

UNDERSTANDING MANAGERIAL DEVELOPMENT: INTEGRATING DEVELOPMENTAL ASSIGNMENTS, LEARNING ORIENTATION, AND ACCESS TO DEVELOPMENTAL OPPORTUNITIES IN PREDICTING MANAGERIAL COMPETENCIES

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Integrating the work experience, leadership development, and learning literatures, we developed and tested a model of managerial development linking experience in highly developmental assignments, a learning goal orientation, and access to developmental assignments. Based on multisource data on early-career managers, our results demonstrate that the developmental quality of managerial assignments has a positive association with end-state competencies that exceeds the association explained by tenure. Furthermore, we found that managers with stronger learning orientations, especially those with access to growth assignments, were more likely to be in developmental assignments and achieve higher levels of competence based on those experiences.

In an era of rapid change and complexity, the need for developing managerial talent is increasingly evident (e.g., Day, Harrison, & Halpin, 2009). Today's managers must successfully adapt to changing demands and situations, manage multiple lateral relationships, set and implement agendas, and cope with stress and uncertainty. Increasing evidence suggests that managers learn critical competencies through their work experiences (McCauley, Ruderman, Ohlott, & Morrow, 1994). In fact, a number of researchers have argued that the experiences that occur in the context of a manager's job assignments are the primary vehicle for learning (e.g., McCall, Lombardo, & Morrison, 1988), and many organizations now actively utilize job assignments to groom their managers with high potential for advancement for leadership roles (Day, 2007).

Despite the potentially important role of job assignments in the management development process (McCall et al., 1988; McCauley et al., 1994), there is no well-developed and empirically sup-

ported theory on management development, defined here as the process by which individuals pursuing managerial roles learn the interrelated sets of skills and abilities (i.e., competencies) necessary for effectiveness. Although a few studies have examined the relationship between job assignments and self-reported learning (e.g., Brutus, Ruderman, Ohlott, & McCauley, 2000), none have examined whether developmental job assignments are actually associated with the observable and meaningful development of managerial competencies critical for effective performance. In going beyond associating developmental assignments with self-reported learning by demonstrating that developmental assignments are related to the enhancement of competencies that are essential for managerial work, we address a key theoretical concern for leadership development theorists who have called for greater understanding of and evidence on how developmental assignments translate into actual behavior-based "end-state" outcomes such as managerial competencies (Avolio, 2007; Day et al., 2009; Lord & Hall, 2005). Additionally, despite earlier qualitative work and speculation by some theorists that qualities such as a manager's ability to learn and the supportiveness of her or his organi-

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zational context are important for understanding the effectiveness of highly developmental assignments (e.g., McCall et al., 1988; McCauley, 2001), almost no current theory incorporates individual differences in manager characteristics and contextual factors as potentially important “boundary conditions” (see Brutus et al. [2000] for an exception). The result is implicit, and perhaps faulty, assumptions that developmental assignments produce organizational leaders under all managerial and organizational conditions.

Accordingly, our first objective was to develop and test a model linking highly developmental job assignments to managerial end-state competencies. We did so by utilizing theory on work experience (Tesluk & Jacobs, 1998) that goes beyond traditional approaches of conceptualizing experience in terms of time in a job assignment (i.e., tenure) to one that simultaneously examines the developmental quality of a job assignment itself, and tenure. Here, we defined the *developmental quality* of a managerial job assignment as the degree to which it contains developmental dimensions that challenge and potentially broaden a manager’s current capabilities. Our second objective was to test two boundary conditions inherent in managers’ placement in and learning from highly developmental assignments. Applying a broader work experience approach (e.g., Tesluk & Jacobs, 1998) to management development theory, we examine managers’ learning goal orientation—that is, their preference for striving to learn in challenging situations—and their perceived access to developmental assignments. Further, we theoretically describe how these mechanisms operate to bound placement in and learning from developmental assignments. The result is a nuanced understanding of (1) the types of managers who actively seek out developmental job assignments, (2) the types of managers who learn the most from such experiences, and (3) what role organizational context plays in determining whether those who desire such assignments are able to obtain them.

THEORETICAL BACKGROUND AND HYPOTHESES

The Developmental Quality of Managerial Assignments

Considerable research, most of it qualitative, has explored the types of work experiences that contribute to the development of managerial skills and performance (Kotter, 1982; McCall et al., 1988). Despite this research, work in this area lacked an effective method for measuring managerial job assignments until McCauley and colleagues (1994)

offered the premise that certain job situations present managers with the challenge necessary to foster on-the-job learning and developed a measure to assess the developmental quality of managerial assignments.

The developmental quality of managerial job assignments is multidimensional and includes the features of managerial assignments that provide opportunities for learning new skills, behaviors, and perspectives. McCauley et al. (1994) identified ten dimensions, which they organized into general conceptual categories. The first dimension, *unfamiliar responsibilities*, refers to the degree to which a manager is expected to assume a set of new or different responsibilities, such as switching from line to staff or changing employers (McCall et al., 1988; Nicholson & West, 1988; Stewart, 1984). Unfamiliar responsibilities are developmental because they force managers to initiate new ways of coping with problems, reveal when existing approaches are inadequate, and frequently require managers to perform in front of new sets of peers, subordinates, and superiors, thereby providing challenge and motivating learning and adaptability (Ohlott, 2004).

The next three job assignment dimensions all involve creating and managing change. *Developing new directions* is the degree to which an assignment requires starting a new business unit, making strategic changes, implementing a reorganization, or reacting to a change in the business environment. *Inherited problems* is the extent to which the assignment requires addressing problems created by a predecessor. *Problems with employees* is the degree to which the new job incumbent must manage “direct reports” who lack experience, are incompetent, or are resistant. Creating and implementing changes such as these can help build the competencies necessary to lead change because managers’ roles and responsibilities are typically unstructured and ill-defined, yet there is a clear goal. This combination provides the freedom to innovate, motivates a willingness to try new approaches, reinforces particular successful responses, and indicates when a modified approach is needed (McCauley et al., 1994; Ohlott, 2004).

The following two dimensions represent the degree to which a job assignment involves high levels of responsibility. Specifically, *high stakes* is the degree to which the assignment involves significant responsibility through clear deadlines, pressure from senior management, high visibility, and responsibility for key, high-stake decisions. *Scale and scope* refers to the degree to which the assignment involves a wide breadth of significant responsibilities (e.g., large budgets, significant number of

people, diverse functions). These aspects of an assignment pose significant pressures that challenge and motivate managers to enhance their current capabilities and perspectives and provide a forum for making an impact (McCall et al., 1988; McCauley et al., 1994; Stewart, 1984). Some of the specific skills learned include developing resourcefulness in adapting to changing and ambiguous situations, thinking strategically, and building relationships with peers, employees, higher-level management, and external parties (Ohlott, 2004).

The next two dimensions involve the extent to which a job assignment requires its incumbent to manage interfaces with others. *Influencing without authority* is the extent to which the assignment requires a manager to gain cooperation from those over whom they have little formal authority, such as peers and higher-level management. *Handling external pressure* is the degree to which a job requires managing and responding to external factors that impact the business that employs the manager (e.g., having to coordinate with suppliers or contractors). Actively managing these interfaces can be developmental because it requires negotiation and influence skills to build collaborative relationships (McCall et al., 1988) and a shift in understanding that influencing laterally is just as important as directing subordinates (Hill, 1992).

The final two dimensions relate to managing diversity and emerged when we were refining the original taxonomy (C. D. McCauley, personal communication, October 1998). *Managing work group diversity* refers to the degree to which an assignment requires leading a diverse group or team of individuals, and the assignment dimension of *working across cultures* captures the extent of interaction with those from different cultural and/or ethnic backgrounds. Assignments that entail managing diversity require managers to work with and motivate various types of people and challenge the managers to develop an understanding of cross-cultural differences and diversity and improve their interpersonal adaptability (Spreitzer, McCall, & Mahoney, 1997).

Developmental quality is determined by the extent to which each of these dimensions is present in a particular managerial assignment. Assignments that are very low on many or most of these dimensions can be thought of as having little developmental quality, and those that are high on many or most of the dimensions are highly developmental. Often, when one developmental dimension is present in an assignment, others are as well, but this co-occurrence is not necessary. For example, an assignment that requires developing new directions may also involve an increase in the scope and

scale of the operations to be managed and require a great deal of lateral communication and coordination to bring about meaningful change (i.e., influencing without authority); however, the assignment may occur in a highly homogeneous organization and does not require the incumbent manager manage a diverse work group. To capture the breadth of how the developmental quality of an assignment may emerge while recognizing the possibility that in some circumstances, some dimensions emerge independently from others, it is most appropriate to characterize the developmental quality of a managerial assignment as an aggregate, additive representation of these ten developmental dimensions (cf. Law, Wong, & Mobley, 1998).

The developmental quality of managerial assignments affects managers' end-state competencies, which represent the knowledge and skills necessary for effective managerial behavior (McCall et al., 1988). Previous research has identified having broad business knowledge, the courage to take a stand, the ability to bring out the best in people, consistently acting with integrity, being insightful, and being committed to success as key end-state competencies that distinguish exceptional performers (Spreitzer et al., 1997). In keeping with this research, we conceptualize managers' end-state competencies as an aggregate of these six competencies.

There are several reasons why highly developmental managerial assignments are believed to augment managers' end-state competencies. First, these assignments provide greater opportunity to acquire new job knowledge and practice new skills in meaningful ways (e.g., Hill, 1992; Lord & Hall, 2005; Ohlott, 2004; Schmidt, Hunter, & Outerbridge, 1986). Because developmental job assignments are typically novel, present ambiguous situations, and/or provide increased exposure to different areas of a business or its people, the incumbents in these assignments experience a greater diversity of organizational stimuli, which enables them refine and augment their current knowledge set about the business they work in, how to work with others, and how to get work accomplished (McCall et al., 1998). In turn, this increased knowledge enables managers to more effectively perform the critical dimensions of their jobs (e.g., Schmidt et al., 1986). Moreover, because developmental assignments require their incumbent managers to test new ways of thinking and acting, they facilitate the practice of underdeveloped skills, which contributes to performance (Ohlott, 2004). Empirical research supports these claims by showing that managers in highly developmental assignments report higher levels of on-the-job learning (McCall et al., 1988; McCauley et al., 1994).

Second, highly developmental managerial assignments provide opportunities for managers to play different organizational roles, such as the role of change agent. While in a new role, a manager has a chance to try on a new managerial identity (e.g., Ibarra, 1999). This process of identity modification, when an individual is figuring out if and how to genuinely incorporate a new professional identity, enables the developing manager to become clearer on his or her leadership values. This self-awareness prepares the individual to persist in the face of adversity and can deepen commitment to high standards (e.g., Day et al., 2009)—both key competencies.

Lastly, highly developmental assignments augment managers' end-state competencies through motivational and emotional mechanisms. Job assignments rich in developmental quality often reveal a gap between the assigned managers' current capabilities and what is required for assignment success (McCauley et al., 1994). That challenge motivates the managers to develop their knowledge and skills to reduce the capability gap and succeed in the assignments. In addition, incumbent managers likely experience emotional ambivalence, an emotional state characterized by simultaneous excitement from the challenge of the work and fear of failure (McCall et al., 1988). Emotion researchers have argued that people use their emotions as signals that clarify the type of environment they are in (see Forgas [2000] for a review); emotional ambivalence indicates the presence of an unusual environment in which stimuli that are not typically related may be related (Fong, 2006). As a result, managers in developmental assignments may be more likely to see patterns and relationships among seemingly unrelated stimuli, thereby developing more elaborate and sophisticated mental models and raising their creative problem solving skills (Day et al., 2009; Fong, 2006). Lastly, positive emotions triggered by highly developmental assignments can induce more problem-focused behaviors, such as increased effort and cognitive problem solving (e.g., Lazarus & Folkman, 1984; Wouters, Tesluk, & Buyens, 2007). These emotional and motivational responses are expected to facilitate the development of managers' insightfulness in dealing with problems and their persistence in the face of adversity. We therefore make the following prediction:

Hypothesis 1. The developmental quality of junior managers' managerial assignments is positively related to their end-state competencies. This relationship exceeds that explained by their organization and assignment tenure.

Learning Goal Orientation

Manager characteristics may influence who actively pursues challenging assignments and who gains useful lessons from them (e.g., Klein & Zeigert, 2004). Here, we explore how managers' learning goal orientation affects how managers perceive and respond to developmental assignments. Goal orientation is defined as the pattern of cognition and action that results from consistent pursuit of a particular achievement goal in an achievement setting, such as work (DeShon & Gillespie, 2005). Two major classes of achievement goals have been identified: (1) a learning goal orientation, of seeking to develop competence by gaining new skills and mastering tasks and (2) a performance goal orientation, of seeking to demonstrate one's competence by attempting to gain favorable judgments and/or avoid negative judgments of one's competence (Dweck, 1986).

These goals influence how individuals interpret and respond to challenge (Dweck, 1986). Individuals holding a performance orientation view challenging tasks as inherently risky because they fear they might fail and reveal their inadequate ability to others. As a result, scholars characterize these individuals' responses as *maladaptive* because these individuals avoid challenge, demonstrate little interest in tasks, and put forth little effort to succeed when facing adversity (Dweck, 1986; Dweck & Leggett, 1988). In contrast, individuals holding a learning goal orientation perceive challenging tasks as opportunities to learn. In such circumstances, these individuals exhibit an *adaptive* response pattern in which they actively choose more difficult tasks, persist and increase effort, if necessary, and engage in task-oriented problem solving when faced with setbacks.

Highly developmental assignments are challenging because they require manager incumbents to use untested skills, strategies, and behaviors (McCauley et al., 1994). As Dweck's theory (1986) suggests, managers with a high level of learning orientation view developmental assignments as opportunities to enhance their skills and highly value these experiences (Klein & Zeigert, 2004), even though they may encounter initial failure and have to work hard to achieve skill mastery. Empirical research has documented this more adaptive pattern among learning-oriented individuals: they select more challenging tasks (e.g., Elliott & Dweck, 1988); they value experiences that provide growth and development, such as receiving feedback (e.g., VandeWalle & Cummings, 1997); they are open to and interested in learning from new experiences (VandeWalle, Cron, & Slocum, 2001); they demon-

strate a desire to work hard (VandeWalle, 1997); and they select skill improvement goals (Brett & VandeWalle, 1999). In sum, theory and research suggest that individuals with high levels of a learning goal orientation interpret highly developmental assignments as valuable opportunities to enhance their competence and, therefore, are more likely to pursue these types of assignments.

Individuals with high levels of a performance orientation are more likely to view challenging assignments as threatening because developmental assignments require the use of underdeveloped skills (McCauley et al., 1994); therefore, performance-oriented individuals are not motivated to secure these types of assignments (Dweck & Leggett, 1988). Instead, they prefer to pursue assignments that allow them to showcase their competence to others (Elliott & Dweck, 1988). Although performance-oriented individuals may pursue highly developmental assignments because they view them as opportunities to highlight their talents, such assignments are not necessarily highly visible or prestigious (McCall et al., 1988). Instead, the core feature of highly developmental assignments is the challenge inherent in successfully completing them (McCauley et al., 1994), which has more appeal to learning-oriented managers (Dweck, 1986). For these reasons, we make no prediction about a relationship between managers' performance orientation and their holding developmental assignments and instead limit our prediction to the learning goal orientation.

Hypothesis 2. Junior managers' learning goal orientation is positively related to the developmental quality of their current managerial assignments.

Although the relationship between junior managers' learning orientation and the developmental quality of their assignments is expected to be positive, the strength of that relationship may depend on the degree to which managers who are motivated to develop their skills have access to highly developmental managerial assignments. Here, we define access as a perceived opportunity to secure highly developmental managerial assignments. The concept of opportunity has been consistently noted as an important consideration in developing higher levels of competence in training (e.g., Ford, Quinones, Segó, & Sorra, 1992) and development (e.g., McCauley, 2001) and, therefore, we consider this type of access to be one critical aspect of managers' broader work context.

Access is a social structure that either facilitates or constrains individual behavior (e.g., Bandura, 1986), and prior research has shown that managers

vary in their access to developmental assignments (Campion, Cheraskin, & Stevens, 1994). In keeping with social cognitive theory, which stipulates that social structure and individual determinants jointly shape individual behavior (Bandura, 1986), we expect that when managers do not have access to highly developmental assignments, the lack of opportunity will constrain their ability to secure such assignments, even when they are highly motivated to learn and obtain developmental experiences (i.e., have a high level of learning goal orientation). In contrast, when managers have access to developmental assignments, the efforts of those with stronger learning orientations will be facilitated, and they will find it easier to actively pursue and move into developmental assignments. Therefore, we predict:

Hypothesis 3. The level of access junior managers have to highly developmental assignments moderates the positive relationship between these managers' learning goal orientation and the developmental quality of their assignments: the relationship is stronger for those with greater access to highly developmental assignments.

Even if several managers go through very similar sets of highly developmental managerial assignments, not all are likely to learn equally from these assignments (Morrison & Brantner, 1992). Although a learning orientation is important in actively pursuing opportunities to develop management skills, it is also likely to affect what managers actually gain from highly developmental assignments (e.g., Klein & Zeigert, 2004). According to goal orientation theory, individuals holding a learning goal orientation constructively respond in challenging situations (e.g., Dweck, 1986). Organizational researchers have shown that highly learning oriented individuals are adept at self-regulation, which is comprised of the processes individuals use to consistently guide their work-related activities, such as the appropriate self-management of thought, affect, and behavior (Kanfer, 1992). Indeed, empirical research shows that individuals with a high learning goal orientation reflect upon the effectiveness of their own thought processes (e.g., Schmidt & Ford, 2003), demonstrate higher levels of emotional competence (e.g., Porath & Bateman, 2006), are proactively engaged, solicit feedback from others, and set goals for their performance (e.g., Brett & VandeWalle, 1999; VandeWalle & Cummings, 1997). Management scholars have argued that individuals need this high level of self regulation to persist and ultimately extract critical lessons from experience (e.g., McCall et al., 1988; Spreitzer et al., 1997). Therefore, we hypothesize:

Hypothesis 4. Junior managers' learning goal orientation moderates the relationship between developmental quality of managerial assignments and end-state competencies: the positive relationship is stronger for those with higher levels of a learning goal orientation.

METHODS

Sample and Procedures

This study is based on data collected from two sources: junior-level managers and their supervisors. Junior managers were recruited from the part-time MBA population at a large mid-Atlantic university through visits to required human resources (HR) classes. Approximately 77 percent participated by completing a survey on managerial assignments and development ($n = 445$), and 79 percent of this sample provided their supervisors' names and contact information for follow-up ($n = 351$). We then mailed the supervisors a survey for evaluating the junior managers' managerial competencies. For the 351 participating junior managers, 272 supervisors returned completed surveys (a 78 percent response rate). Because the study centered on managerial assignments, we eliminated responses from respondents ($n = 81$) who indicated that they were not in managerial roles (i.e., responsible for or overseeing others' work [Kotter, 1982]). This reduction brought our sample to 364 junior managers, 351 of whom responded to all relevant items needed for analyses. Further, we received responses from the supervisors of 218 of these individuals (60%). Thus, our final matched sample consists of 218 junior-level managers and their supervisors, 215 of whom responded to all other relevant items.

The average age of the early career managers was 31 years (s.d. = 5), and their ethnic backgrounds were as follows: 5 percent African American, 18 percent Asian, 70 percent Caucasian, 4 percent Hispanic, and 3 percent, other. Most of the managers were male (66%), had held their current full-time positions for an average of 22 months (s.d. = 21), and had worked for their current organizations for 39 months (s.d. = 35). The sample came from various sectors, including service, manufacturing, high technology, communications, consulting/government relations, financial services/banking, healthcare, government, military/defense, and other industries.

The average supervisor was male (74%), 41 (s.d. = 8) years old, had 12 years of management experience (s.d. = 7.83 years), and had supervised the junior manager for nearly 22 months (s.d. = 22).

The supervisors' ethnic breakdown was 5 percent African American, 6 percent Asian, 85 percent Caucasian, 2 percent Hispanic, and 2 other.

Measures

Developmental quality of managerial assignments. Because of its strong test-retest reliability and convergent, discriminant, and predictive validity, we used a shortened version of the Developmental Challenge Profile (DCP; McCauley et al., 1994) to assess the original ten developmental dimensions of junior managers' job assignments; we then unit-weighted these dimensions to form the measure of developmental assignment quality. For all 55 items ($\alpha = .79$), junior managers were asked to indicate how well each statement described something they faced in their current jobs (1 = "not at all descriptive," to 5 = "extremely descriptive"). The ten dimension scales and sample items are: (1) *unfamiliar responsibilities* ($\alpha = .76$), "You are doing a type of work dramatically different from what you've done before"; (2) *developing new directions* ($\alpha = .79$), "You have to carry out a major reorganization, for example, as a result of a merger, acquisition, downsizing, or rapid growth"; (3) *inherited problems* ($\alpha = .81$), "You need to restore the credibility of your unit with the rest of the organization"; (4) *problems with employees* ($\alpha = .80$), "Your employees are used to doing things the way they have always been done and are reluctant to change"; (5) *high stakes* ($\alpha = .75$), "You are responsible for decisive action in a highly charged environment"; (6) *scale and scope* ($\alpha = .79$), "You are responsible for numerous different products or technologies or services"; (7) *influencing without authority* ($\alpha = .80$), "To accomplish a major portion of your objectives, you must influence and work with executives higher than your immediate boss"; (8) *handling external pressure* ($\alpha = .79$), "This job involves dealing with outside groups or organizations that have a substantial impact on the business"; (9) *working across cultures* ($\alpha = .83$), "Your job requires understanding the traditions and values of people from different cultures"; and (10) *managing work group diversity* ($\alpha = .81$), "You must make personnel decisions about employees who differ from you in terms of race or gender."

Learning goal orientation. Junior managers completed VandeWalle's (1997) measure of learning goal orientation (five items; $\alpha = .84$). A sample item is, "I often look for opportunities to develop new skills and knowledge." We selected this scale because it was specifically designed for and previously validated with working professionals.

Access to highly developmental managerial assignments. Junior managers responded to three items ($\alpha = .82$) specifically designed for this study that assessed their perceptions of their level of access to securing highly developmental managerial assignments: (1) "I have had access to assignments/jobs that require learning new knowledge and skill," (2) "I have had good opportunities for getting developmental assignments/jobs while working at my company," and (3) "Since I have worked in this organization, I have had lots of chances to pursue challenging assignments." Factor and reliability analyses indicated sound psychometric properties for this measure.

Managers' end-state competencies. Each manager's supervisor completed 24 items ($\alpha = .84$) from Spreitzer et al.'s (1997) previously established and validated measure of competencies. To more squarely focus on end-state competencies and limit potential construct overlap, tailor the measures to our sample, and ensure brevity of the survey instrument, in the hopes of achieving a higher response rate, we only collected six out of the eight competencies identified by Spreitzer and her colleagues. We assessed the manager's *broad business knowledge* ($\alpha = .77$; "Has a solid understanding of our products and services"); *courage to take a stand* ($\alpha = .77$; "Perseveres in the face of obstacles or criticism when he/she believes what he/she is doing is right"); ability to *bring out the best in people* ($\alpha = .83$; "Is able to pull people around a common goal"); *insightfulness* ($\alpha = .85$; "Finds new approaches to old problems (can 'think outside the box')"); *commitment to success* ($\alpha = .86$; "Clearly demonstrates commitment to seeing the organization succeed"); and ability to *act with integrity* ($\alpha = .83$; "Is open and candid with other people"). Response options ranged from 1, "strongly disagree," to 5, "strongly agree." We did not collect the competency entitled *sensitivity to cross cultural differences* because our sample was predominantly (if not entirely) United States-based, and we suspected we would have little variation because of a low base rate. The other competency we did not collect was *risk taking*. In examining the 3 items that made up this scale, we observed a great deal of redundancy with the learning-oriented dimensions from Spreitzer et al.'s work (1997) (e.g., "Likes to try new things, even when there is some risk involved") and with the learning goal orientation measure used here (VandeWalle, 1997). We tested the viability of an overall measure of end-state competencies by conducting a series of confirmatory factor analyses in LISREL and found that the more parsimonious single higher-order factor model fit the data as well as the alternative six-factor model

($\Delta\chi^2 = 10.81$, $\Delta df = 9$, $p = .29$, n.s.). We averaged the standardized scores (z-scores) of the six dimensions to form an overall end-state competencies measure.

Analytic Strategy and Preliminary Analyses

We first established the construct validity of the developmental quality of managerial assignments by conducting confirmatory factor analyses in LISREL. Then, we tested hypothesized relationships using hierarchical regression because it allowed us to test for the presence of both direct relationships (Hypotheses 1 and 2) and interactive effects (Hypotheses 3 and 4). As recommended by Aiken and West (1996), we transformed all our variables into z-scores to reduce issues arising from multicollinearity when testing for interactive effects.

Controls. To isolate the effects of the developmental quality of assignments from more quantity-based measures of experience, we controlled for job assignment tenure and organization tenure when modeling the overall relationships. Also, because gender and minority status might be related to both highly developmental assignments as well as ratings of managerial competencies (Morrison, White, & Van Velsor, 1987), we controlled for managers' ethnicity and gender.

Construct validity of the managerial assignments measure. To ensure the construct validity of our measure of the developmental quality of managerial assignments, we examined the factor structure of the 55 managerial assignment items by conducting confirmatory factor analysis via maximum likelihood estimation methods using LISREL 8.54; we opted to use this type of confirmatory factor analysis to confirm the well-established ten-dimension managerial assignment scales by McCauley et al (1994). In the case of all of the first-order latent factors represented by multiple multi-item indicators, we set one of the factor loadings associated with one indicator to a starting value of 1.0 to assign the scale to the corresponding first-order factor. All ten dimensions were free to covary. The results revealed a strong fit between the hypothesized structure and data, with all factor loadings being statistically significant at $p < .01$ ($\chi^2 = 2,533.76$, $df = 1,385$, RMSEA = .06; 90% CI: .056–.063, CFI = .90, IFI = .90, TLI = .90, SRMR = .07).

RESULTS

Table 2 presents the results of the regression analyses testing hypotheses. Hypothesis 1 was supported: managerial assignment quality was positively related to end-state competencies ($\beta = .23$,

TABLE 1
Study Variable Means, Standard Deviations, and Zero-Order Correlations^a

Variables	Mean	s.d.	1	2	3	4	5	6	7	8
1. Gender ^b	1.68	0.47								
2. Ethnicity ^c	0.73	0.45	-.07							
3. Job tenure ^d	32.43	26.35	.04	-.05						
4. Organizational tenure ^d	37.80	32.05	.09	.14*	.17**					
5. Learning goal orientation	4.45	0.47	-.05	.03	-.03	.06	.84			
6. Access to developmental assignments	3.72	0.85	-.10	-.04	-.07	.04	.13	.82		
7. Developmental quality of assignment	2.42	0.57	-.03	.02	-.01	.17*	.24**	.30**	.79	
8. Managerial end-state competencies	4.13	0.47	-.06	.06	.07	.05	.20**	.16*	.28**	.84

^a Reliability coefficients are in boldface on the diagonal. $n = 215$.

^b 0 = "male," 1 = "female."

^c 1 = "Caucasian," 0 = "not Caucasian."

^d In months.

* $p < .05$

** $p < .01$

Two-tailed tests.

s.e. = .07, $p < .01$). Further, we investigated whether managers with high performance are placed into highly developmental assignments, rather than placed into these assignments according to the logic we advance here. We tested this by separating our sample into managers who had been promoted into their current assignments from those

for whom the current assignment was not a promotion. We conducted an analysis of variance (ANOVA) to see whether the promoted managers differed from the others on their overall competence level. A significant difference would provide evidence that the developmental quality–performance relationship might be a result of better per-

TABLE 2
Results of Moderated Regression Analysis^a

Predictor Variables	Developmental Quality of Assignment ($n = 351$)			Managerial End-State Competencies ($n = 215$)		
	Step 1	Step 2	Step 3	Step 1	Step 2	Step 3
Gender	-.05 (.05)	-.02 (.05)	-.03 (.05)	-.07 (.07)	-.04 (.07)	-.03 (.07)
Ethnicity	-.03 (.05)	-.02 (.05)	-.03 (.05)	.05 (.07)	.05 (.07)	.07 (.07)
Job tenure	-.11 (.06)	-.04 (.05)	-.03 (.05)	.07 (.07)	.09 (.07)	.08 (.07)
Organizational tenure	.23** (.06)	.23** (.05)	.23** (.05)	.04 (.07)	-.02 (.07)	-.02 (.07)
Learning goal orientation		.16** (.05)	.15** (.05)		.14* (.07)	.16* (.07)
Access to developmental assignments		.27** (.05)	.25** (.05)		.08 (.07)	.04 (.07)
Learning goal orientation × access to developmental assignments			.16** (.05)			
Developmental quality of assignment					.23** (.07)	.25** (.07)
Learning goal orientation × developmental quality of assignment						.19** (.07)
Overall R^2	.05	.15	.18	.014	.114	.15
Overall F_{df}	4.41** _{4, 346}	10.37** _{6, 344}	10.68** _{7, 343}	0.73 _{4, 210}	3.82** _{7, 207}	4.44** _{8, 206}
ΔR^2		.10	.03		.10	.03
ΔF_{df}		21.24** _{2, 344}	10.78** _{1, 343}		7.83** _{3, 207}	7.87** _{1, 206}

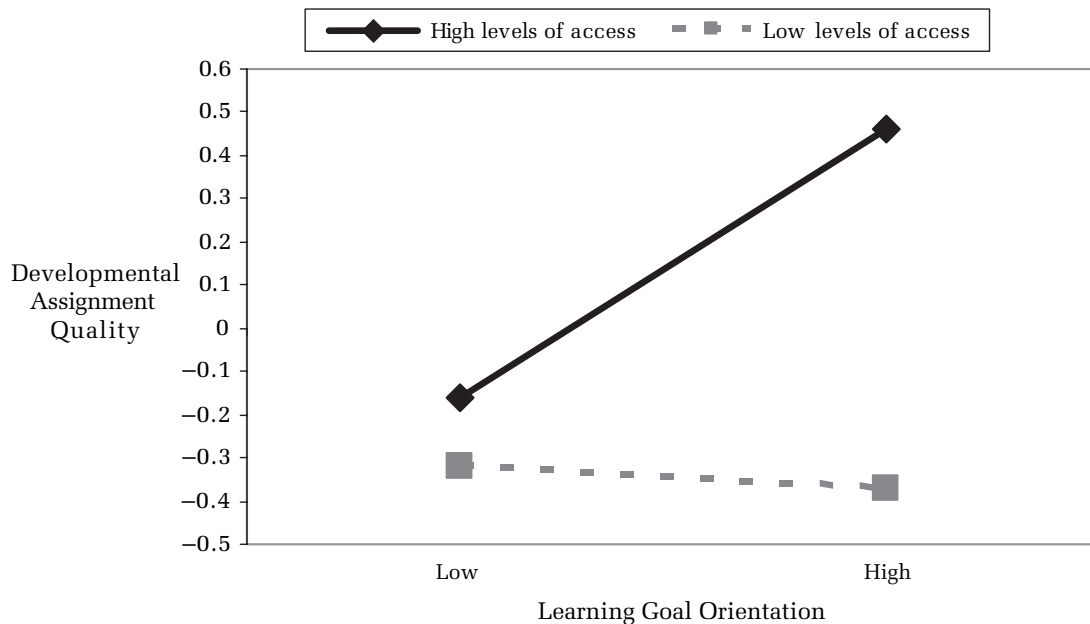
^a Standardized regression weights are reported. Standard errors are in parentheses.

* $p < .05$

** $p < .01$

Two-tailed tests.

FIGURE 1
Interactive Effect of a Learning Goal Orientation and Access to Highly Developmental Assignments on the Developmental Quality of Managerial Assignments^a



^a $n = 351$.

formers being promoted into more developmental assignments. However, no statistically significant mean difference in managers' end-state competencies emerged ($F = 0.71$, n.s.; mean = 4.16, s.d. = 0.48, promoted; mean = 4.11, s.d. = 0.46, not promoted).

We expected that managers with stronger learning goal orientations would be more likely to seek out highly developmental assignments (Hypothesis 2) and predicted that this relationship would be stronger for managers with greater access to such assignments (Hypothesis 3). We found that managers with higher levels of a learning orientation were in more developmental assignments ($\beta = .16$, s.e. = .05, $p < .01$), supporting Hypothesis 2. This relationship was moderated by the degree to which managers had access to highly developmental assignments ($\Delta R^2 = .03$, $\Delta F = 10.78$, $p < .01$). Table 2 presents the regression results, and Figure 1 graphically depicts the interaction. In support of Hypothesis 3, when managers had greater opportunities to pursue highly developmental assignments, the positive relationship between a learning orientation and developmental assignment quality was strengthened. In contrast, when managers had lower levels of access to these types of assignments, learning orientation was largely unrelated to the developmental quality of the assignment.

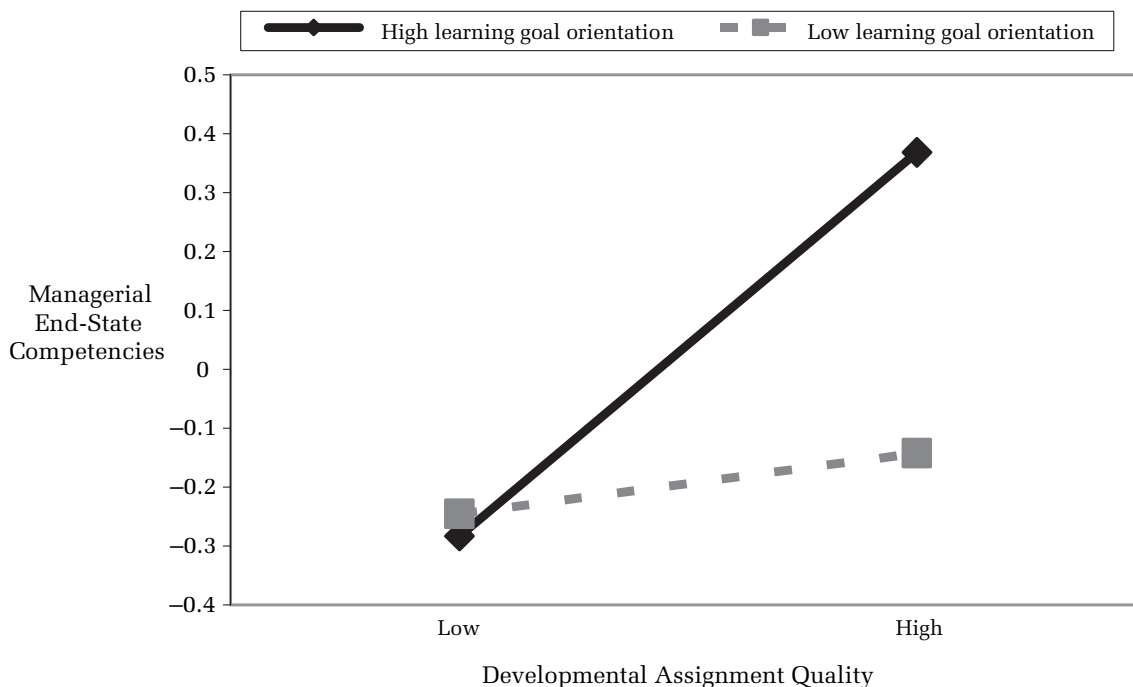
We predicted that for managers with a high level of learning orientation, there would be a stronger

relationship between the developmental quality of their assignment and their competencies (Hypothesis 4). Indeed, the results show that learning goal orientation moderated the developmental assignment quality–competencies relationship ($\Delta R^2 = .03$, $\Delta F = 7.87$, $p < .01$). Table 2 summarizes results, and Figure 2 graphically depicts the interaction. The pattern is consistent with our expectation that, when in highly developmental assignments, managers with stronger learning orientations appear to gain more from those experiences in terms of end-state competencies than those with weak learning orientations. Finally, it is worth reiterating that the significance and magnitude of all of these relationships go above and beyond what is explained by the effects of job assignment tenure, organizational tenure, ethnicity, gender, and other nonfocal study variables.

DISCUSSION

Our study makes several important contributions to advancing a theory of managerial development. First, we demonstrate the importance of the developmental quality of job assignments by showing that managers in developmental assignments achieve higher levels of managerial competencies. Second, we show that managers with higher levels of a learning goal orientation are more likely to be in developmental assignments, especially when

FIGURE 2
Interactive Effect of a Learning Goal Orientation and Developmental Quality of Managerial Assignments on the Managerial End-State Competencies^a



^a $n = 215$.

managers perceive that they have access to on-the-job opportunities. Third, we explain why certain managers gain more from developmental assignments than others by showing that there is a stronger relationship between the developmental quality of an assignment and their competence for those with strong learning goal orientations.

Theoretical Implications

Our work advances current management development research by moving beyond relating the developmental quality of managerial assignments to self-reported states of learning and challenge (e.g., McCauley et al., 1994) to actually go above and beyond the effects of tenure in predicting managerial competencies. By integrating frameworks from the work experience literature, which emphasizes examining the quantity and quality of on-the-job experiences (e.g., Tesluk & Jacobs, 1998), our results isolate the impact of the developmental quality of managerial assignments to show that an assignment rich in developmental dimensions—not time spent in a particular assignment or in a particular company—is what enhances managerial competencies. This finding provides an exciting theoretical opportunity in offering a strong empirical basis for more specific theoretical development

of what types of managerial assignments (among those rich in developmental dimensions) facilitate meaningful competence development among early-career managers. At the same time, our finding opens the door for more thoughtful consideration of elements of time and tenure in relation to developmental assignment quality.

Second, our results advance understanding of the type of manager who tends to secure highly developmental assignments and under what organizational conditions they do so. We found that managers with stronger learning goal orientations had assignments that were more developmental, presumably because they viewed these assignments as a means to achieve their developmental goals. Although others have speculated that a learning goal orientation may play a role in managerial development (Klein & Zeigert, 2004), our work develops the theoretical mechanisms that account for this relationship while providing supporting empirical evidence. Moreover, we found this relationship was bounded: managers' learning goal orientation was related to being in highly developmental assignments only when they perceived they had access to such assignments (Figure 2). Thus, our findings show that both manager characteristics and organizational context are important for under-

standing how managers assume developmental job assignments.

Third, our results contribute to the management development literature by demonstrating that manager characteristics influence who gains the most from highly developmental assignments. Specifically, we found that a learning goal orientation is important not only for being in a developmental assignment, but also for strengthening the positive relationship between the developmental dimensions of managerial assignments and managerial competencies. These findings extend prior conceptual work by empirically identifying an important critical contingency associated with benefiting from managerial assignments (e.g., Klein & Ziegert, 2004) and provide what we believe is the first direct empirical evidence that managers' ability to learn from their job assignments may vary.

Practical Implications

This study provides sound guidance for organizations working to enhance managerial competencies among early-career managers through job assignments. Organizations may find the Developmental Challenge Profile (McCauley et al., 1994) a useful tool to ensure that individuals with high potential are in highly developmental assignments, and HR professionals could create development plans for managers that utilize particular managerial assignments and rotation programs to systematically increase exposure to more developmental dimensions and thereby enhance managers' overall opportunity to augment their competencies.

Second, for aspiring managers these results imply that it is important to evaluate the developmental quality of an assignment when deciding which job to pursue and whether access to developmentally rich assignments will be afforded. We recommend that aspiring managers ask questions regarding the developmental nature of assignments and access to future developmental assignments during the interview and recruitment process to determine whether the work experiences being considered will contribute to their long-term professional growth.

Third, organizations may be able to accelerate managerial development by identifying individuals with stronger learning goal orientations and placing them into developmental positions. Although we treated learning goal orientation as an individual difference, evidence exists that situational conditions can induce a learning goal orientation (e.g., Button, Mathieu, & Zajac, 1996). Therefore, our results suggest the need for the mentors of high-potential junior managers to encourage them to adopt a learning goal orientation when in developmental assignments. Mentors who

emphasize development, use learning goals to measure junior managers' progress, encourage experimentation and learning from failure, and provide encouragement can encourage junior managers to adopt a learning goal orientation (e.g., Dragoni, 2005). Such coaching may enable junior managers to view developmental assignments as an opportunity to learn, see that they have access to such assignments, and allow them to better extract critical lessons from these experiences.

Study Limitations and Future Research

Despite this study being based on a well-established theoretical perspective and our use of a multi-source, diverse sample of early-career managers and their bosses, some limitations should be noted. First, we are limited in our conclusions to only the developmental dimensions of managerial assignments studied here and their impact on early career managers. Other aspects of managerial assignments may contribute to development, such as dealing with difficult people (McCall et al., 1988), and these developmental aspects may differ across managerial career stage. Research examining developmental aspects across career stage in relation to specific competencies would benefit organizations as they place managers at all levels into developmental assignments that meet particular developmental needs.

Second, although we provided several possible mechanisms through which highly developmental assignments enhance managerial competencies, such as challenge, practice, feedback, and emotional activation, we did not test the underlying mechanisms directly. Future work may help address this limitation by studying such mediating mechanisms, considering how they work to translate developmental experiences into learning and performance, and recognizing that these relationships may not all be linear. For instance, learning may increase with challenge up to a point after which greater challenge inhibits further learning (Wouters et al., 2007).

Third, this study is cross-sectional and as a result, firm causal conclusions cannot be supported. For example, it is possible that junior managers who are in developmental assignments become learning oriented, rather than that managers' drive to learn causes them to seek out developmentally rich assignments, as we advance here. We cannot rule this possibility, yet the interactive effects this study shows are consistent with the implicit logic that job assignments drive development. Certainly, longitudinal studies would be useful for clarifying these causal relationships.

Fourth, additional variables are required to further advance a theory of managerial development. Subse-

quent research would add theoretical value by focusing on questions such as these: Beyond managers' learning goal orientation, what else might affect managers' placement in developmental assignments? and What additional factors work in concert with developmental assignments to affect managerial competence development? With regard to placement in developmental assignments, junior managers' characteristics (e.g., previous performance, openness to experience), attitudes toward their organizations (e.g., organizational commitment), and senior manager sponsorship likely impact these placement decisions as well. Moreover, a fuller examination of junior managers' cognitive ability, conscientiousness, previous training and developmental experiences, and current job assignments would provide greater insight into the influence of developmental assignment quality on managerial competencies.

Conclusion

This study makes an important contribution by studying the interrelationship of highly developmental managerial assignments, access to such assignments, and junior managers' own learning goal orientations. It extends current research by linking highly developmental managerial assignments and managerial competencies in a way that goes above and beyond what tenure alone might explain; empirically demonstrating the importance of junior managers' learning goal orientations in their securing and gaining from highly developmental assignments; and clarifying how organizational context may facilitate or hinder access to developmental assignments. In doing so, this study challenges scholars and practitioners to more holistically consider the complexities and contingencies inherent in managerial development.

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