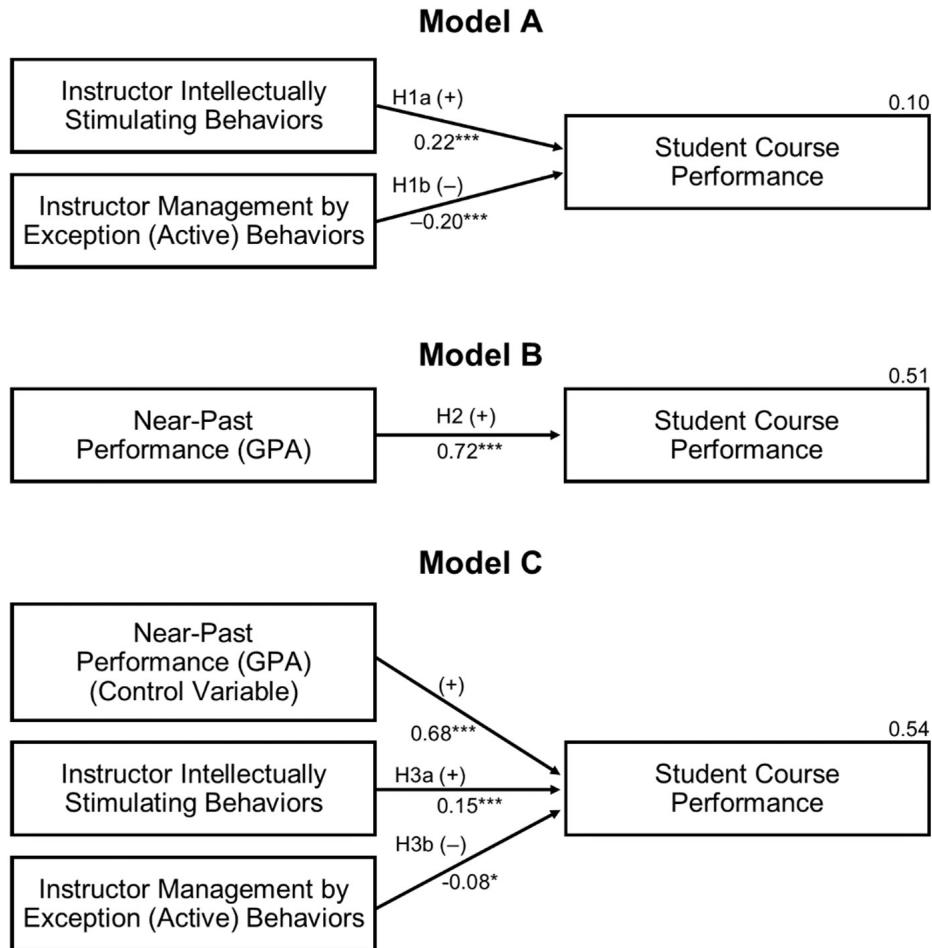
Note. Cronbach’s alpha coefficients shown along the diagonal; GPA=grade point average; MBEA=management by exception active;

* $p<0.05$. ** $p<0.01$.

^a $p<0.05$.

Figure 2

Results for Three Models of Leadership, Student Near-Past Performance, and Student Course Performance in Higher Education



Note. Standardized regression weights shown under each hypothesis. Squared (multiple) correlations shown above each endogenous variable. * $p<0.05$. *** $p<0.001$.

which are enhanced by transformational methods. These findings hold even after controlling for near-past performance, suggesting that intellectual stimulation and management by exception active predict a student's grades beyond the student's past performance.

This finding is significant because professors are commonly immune to changing educational values and assumptions, continuing to approach teaching in a style characterized by active management by exception, such as testing correction methods, negative feedback on assignments, and comments that underscore student's errors and learning gaps. They function within the behaviorist paradigm, in which transferring knowledge from teacher to students, conveying facts that exist outside of students' reality, expecting memorization of facts, and lecturing

and extrinsic reinforcement represent the prevailing idiom (Wisniewski, 2010). Such transactional practices still play a role in contemporary education, but knowing that intellectual stimulation increases student performance challenges instructors to consider using greater transformational methods in the classroom to improve students' experiences and outcomes. The strength of this correlation might inspire faculty to engage in more transformational practices, and institutions to offer faculty members workshops and training on developing transformational pedagogical approaches to elevate teaching effectiveness.

Emphasis on intellectual stimulation in the classroom lends itself to many activities that stimulate creativity, which might involve more simulations, games, classroom learning challenges, debates that challenge participants to

Table 2

Results of an Exploratory Factor Analysis of Intellectual Stimulation and Management by Exception Active Scales

Items	Factor	
	1	2
Int. Stim.	0.746	
Int. Stim.	0.719	
Int. Stim.	0.719	
Int. Stim.	0.696	
Int. Stim.	0.632	
MBEA		0.757
MBEA		0.700
MBEA		0.636
MBEA		0.635

Note. Int. Stim.=intellectual stimulation; MBEA=management by exception active. Extraction method was principal component analysis. Rotation method was varimax with Kaiser Normalization. Rotation converged in 3 iterations. Coefficients sorted by size, and those with absolute values less than 0.400 are suppressed.

understand opposing viewpoints, and journaling assignments that allow students to express observations and identify new patterns and ways to solve problems. Such dynamism triggers student curiosity toward problem-solving by encouraging thinking critically about multiple solutions to problems. Regarding practice, the positive influence of intellectual stimulation on course grades suggests that if instructors engage in such stimulation, and other transformational classroom behaviors, a teaching cultural change would help students redesign knowledge acquired. This suggests two questions—whether enhancement in student learning due to transformational methods increases student effort, satisfaction, and perceptions of teacher effectiveness, and if so, whether it influences student performance from both engagement and assessment perspectives.

Intellectual stimulation is only one component of transformational leadership; more research is needed on the topic of how it and other transformational methods influence students' assessment and learning positively. Engaging in transformational practices in the classroom requires rethinking learning and instruction regarding the way student and instructor involvement in learning stimulates students' curiosity, elevates engagement and assessment scores, improves wellbeing, and enhances learning experiences and academic success.

Limitations and Future Research

The sample consisted of students from one department in a single university. Enrollment in the courses was primarily business majors, and thus this study did not consider students enrolled in other majors. Leadership data were collected only from students. Factors such as gender, culture, age, and enrollment status (e.g., full versus part time) were not assessed, though they might influence per-

ceptions of leader behaviors (Deale et al., 2006). As expected, the average age of the participants was low (i.e., 24.53), since they were college students. We therefore recommend that results regarding leadership and learning be interpreted with caution because we cannot suggest that the relationship applies to older students or contexts outside of education.

Since both intellectual stimulation and near-past performance correlated positively with students' course grades, future research should identify the mechanisms by which these factors influence grades and what other factors contribute positively to academic performance. Research should examine interactions of transformational and transactional leadership on students' academic performance, a largely understudied area, and whether instructors' and students' genders influence these interactions. Transformational leader behaviors bode well for successful performance and collaboration in interactive virtual contexts (Harrison, 2011). Given today's massive shift in online education and the associated challenges for international students, testing the relationships in this study in online and cross-cultural environments would extend the discussion on effective leadership in the classroom.

This study focuses on intellectual stimulation and management by exception active as transformational and transactional leadership dimensions, respectively, but other components of these leadership behaviors should be assessed to determine their associations with students' academic performance. Research should also separate transformational leadership from affect toward a professor. Student affinities due to charisma collaboration, bonding, and other traits should be examined when they correlate with transformational leadership styles to suggest whether and why transformational leadership contributes positively to academic grades.

Interactions among leadership dimensions might also predict student outcomes. For example, instructors who are charismatic and open attract more affect, thereby creating a contagion effect of liking across the classroom. Such contagions might influence what classes students take and which instructors they prefer, introducing pre-conceptions of an instructor's likeability and effectiveness to students before classes begin. Little research has been conducted that assesses the role students' prior knowledge of instructors garnered from other students plays in assessment of instructors and a student's willingness to engage in extra effort in a class. Research should delineate these concepts to assess the influences transformational and transactional leadership styles have on academic performance.

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