

Individual adaptive performance in organizations: A review

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Summary

Modern work is frequently characterized by jobs where adaptive performance (AP) is crucial for employees to succeed in light of new or altered task demands. This recognition has fueled growing interest in AP as a dimension of workplace performance. To this point, however, research on AP has evolved from disparate perspectives and methods, resulting in fragmentation and a less than coherent knowledge base. This paper presents a comprehensive review of research studies regarding the nomological network of individual AP. In doing so, we synthesize the current knowledge base surrounding correlates of AP, elucidate current ambiguities, and suggest directions for future research efforts. We conclude that although the extant AP literature has amassed a critical body of studies linking various predictors to successful AP outcomes, much remains unknown, most critically regarding the implications of different methods of assessing AP, the effects of different types of changes in the task environment, the process of AP, and the steps organizations can take to foster AP among their employees. We hope that our synthesis and analysis paves the way for efforts to address these important questions. Copyright © 2014 John Wiley & Sons, Ltd.

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Numerous organizational scholars have recognized that traditional models of performance are static and need to be augmented to include “responsiveness to changing job requirements”—labeled adaptive performance (AP; Allworth & Hesketh, 1999, p. 98; Griffin, Neal, & Parker, 2007; Pulakos, Arad, Donovan, & Plamondon, 2000). As a consequence, researchers anticipated that the study of AP would yield a richer understanding of the dynamic nature of employee performance under conditions of change and ambiguity. Researchers also anticipated that the study of AP would offer practical guidance to organizations regarding how to best handle the “continual obsolescence and displacement” of employees’ skills and abilities (LePine, Colquitt, & Erez, 2000, p. 564).

It has been nearly 15 years since research began on individual AP, and findings have emerged in many domains. For example, empirical research has focused on identifying individual difference factors that predict successful AP (e.g., Griffin & Hesketh, 2003; LePine et al., 2000; Stewart & Nandkeolyar, 2006), the AP requirements of jobs (Pulakos et al., 2000), training techniques that can enhance AP (e.g., Bell & Kozlowski, 2002; Joung, Hesketh, & Neal, 2006), and contextual factors that promote AP (Griffin, Parker, & Mason, 2010; Stewart & Nandkeolyar, 2006). Research has also conceptually and empirically distinguished AP from other performance dimensions (Allworth & Hesketh, 1999; Griffin et al., 2007; Johnson, 2001; Shoss, Witt, & Vera, 2012).

With a diverse body of empirical studies on AP, it is a good time to take stock of how far organizational scholars have come in understanding AP and the conditions that foster it. Such a review is particularly valuable given that the AP literature has evolved from disparate research perspectives and methods, leading researchers to assess AP in different ways and under different labels (Baard, Rench, & Kozlowski, 2014). This fragmentation arguably hinders efforts to form a coherent knowledge base, and it has led others to surmise that “there is clearly a need to integrate and

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synthesize this expanding literature” (Ployhart & Bliese, 2006). Baard et al. (2014) took a valuable first step by providing a high-level overview of the assumptions, foundations, and goals of different streams of AP research.

Our goal is to provide a critical analysis of the definition and operationalization of AP as well as a thorough review of current evidence regarding its nomological network. In addition, we seek to identify underlying themes in definitional treatments of AP and fundamental gaps in current understanding. We focus specifically at the individual level, with the expectation that knowledge gained here provides important “building blocks” that might ultimately help inform research on AP at higher levels of analysis. We proceed by noting key themes across various conceptualizations of AP and explicating a clarified and consolidated definition of AP (and related constructs), which then forms the foundation for our review, critique, and recommendations.

What is adaptive performance?

The ubiquity of questions regarding adaptation in both business and psychology literatures creates substantial challenges for defining AP and specifying the scope of our review. Foremost, researchers have not consistently defined AP and related constructs. Among the terms we identified in the literature were adaptive performance, adaptability, adaptation, adaptive expertise, adaptive transfer, and performance adaptation. The interchangeable use of these terms has resulted in substantial conceptual ambiguity regarding whether they refer to identical, partially overlapping, or distinct constructs.

Contributing to this confusion is the fact that the AP literature has used terms in a manner inconsistent with the broader performance and individual difference literatures. For example, whereas the term performance is typically reserved for *behavior* relevant to an organization’s objectives (cf. Campbell, McCloy, Oppler, & Sager, 1993), some have considered AP to reflect the willingness or ability to change in addition to the enactment of change behaviors (Cronshaw & Jethmalani, 2005; Pulakos et al., 2000). Similarity, although the suffix “ability” is typically applied to individual differences, adaptability has been used as a label for enacted behavior as well as individual differences in willingness or ability to adapt (e.g., Kozlowski et al., 2001; Ployhart & Bliese, 2006; Pulakos et al., 2000). The implications of this “jingle” fallacy (e.g., Pedhazur & Schmelkin, 1991) are problematic (a point we return to later); they limit our abilities to connect our operations to pertinent theory, develop a coherent knowledge base, and apply findings in practice (Shadish, Cook, & Campbell, 2002).

Given this inconsistency, we felt it critical to develop a precisely defined construct space to guide our review, critiques, and recommendations. Towards this end, we first identified a number of common themes across various conceptualizations of AP. First, virtually all conceptualizations consider AP to occur in connection with externally induced changes, such as those in “structure, technology, and job assignments” (Chan, 2000, p. 2). As a result, AP occurs when employees “adopt new roles, acquire new skills, or ... modify existing work behaviors” (i.e., adjust their knowledge, skills, or abilities—Chan, 2000, p. 2) in order to respond to actual or anticipated work-relevant changes and meet objectives. Second, AP is often discussed as a set of behaviors aimed at maintaining performance levels or minimizing performance decrements as a result of change. Third, AP can have both anticipatory (i.e., learning and applying new behaviors and strategies in anticipation of a change) and reactive elements (i.e., learning and applying new behaviors and strategies in response to an unanticipated change where an associated performance decrement may have already occurred). Finally, changes on the job may occur to tasks that require primarily cognitive/skill-based adaptation (e.g., when a task becomes more cognitively complex), but interdependencies within organizations mean that employees may also have to adapt to broader interpersonal and organizational changes that have implications for how they achieve their performance objectives. Accordingly, some streams of research have examined predictors of performance following a change to a singular task, whereas others have conceptualized changes more broadly.

These themes coalesce into a working definition of AP that allows us to explicitly differentiate AP from related constructs and to define AP in a way that is consistent with existing definitions of job performance as behavior (e.g., Campbell et al., 1993). Consistent with Campbell et al. (1993), we define AP as task-performance-directed

behaviors individuals enact in response to or anticipation of changes relevant to job-related tasks. For the purposes of this definition, we consider task-relevant changes to include changes in the nature of job-related tasks, the methods (both individual and interpersonal) for accomplishing tasks, and the ways that effectiveness is evaluated.

Viewing AP as behavior situated within task-relevant changes places it squarely within the broader realm of job performance, defined by Campbell et al. (1993) as behavior relevant to organizational objectives. In doing so, we distinguish AP from individual propensities to engage in these behaviors. Consistent with the use of “ability” as an individual difference term, we construe *adaptability* as a multidimensional composite of knowledge, skills, and dispositions that influence an individual’s general capability and proclivity to engage in AP (cf. Chan, 2000; Ployhart & Bliese, 2006). Further, we note that although AP may entail problem solving, flexibility, and coping, these processes are not synonymous with AP. Problem solving, flexibility, and coping are broad constructs that are not necessarily tied to performance. They may reflect AP only in circumscribed instances when they are relevant for individual behavior in relation to *task-relevant* changes. Surprisingly, we found very few AP studies that have drawn from these perspectives; however, as we discuss later, these literatures may provide important insights.

Finally, following Campbell et al. (1993), we distinguish AP as behavior from the outcomes or evaluations of its effectiveness. This is an important distinction because there are numerous criteria that could be used to evaluate effectiveness such as the quality of post-change performance relative to pre-change task performance, the absolute quality of post-change performance, the time it takes to reach a given level of post-change performance, and even the extent to which employees grumble during changes. Each may be of theoretical and practical interest depending on the theory and context (a point to which we return later). In addition, AP may not always relate positively to these indicators of effectiveness. Shoss et al. (2012) provided the example of employees spending time learning new systems or products (i.e., “adapting” their behavior) that did not ultimately improve performance effectiveness. Similarly, at the macro level, Zajac, Kraatz, and Bresser (2000) argued that firms can adapt their strategies too much, adapt in the wrong direction, or change when the original strategy would have been more appropriate.

Adaptive Performance Research Paradigms

As previously noted, AP research has been situated in different literatures, which Baard et al. (2014) described as “domain-general” and “domain-specific.” The former has tended to investigate performance management or individual difference questions via field settings utilizing global ratings of success in novel or changing situations across broad time frames. The latter has investigated AP within specific contexts, particularly training and learning environments. This research has tended to utilize a laboratory context and a task-change paradigm wherein AP is indicated by performance on a learned task after difficulty or complexity increases (e.g., Lang & Bliese, 2009; LePine et al., 2000). Some sets of predictors have been studied from both approaches (e.g., individual differences), whereas others have been dominated by a single approach (e.g., training techniques, job, and contextual features).

Baard et al. (2014) intimated that there might be value in having multiple AP literatures, the implication being that reviews might focus only on “domain-general” or “domain-specific” AP research. Although we also believe that different paradigms and foci have value, we agree with Chan (2000) who suggested that deeper insights about AP may only emerge once we consider findings within and across various study contexts, goals, and measurement approaches. Unfortunately, however, to this point, the AP construct has been operationalized in a variety of different ways, with attendant deleterious consequences for cumulative scientific progress. Consequently, this review aims to provide an initial assessment of the degree to which findings generalize across methods and contexts. Although findings appeared to converge across different methods for some of the predictors, this was not the case for others. In some cases, findings were inconsistent even when similar study designs were used. We posit potential explanations for convergence or lack thereof throughout each section of our review. We also note critiques and future directions specific to each set of predictors and, following the review, discuss what we see as key issues moving forward.

Antecedents of Adaptive Performance

Figure 1 displays the general categories of antecedents examined in the extant AP research. Its purpose is to descriptively organize variables studied in prior research rather than to prescribe theoretical linkages among them. Indeed, with the exception of a handful of studies from the training literature (e.g. Chen, Thomas, & Wallace, 2005; Ford, Smith, Weissbein, Gully, & Salas, 1998; Kozlowski et al., 2001), researchers have tended to look at the between-person association of these variables with AP, without examining meditational or *in situ* factors (as discussed further later).

For the sake of the review, we place the respective “sets” of AP predictors in two categories: (i) person and situation factors and (ii) motivational and knowledge-based factors. We consider the former to be distal factors as they reflect characteristics of persons, training programs, or job/task environments that are relatively stable over time and across individuals. Moreover, they are relatively removed from the actual enactment of AP. In contrast, the latter are proximal factors, which serve as more direct inputs into performance (Campbell et al., 1993).

Distal Predictors

Individual differences

Without question, individual difference factors have been the most commonly examined antecedents of AP. This emphasis has stemmed from the assumption that there are stable individual differences in capability and proclivity to engage in AP. For the most part, researchers have focused on cognitive ability, the Big Five personality factors (and their facets), and trait goal orientations.

Cognitive ability

A number of researchers have sought to examine how general cognitive ability predicts AP given its association with advantages in problem solving, learning, and success across various performance and life domains (cf. Gottfredson, 2002). This expected positive association has been borne out across field studies using supervisor

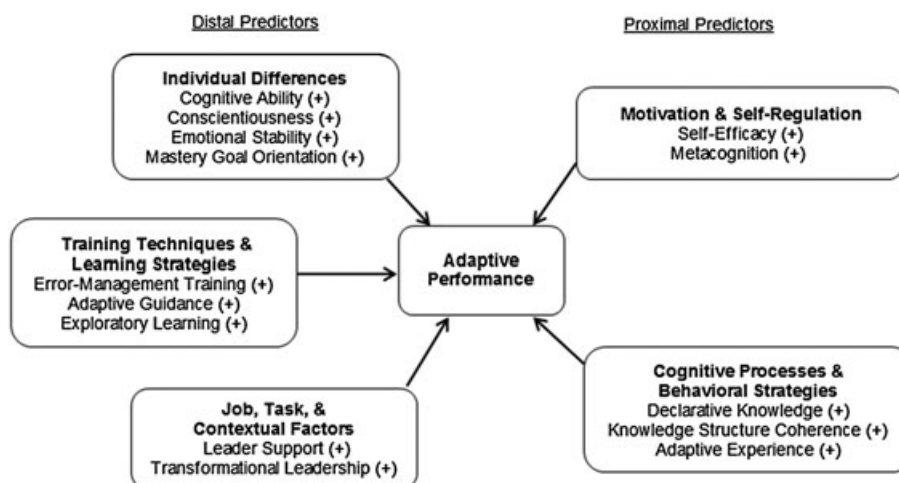


Figure 1. Supported antecedents of individual adaptive performance

ratings of AP (Allworth & Hesketh, 1999; Blickle et al., 2011; Pulakos et al., 2002) as well as laboratory studies employing the task-change paradigm or using self-ratings of AP (Bell & Kozlowski, 2002; Bell & Kozlowski, 2008; Kozlowski et al., 2001; LePine et al., 2000; Stokes, Schneider, & Lyons, 2010), although there have been exceptions (Griffin & Hesketh, 2003; Shoss et al., 2012). Unfortunately, these studies have assessed cognitive ability broadly using, for example, the Armed Forces Qualifying Test (Pulakos et al., 2002), the Wonderlic (Bell & Kozlowski, 2002; LePine et al., 2000; Shoss et al., 2012), SAT/ACT scores (Bell & Kozlowski, 2008), and GPA (Kozlowski et al., 2001), making it difficult to determine exactly which cognitive functions (e.g., attention and working memory) most strongly relate to AP. However, Allworth and Hesketh (1999) found that abstract reasoning, numerical reasoning, and clerical speed and accuracy assessments all positively correlated with supervisor-ratings of AP. In contrast, Griffin and Hesketh (2003) found that cognitive flexibility, indicated by switching to a more direct problem-solving rule in the Water Jars Task (although the original learned rule would still work), did not relate to AP.

An important question concerns why cognitive ability facilitates AP. Training studies have pointed to enhanced mastery and metacognition in learning an initial task as mediators of the cognitive ability–AP relationship (Bell & Kozlowski, 2008; Kozlowski et al., 2001). However, because these studies were primarily interested in the effectiveness of training design, they did not explicitly examine how cognitive ability influences AP beyond initial learning. In a nuanced analysis, Lang and Bliese (2009) examined how individuals initially performed in response to a change (transition adaptation) and the subsequent trajectory of their performance (reacquisition adaptation) *controlling for* their levels of initial pre-change performance and skill acquisition. They found that individuals high in cognitive ability (measured using a composite of verbal, numerical, and spatial assessments) showed a more substantial drop in performance on a learned task immediately after a change occurred but did not show different subsequent performance trajectories than those with lower cognitive ability (although they still had overall higher levels of performance). These findings echo the aforementioned results of training studies that pointed to initial skill acquisition as a mechanism linking cognitive ability to AP. They also highlight different conclusions regarding the effect of cognitive ability (i.e., positive, neutral, and negative) that may be drawn when different assessments of AP are used (i.e., absolute level of post-change performance, post-change performance trajectory, and post-change performance decrease; see Beier & Oswald, 2012, for an excellent discussion), a point we return to in greater detail later.

Big Five personality traits

Researchers have frequently speculated that AP requires individuals to stay calm, motivated, and persistent when dealing with change. However, mixed findings have emerged from research examining stable individual differences associated with coping with stress, interest in novelty, and persistence as Big Five trait predictors of AP. For example, Griffin and Hesketh (2003) found that openness to experience positively predicted supervisor ratings of AP in a public service organization but not in a multinational IT organization. Conscientiousness did not significantly predict ratings in either sample. Pulakos et al. (2002) found that emotional stability positively and significantly predicted supervisor ratings of AP in a sample of military personnel, whereas openness to experience did not. In a large sample of government workers, Neal, Yeo, Koy, and Xiao (2012) examined each of the Big Five traits and found that only emotional stability and conscientiousness showed significant associations with individual AP, both positive yet weak. In their examination of Big Five traits as predictors of supervisor ratings of AP in a sample of call center employees, Shoss et al. (2012) found that only openness to experience and conscientiousness were significantly related to AP, both in the positive direction. In contrast, Allworth and Hesketh (1999) found that none of Big Five significantly related to AP ratings in two samples of hotel staff members, and Blickle et al. (2011) reported that only extraversion had a significant (positive) association with AP. Pointing to the interactive effects of context, Griffin et al. (2010) found that openness to change increased the extent to which leader vision for change influenced self-ratings of adaptation frequency in the previous month but did not find a main effect for openness.

Offering a reconciliation of the inconsistent effects of Big Five factors through a small-scale meta-analysis, Huang, Ryan, Zabel, and Palmer (2014) found that emotional stability and conscientiousness were both positively associated with AP, whereas extraversion, agreeableness, and openness did not have significant effects.

Using an archival dataset with 71 studies, they also identified a positive effect of emotional stability on supervisor ratings of AP.

Examinations of Big Five facet-level traits have shown some promise in affording increased specificity in predicting AP. However, these results have been mixed as well. LePine et al. (2000) explored an unexpected negative effect of conscientiousness on post-change decision-making accuracy on a laboratory task by investigating facet-level effects. Their analyses revealed that the dependability facet but not the achievement facet drove this negative effect. The authors suggested that those high in dependability might focus too much attention on maintaining and imposing order before a task change was completely understood. In contrast, Pulakos et al. (2002) found that the achievement facet positively predicted supervisor ratings of AP in a field setting. Additionally, Griffin and Hesketh (2004, 2005) found that only the intellect facet of openness and none of the conscientiousness facets predicted supervisor ratings of AP. However, Woo, Chernyshenko, Stark, and Conz's (2014) meta-analytic estimates of factor and facet-level openness and a broadly defined criteria of AP failed to attain significance (although they were positive). Finally, challenging the inadequate specificity of extraversion for predicting AP, the Huang et al. (2014) meta-analysis on 71 archival validation studies demonstrated a positive effect for the ambition facet but not the sociability facet, with a more pronounced effect for managers than employees.

Two studies have utilized Big Five personality traits to predict intraindividual performance variation in situations involving change. Thoresen, Bradley, Bliese, and Thoresen (2004) examined mean job performance levels and growth trajectories (linear and quadratic) for salespeople during job transitional periods, which were discussed as situations where methods and strategies were undefined and employees had to potentially learn new skills. Thoresen et al. found that mean levels of transition performance were influenced positively by openness and agreeableness. Linear performance slopes (indicating initial changes in performance) were positively related to agreeableness and negatively related to emotional stability. Finally, quadratic trends (indicating a deceleration in performance improvement) were stronger for those with high levels of openness. Stewart and Nandkeolyar (2006) examined intraindividual sales performance over multiple periods as a function of opportunities (referrals) and personality factors, where AP was operationalized as the strength of the intraindividual link (i.e., slope) between referrals and sales performance. Their results indicated that this link was stronger for those with high conscientiousness and, somewhat counter-intuitively, those with low openness.

Although the trait approach emphasizes consistent behavioral tendencies across situations, emerging research has identified consistent within-person associations (Mischel & Shoda, 1995) between situational cues and Big Five personality expressions (Fleeson, 2001; Huang & Ryan, 2011). Consistent with this, Minbashian, Wood, and Beckmann (2010) hypothesized that individuals' propensity to dynamically respond to task challenge by elevating state conscientiousness (i.e., *task-contingent conscientiousness*) would predict AP. As expected, within-person variation in managers' task-contingent conscientiousness had a positive effect on their problem-solving effectiveness as the task became increasingly complex.

The large proportion of studies linking Big Five personality traits to AP points to two areas in need of further research. First, instead of focusing on Big Five traits' main effects, researchers need to offer a clear understanding of person-situation interactions by involving contextual and job level moderating variables (e.g., Huang et al., 2014). Second, by better capturing dynamic within-person contingencies (Minbashian et al., 2010), researchers may be able to more accurately predict AP beyond between-person effects.

Goal orientation

On the basis of the notion that individuals differ in the types and targets of goals they set for themselves, and findings that these goals play a role in achievement settings (cf. Payne, Youngcourt, & Beaubien, 2007), numerous AP studies have examined goal orientation. This research has focused primarily on trait conceptualizations utilizing two-factor (mastery and performance) or three-factor (mastery, performance prove, and performance avoid) structures of goal orientation.

Almost exclusively, trait goal orientations have been examined as predictors of AP measured via objective outcomes, with the majority of studies coming from the training literature. Ford et al. (1998) found positive indirect

effects of mastery orientation through end of training self-efficacy and metacognition levels during training (and subsequent knowledge and skill acquisition). In addition, performance goal orientation had a negative indirect effect through decreased end of training self-efficacy. Kozlowski et al. (2001) also found a positive indirect effect of mastery orientation on adaptive transfer performance through end of training self-efficacy, but they found no effect of performance orientation. Bell and Kozlowski (2008) found indirect effects of three trait goal orientations (mastery, performance prove, and performance avoid) on adaptive transfer through various mechanisms. Most notably mastery operated primarily through increased task-relevant knowledge development, whereas performance prove and avoid primarily operated through end of training self-efficacy levels (positively and negatively, respectively). In an error training context, Heimbeck, Frese, Sonnentag, and Keith (2003) did not find direct effects of mastery, performance prove, or performance avoid orientations but did find that performance orientations interacted with training conditions such that error-avoidant training was particularly problematic for those with low levels of either. Bell and Kozlowski (2002) found that mastery and performance goal orientations had positive and negative effects on AP, respectively, for individuals with high cognitive ability but no effects for those with low cognitive ability. Outside of the training realm, Chai, Zhao, and Babin (2012) found positive and negative effects, respectively, of mastery and performance prove orientations on self-reported adaptive sales behaviors. Both effects were partially mediated by perceived skill obsolescence.

In summary, there is mixed support for the importance of trait goal orientations as predictors of AP. Although studies have found fairly consistent positive indirect (or mediated) effects of mastery goal orientation, performance orientation effects are equivocal. These findings, especially regarding mastery orientation, suggest potential value in research on interventions aimed at shaping the state components of these orientations through training, leadership, or organizational culture/climate (see Kozlowski et al., 2001, for an example). In addition, future research would benefit from field-based investigations over longer periods, where trait effects (mean effects, trends, etc.) could be examined more directly and in different contexts.

Additional individual differences

A handful of studies have investigated additional individual difference predictors of AP, ranging from demographic factors to non-Big Five personality traits. For example, in a biographical study, O'Connell, McNeely, and Hall (2008) found that women reported higher levels of adaptability (e.g., "I find it very discouraging when the work that I do in my job changes") than men, and that there were no significant effects for age or race. They also found that employability and education levels were positively related to self-ratings of adaptability. With regard to non-Big Five personality predictors, Blickle et al. (2011) found that political skill positively predicted peer-rated AP. In addition, research from the sales literature has identified self-monitoring, empathy, locus of control, tolerance for ambiguity, and service orientation as predictors of adaptive sales behaviors (e.g., customizing products and matching sales pitches to the customer; Gwinner, Bitner, Brown, & Kumar, 2005; Spiro & Weitz, 1990). These findings implicate various processes in AP (e.g., self-awareness and skill in managing others), but more research is needed to understand how and when such effects occur.

General critique and future directions

Overall, the research evidence is unclear with regard to the traits and individual difference processes that contribute to adaptability (i.e., individual differences in the capability and proclivity to engage in AP). This could partially be the result of differences between the studies in operationalization and measurement; however, the conflicting findings within study design suggest other factors may also be at play. In particular, despite the growing acknowledgment of the role of the situation in influencing the expression of personality, with rare exceptions (e.g., Huang et al., 2014), research has not considered person-situation interactions, which might provide a more nuanced view of when and why individual differences are relevant predictors of AP. Additionally, researchers have neglected the pattern/weighting of individual difference factors and the specific type(s) of AP requirements in the given environment, as suggested by Ployhart and Bliese (2006). With the exception of Bell and Kozlowski (2008), we did not

locate any studies that explicitly examined different weights, profiles, or interactions among different individual difference predictors. Finally, and perhaps most importantly, very few studies explicitly compared the effects of individual differences across multiple situations that demanded AP. Doing so would allow for partialing and comparing within- and between-person variance in AP, thus helping us to better understand the extent of between-person differences in adaptability. All are important areas for future research exploration.

Training techniques and learning strategies

Training researchers have examined a number of approaches to enhancing adaptive transfer (i.e., the degree to which trainees can adapt newly acquired knowledge and skills in a changed task environment). For example, several studies focused on the effects of error-management training (cf. Frese & Altmann, 1989), which encourages trainees to make errors during learning rather than to avoid them. Dormann and Frese (1994) found that error encouragement training resulted in higher levels of post-training performance than error-avoidant training, especially on difficult and complex transfer tasks, with exploratory behaviors during training mediating this relationship. In a pair of studies utilizing a driving simulation, Ivancic and Hesketh (2000) found that those who received error-management training performed better than those who received error-avoidant training on an adaptive transfer test that required a different strategy than was used in training. Keith and Frese (2005) found similar results using an overhead slide creation training task. Using a series of spreadsheet creation tasks, Heimbeck et al. (2003) found that participants receiving error training with error-management instructions showed higher levels of adaptive transfer than those receiving error training without management instructions and those receiving only error prevention training. In addition, Joung et al. (2006) used “war stories” to illustrate errors and found that those exposed to war stories instead of more traditional training were better able to identify viable alternative actions and diagnose problems that occurred across a variety of low-complexity and high-complexity scenario and simulation tasks.

Bell and Kozlowski (2008) examined how various features of training (e.g., exploratory learning, error framing, and emotion-control strategies) influenced adaptive transfer through metacognition and self-efficacy. They found that exploratory learning was associated with higher metacognition, which in turn positively influenced adaptive transfer through strategic knowledge development. Moreover, error framing and emotion-control strategies positively influenced self-efficacy, which positively influenced adaptive transfer. These findings point to metacognition and self-efficacy as important motivational processes underlying AP. In a related vein, Bell and Kozlowski (2002) examined the influence of adaptive guidance training techniques that provided participants with tailored information about topics to focus on as they developed skill. They found that adaptive guidance during training was related to more appropriate study and practice strategies, more on-task cognition, and higher self-efficacy, all of which influenced task knowledge and skill development, which ultimately positively predicted adaptive transfer performance. Surprisingly, Neal et al. (2006) found that providing examples of factors that could change the application of decision rules had a negative effect on decision accuracy in adaptive far-transfer trials.

Taken together, researchers have successfully identified several training techniques that can improve individuals' capabilities to adapt newly acquired knowledge and skills to a novel or modified task or task environment. Ample evidence supports the benefit of error-management training in enhancing AP. Other interventions such as adaptive guidance and emotion-control have also been shown to lead to effective learning and subsequent AP. However, the majority of the studies have assessed adaptive transfer along a narrow dimension, focusing on how trainees manage modifications of trained tasks and adjust their performance effectively. It should be noted that much of the literature on adaptive transfer shares similarities with the training transfer literature (Blume, Ford, Baldwin, & Huang, 2010). That is, whether individuals attempt to apply newly acquired knowledge and skills in a novel task environment or back to their job, the underlying psychological processes appear to be highly similar. Thus, our understanding of post-training AP might benefit from (and contribute to) insights garnered from that literature.

Job, task, and contextual factors

A surprisingly small amount of research has focused on the task, job, social, or organizational context in which AP takes place. This limited research suggests that individuals in jobs or contexts that demand adaptation are more likely to engage in adaptive behaviors (Griffin & Hesketh, 2003), although AP might be inhibited to the degree that individuals experience strain as a result of changes (Schraub, Stegmaier, & Sonntag, 2011). Further, individuals are more likely to engage in high levels of AP when their managers are supportive and communicate a vision for change (Griffin & Hesketh, 2003; Griffin et al., 2010; O'Connell et al., 2008). Some evidence also suggests that leadership might work in conjunction with individual and workgroup characteristics. For example, Griffin et al. (2010) found that leader vision for change (similar to charismatic/transformational leadership) positively influenced self-ratings of adaptation frequency in the previous month for individuals high in openness to work role change. Charbonnier-Voirin, El Akremi, and Vandenberghe (2010) found that individual perceptions of transformational leadership positively influenced AP and that this relationship was stronger when individuals worked in teams with a strong climate for innovation.

These studies point to the value of rewarding and supporting AP. Such results should not be surprising given that employees decide whether and how to allocate time and effort based in large part on what they perceive will be valued, rewarded, and supported in the workplace. Shoss et al. (2012) argued that if these things are unclear in the work context (i.e., there are high levels of perceived politics), AP efforts may not translate into effective performance when changes occur. Arguing that conscientiousness helps individuals navigate political environments, they found that the relationship between AP and task-performance effectiveness was positive when (i) perceived politics and conscientiousness were high and (ii) perceived politics and conscientiousness were low. Given the range of situations requiring AP (Pulakos et al., 2000), and the fact that AP takes place within complex social environments, we believe that the neglect of situational factors in AP research is a serious omission requiring future research attention.

Motivational and Knowledge-Based Predictors

Motivation

Motivation can be broadly defined as a “force” influenced by internal and external factors that guide the direction, intensity, and duration of behavior over time and across situations (Diefendorff & Chandler, 2011). Although numerous personal, environmental, and job characteristics have implications for motivation, this section focuses primarily on the direct and mediating effects of relatively proximal, internal motivational factors (Diefendorff & Chandler, 2011) such as self-efficacy beliefs and metacognition on AP, as they have been the primary research foci.

Self-efficacy

Training studies by Ford et al. (1998), Kozlowski et al. (2001), and Bell and Kozlowski (2008) reported positive effects of end-of-training self-efficacy on later AP. Efficacy beliefs also partially mediated effects of trait goal orientations, in-training metacognition, in-training learning strategy use, state anxiety, and end-of training skill. In addition, Chen et al. (2005) found that end of training self-efficacy positively influenced later AP through subsequent (i.e., post-change) goal choice and goal striving.

Research in field settings using supervisor evaluations of AP has also demonstrated positive effects of self-efficacy. Stokes et al. (2010) found positive relationships between self-efficacy and both subjective and objective measures of AP. Griffin et al. (2010) reported that role breadth self-efficacy positively related to self-ratings of adaptation frequency in the prior month. However, Griffin and Hesketh (2003) found significant and non-significant positive relationships between self-efficacy for behaving adaptively and AP in a public service and an IT organization,

respectively. Pulakos et al. (2002) found that self-efficacy for each of their eight dimensions positively correlated with supervisor ratings of overall AP but did not show incremental validity over cognitive ability and personality.

Of the studies reviewed, only Allworth and Hesketh (1999) and Griffin and Hesketh (2003, IT sample) found null effects of self-efficacy. It is worth noting that Allworth and Hesketh (1999) examined the effect of general efficacy for job duties rather than more tailored efficacy beliefs targeted at dealing with challenges in the task or specific dimensions of AP. Thus, their lack of significant findings may be the result of an efficacy measure that was inconsistent in specificity with that of their criteria task (Bandura, 1997). However, it has been suggested that generalized self-efficacy beliefs (i.e., one's belief in his or her overall ability to perform well across a wide variety of achievement situations) are likely to have positive effects on AP (Chen, Gully, & Eden, 2001). This may be particularly true in response to unexpected changes (where accurate task-specific efficacy beliefs may be difficult to form owing to the novelty or ambiguity the situation) or jobs where numerous changes are faced. Clearly, research would benefit from detailed examinations of different types of efficacy beliefs and their effects on AP.

Self-regulation and metacognition

Self-regulatory processes focus on how goals are set, how goals influence behavior, how goals are revised or abandoned, and the management of relevant cognitions and emotions (Diefendorff & Lord, 2008). Within the training realm, several studies have focused on these types of cognitive and behavioral control processes. Keith and Frese (2005) reported a direct positive effect of in-training metacognition levels (i.e., planning, monitoring, and evaluating) on later AP, and both Ford et al. (1998) and Bell and Kozlowski (2008) reported positive indirect effects. Ford et al. found that metacognition effects were mediated by end-of-training declarative knowledge, task skill, and self-efficacy beliefs, whereas Bell and Kozlowski found that they were mediated by later self-evaluation activity (i.e., the amount of time spent reviewing feedback), strategic knowledge acquisition during training, and self-efficacy levels. Furthermore, Chen et al. (2005) found that *post-change* goal choice (e.g., identifying and prioritizing goals and strategies) and goal striving (e.g., monitoring goal progress and coordinating) activities during an adaptation trial had positive effects on later AP.

Surprisingly, given their fundamental influences on motivation (cf. Grandey, 2008), few studies have examined affectively relevant self-regulatory activities as antecedents of AP (a limitation we discuss in further detail later). However, Keith and Frese (2005) found that emotion-control activities during transfer episodes partially mediated the positive effect of error training. In addition, Schraub et al. (2011) found that emotion-regulation activities helped mitigate the effect of perceived change severity on experienced strain (e.g., cognitive and emotional irritation), which was negatively related to AP.

Additional motivational variables

A few studies have provided investigations of additional motivational antecedents of AP. Contrary to expectation, Pulakos et al. (2002) found that interest in adapting did not significantly predict supervisor ratings of AP. Likewise, Allworth and Hesketh (1999) found that past coping activities (negative and positive elements) did not significantly influence supervisor ratings of AP. Han and Williams (2008) found that individual-level AP assessed by team leaders was positively predicted by both individual continuous learning activities and team learning climate, although a hypothesized cross-level interaction was not supported.

General critique and future research directions

These findings make a compelling case that motivational beliefs, processes, and activities positively impact AP. However, we see two primary concerns with this research. First, these studies almost exclusively used pre-change assessments of motivational constructs, thus measuring them when participants were not aware of the type or nature of change they may be facing. However, we might expect substantial variation in efficacy beliefs, causal attributions, and so forth once a change is detected and new environmental factors are taken into account (Gist & Mitchell, 1992). Thus, the picture is unclear with regard to how much these beliefs (and their subsequent effects on other self-

regulatory processes [e.g., Chen et al., 2005] and behavior) carry-over once a change occurs. Second, the extant research has investigated motivational processes exclusively from a between-person perspective. This raises substantial questions as to the nature of these effects on a within-person basis as individuals attempt to adapt over time. In this vein, Sitzmann and Yeo (2013) and Vancouver, More, and Yoder (2008) provided compelling discussions and evidence of the complexity of within-person efficacy-performance effects. Of particular relevance, they note that investigations of environmental moderators are most appropriately conducted at the within-person level and that the timing of efficacy belief measurement (i.e., before or after goal adoption) may have substantial implications. Consistent with our subsequent discussion of *in situ* processes, we encourage within-person investigations of motivational antecedents.

Cognitive processes and behavioral strategies

Several studies in the training literature included cognitive and skill-based learning outcomes (Kraiger, Ford, & Salas, 1993) at the end of the training as predictors of post-training AP. The underlying premise is that trainees who better acquire knowledge and skills can better leverage them in environments requiring adaptation. This assumption is consistent with Baldwin and Ford's (1988) model that identified learning and retention as proximal antecedents to adaptation, as well as with the cognitive ability studies noted earlier.

Research has generally shown that greater acquisition of knowledge and behavioral strategies can enhance one's subsequent ability to adapt these cognitive processes and behavioral strategies. Kozlowski et al. (2001) found that task declarative knowledge, knowledge structure complexity, and training performance (a skill measure) all related positively to AP. In a similar study, Ford et al. (1998) demonstrated that post-training declarative task knowledge levels and training performance related positively to later AP on a radar simulation task. Furthermore, these learning outcomes mediated various effects of metacognition, task strategy practice levels, identical elements learning strategy use, and goal orientations on transfer performance, as noted earlier. Utilizing a battlefield helicopter simulation task, Chen et al. (2005) found that task-related role knowledge and individual task skill were directly and positively related to AP on a more difficult and more complex transfer scenario. In a sales context, Gwinner et al. (2005) found that greater knowledge of customers (part of the task environment) positively predicted salesperson adaptation in both sales tactics and in the types of services offered to individual customers.

Relatedly, research has examined experience as an antecedent to AP. With increased experience on a job, an individual can presumably accumulate the task-relevant knowledge and skills that may enable him or her to adapt. In accordance with this idea, Allworth and Hesketh (1999) found that past adaptive experience positively predicted AP ratings. Pulakos et al. (2002) found the specific type of past adaptive experience mattered when predicting AP ratings. Past experience on their learning dimension was positively associated with AP ratings, whereas past experience on their interpersonal dimension was negatively related. Studies examining experience assessed more broadly (e.g., tenure, job experience), however, have not found significant results (Spiro & Weitz, 1990; Thoresen et al., 2004).

Critically, the current literature has neglected to investigate the extent to which pre-change cognitive processes and behavioral strategies contribute to post-change performance. If AP simply involves acquiring new knowledge and strategies in addition to existing ones (e.g., Kozlowski et al., 2001), then pre-change cognitive processes and behavioral strategies will be beneficial. In contrast, if AP entails foregoing previous knowledge and strategies and adopting different strategies (LePine et al., 2000), then pre-change cognitive processes and behavioral strategies may have minimal influence, with post-change cognitive processes and strategy development taking on a more important role. In this vein, previous work regarding the development and use of strategies in novel and complex tasks could be particularly helpful for developing a greater understanding of the effects cognitive processes on AP. For example, Wood and Locke (1990) explicitly discusses the importance of shared universal plans (e.g., effort and persistence), which are relevant to skilled performance tasks; stored task-specific plans, which are previously used plans with which individuals have had success in a given task context; and new task-specific plans, which must be developed through effort intensive processes. Future research could explicitly examine the role of cognitive factors

(as well as motivational and individual difference factors) in facilitating the selection, development, and implementation of these plans in conjunction with the nature of demands engendered by given task changes.

Key Challenges and Future Directions

In addition to the critiques discussed earlier, we believe that a number of critical issues have served to limit our understanding of AP, its antecedents, and its outcomes for individuals and organizations. In the subsequent sections, we offer an analysis of these issues along with suggestions for moving forward.

Challenge #1: Pursue construct and methodological clarity

One major task for the AP literature is to address issues of conceptual and methodological clarity. Shadish et al. (2002, pg. 65) discussed the “twin problems” of construct validity: understanding the nature of constructs and, subsequently, assessing them. These issues are fundamental, and a lack of attention to them poses a serious threat to the development of a coherent, informative, and practically useful AP literature. We feel that the AP literature could use substantial improvement in regard to both issues.

Regarding the conceptualization of AP and related constructs, we noted previously that numerous terms (e.g., adaptability, adaptive performance, and adaptation) have been used in a somewhat nondescript manner to represent sometimes identical, partially overlapping, or distinct constructs. This lack of conceptual clarity manifests in a pair of related issues, known as “jingle” and “jangle” fallacies (Pedhazur & Schmelkin, 1991). The jingle fallacy, which we are especially concerned with here, refers to the potentially mistaken belief that things that are called by the same name are equivalent or interchangeable. It is especially problematic as it severely impedes theory development and systematic accumulation of knowledge regarding antecedents and interventions. Earlier, we offered a series of definitions to guide future research in the AP domain. We strongly encourage future research to adopt these (or similar) definitions in a more systematic manner.

Regarding the second problem discussed by Shadish et al. (2002), substantial variation exists in operationalization choices among studies, as seen throughout our review. In particular, variation occurs in (a) whether and how pre-change performance is “controlled for” and (b) whether mean post-change performance is distinguished from post-change trajectories. These choices have important implications.

With regard to the aforementioned issue (a), researchers have employed methodological strategies including (1) using post-change only or non-change specific assessments (i.e., no statistical control—e.g., Pulakos et al., 2002; Schraub et al., 2011); (2) pre-change performance as a control variable or as a predictor of AP entered in a regression model prior to an antecedent of interest (e.g., Ford et al., 1998; Kozlowski et al., 2001); and (3) modeling pre- and post-change performance utilizing multiple time parameters to distinguish elements of each (Lang & Bliese, 2009).

The first strategy focuses on covariation between antecedents and post-change performance, which essentially treats AP as job performance during unstable conditions or after changes occur. Although this is certainly an outcome of interest to many, it results in substantial difficulty in conceptually distinguishing AP from job performance more generally. With that said, this outcome may be of practical interest for organizations that wish to select, train, and develop those who can perform well after task change.

The second strategy also focuses on covariation and, in our opinion, poses the greatest potential conceptual difficulty. It is critical to note that “controlling for” pre-change performance via hierarchical regression (or similar techniques) does not yield estimates of the antecedents’ effects on *changes in* performance. Rather, it yields estimates akin to the relationship between the residual of the antecedent *after being predicted by the control variable* (i.e., pre-change performance) and post-change performance (cf. Breaugh, 2008). These procedures, though, are often

appropriate, such as in studies examining the effects of training techniques on transfer *as mediated by* end-of-training outcomes (e.g., Ford et al., 1998; Kozlowski et al., 2001).

In the third strategy (i.e., Lang & Bliese, 2009), AP is interpreted as variation in an individual's post-change performance relative to his or her pre-change levels and acquisition rates. Thus, it allows for direct tests of antecedent influences on change-based performance outcomes, yielding a clear separation between task performance and AP. In addition, alternative coding schemes (e.g., Lang & Bliese, 2013) enable tests of the degree to which changes in the task environment yield changes in performance and, thus, necessitate an adaptive response. Thus, this approach allows for estimation of mean-level changes in performance over time as well as variation in change patterns across individuals, which is distinct from the first two approaches. We believe that this strategy yields the most conceptually distinct approach to studying AP and that its use can help to identify effects that are unique from, and add incremental value to, the broader performance literature.

As a brief illustration of the different interpretations that can arise from the use of these approaches, consider the Lang and Bliese (2009) study. Their approach (number 3 mentioned earlier) yielded results, which suggested that cognitive ability was detrimental to initial performance levels in response to change (i.e., transition adaptation) and neutral for subsequent performance trajectories (i.e., reacquisition adaptation), controlling for pre-change basal task-performance levels and skill acquisition rates. However, using strategy number 1 mentioned earlier would yield a positive cognitive ability correlation with average post-change performance ($r = .32$). Further, given the pattern of zero-order correlations, we would likely see a decreased or even null effect of cognitive ability on average post-change performance if statistically controlling for average pre-change performance (strategy number 2 mentioned earlier; cf. Breaugh, 2008). Clearly, decisions regarding how to deal with pre-change performance can have critical implications for the interpretation of findings, subsequent theoretical development, and practical application. Given this, it is crucial that researchers explicitly justify their choice of operationalization and, if applicable, what controlling for prior performance means within the context of their theory.

With regard to separating mean post-change performance from trajectories (issue (b) mentioned earlier), the vast majority of studies have not done so (see Lang & Bliese, 2009, and Stewart & Nandkeolyar, 2006, for notable exceptions). We refer readers to Lang and Bliese (2009) for a concise discussion of implications for longitudinal research. However, there are also serious implications for research that only measures AP at a single time point. For example, initial AP differences may disappear, strengthen, or even change direction over time. Furthermore, differences may manifest over time even if they are not initially observed. Clearly, theoretical development should focus on *when* AP is measured, as measures at a single time point could yield different estimates on the basis of the underlying effect and when measurement occurs.

Challenge #2: Understand changes in the task environment

The preceding review reveals the lack of a coherent framework for organizing and understanding changes that require AP. The scope of the environmental change in empirical studies varied greatly, ranging from a simple change in task rules (e.g., LePine et al., 2000) to complex changes in work contexts (e.g., Thoresen et al., 2004). The timing of the environmental change also differed, with some studies examining changes that occurred at a single point in time (e.g., Lang & Bliese, 2009), whereas other studies assessed continuous, on-going changes that naturally arose at work (e.g., Huang et al., 2014; Shoss et al., 2012). Researchers may gain a clearer understanding of AP by delineating the kind of changes that precede adapting. The Pulakos et al. (2000) taxonomy represents an organizing structure for researchers to identify the exact nature of changes (e.g., dealing with unpredictable work situations, as in Lang & Bliese, 2009; reacting to work stress and emergencies, as in Huang et al., 2014). A better understanding of the nature of changes may shed light on the generalizability of findings across the different tasks and paradigms used to study AP. It may also help to explain why the extant literature has produced so many conflicting results.

To illuminate the need for a taxonomy of environmental changes, we draw attention to Barnett and Ceci's (2002) taxonomical work on transfer of training where they identified five contextual features that distinguish near from far

transfer. In a near-transfer example, if only the task context is changed, the trainee can apply the same knowledge content after recognizing the change, without revising previously learned responses. However, in a far-transfer example, if multiple aspects of the transfer contexts are changed, the trainee may need to modify existing responses from knowledge. When a taxonomy of environmental changes is available, researchers may begin to examine change characteristics as a moderator between antecedents and AP.

Challenge #3: Develop a theory of in situ processes

Defining AP as behavior begs questions regarding *how* individuals adapt and *what* processes they must engage in to do so. However, few studies have actually looked at the *in situ* processes individuals utilize to adapt *after* a change is detected (see Chen et al., 2005, and Keith & Frese, 2005, for exceptions). Instead, lab studies have primarily assessed process factors that occur *prior* to a change, whereas field studies have primarily assessed them concurrently with outcomes, thereby providing little insight into what individuals actually do to respond to change, how these activities unfold over time, and how these factors influence success or failure. Consequently, we still have little understanding of how individuals notice, interpret, and respond to changes.

Considering the findings discussed earlier, extant studies suggest that various metacognitive, motivational, and learning processes serve important functions in AP. However, research is needed to understand these processes and whether they can explain the relationships between the various “boxes” of AP predictors presented here. For example, positive findings regarding trait mastery goal orientation raise questions about the role of state mastery goal orientation, especially as it can be influenced by training, leadership, or organizational culture/climate more broadly (Bell & Kozlowski, 2008). Until we understand the steps that employees take to adapt to change and the challenges related to the progression between these steps, our knowledge of the various predictors of AP, the form and nature of their effects, and the consistency of effects across various types and degrees of changes (cf. Baard et al., 2014; Pulakos et al., 2000) will be superficial at best. Initial guidance in this regard is provided by Jundt and Shoss (2013) and Ployhart and Bliese (2006). Each drew from work on problem solving, self-regulation, coping, and creativity to posit multi-step models of processes involved in AP. These processes include recognizing or anticipating changes, acquiring relevant knowledge, developing strategies, and monitoring their effectiveness. Further, these authors suggest that individual, task, and contextual features may influence these processes. We strongly encourage researchers to build upon these works and to pursue more formal theoretical treatments of process (cf. van de Ven & Poole, 1995), process-friendly research methodologies (e.g., Langley, Smallman, Tsoukas, & van de Ven, 2013), and the incorporation of related literatures (e.g., problem solving) in order to more closely explicate the AP process and the effects of antecedents upon them.

Challenge #4: Expand the nomological network of adaptive performance and consider unique predictors

Greater clarity regarding the definition and operationalization of constructs in the AP domain is likely to facilitate the development of a more comprehensive picture of their nomological network. The majority of variables investigated as antecedents of AP are also commonly investigated as predictors of task performance, and there seemed to be little search for unique predictors of AP in the articles we reviewed. However, as Dorsey, Cortina, and Luchman (2010, p. 465) noted,

although some aspects of adaptability may look similar to routine technical performance, adaptation may involve doing the same activity to a greater degree, with greater intensity, or in a substantially different way.

Doing so may involve “unlearning” previous ways of doing things (i.e., changing habits, routines, or strategies; e.g., LePine et al., 2000; Stewart & Nandkeolyar, 2006) as well as combating resistance to change and organizational

barriers to the change process. Given this, we believe that more attention is needed to consider emotion, motivational factors, contextual influences, and the interactions between multiple factors as unique predictors of AP.

We also encourage greater attention to outcomes of AP. In particular, there is practical value in identifying factors that facilitate the translation of AP to organizationally relevant outcomes given that organizations endeavor to introduce changes that will ultimately promote success. Moreover, researchers might also consider non-performance outcomes of AP. For example, to the extent that changes induce stress, successful AP might result in tension reduction and improvement in well-being. However, well-being may suffer if an employee adapts to an increased volume and complexity of tasks by taking work home or working longer hours.

Challenge #5: Incorporate related literatures

In many cases, how to respond to changing environmental demands constitutes a problem that employees must solve. Despite the apparent synergies between AP and problem solving, researchers have yet to incorporate theory and research in this area. This is unfortunate because the problem-solving literature is more fully developed than the AP literature and could offer conceptual nuance to work on the processes involved in AP as well as how these processes may differ depending on the nature of environmental changes. For example, dual space search theory (Klahr & Dunbar, 1988; Simon & Lea, 1974; Vollmeyer, Burns, & Holyoak, 1996) could be fruitfully applied to understand the cognitive strategies individuals employ when a change in the environment necessitates a solution to a novel problem. Relatedly, work on cognitive task analysis regarding the flexible application of knowledge to monitor and solve complex problems may also provide added value (Clark, Feldon, Van Merriënboer, Yates, & Early, 2008).

The AP literature could also be enhanced by drawing from works in other related literatures, including coping, affect, self-regulation, organizational change, expatriate adjustment, newcomer socialization, and organizational development. In their own ways, each of these literatures touches on how individuals manage environmental change. For example, the coping, affect, and self-regulation literatures provide insight into the different ways that employees may appraise, react to, and subsequently manage adaptive demands (Carver & Scheier, 1990; Edwards, 1992; Folkman & Lazarus, 1980). Research on organizational change, expatriate adjustment, and newcomer socialization points to the value of the provision of information, management support, individual differences, and job-related factors in promoting acceptance of change, emotional adjustment, and performance (Bhaskar-Shrinivas, Harrison, Shaffer, & Luk, 2005; Rafferty & Restubog, 2010; Wang, Zhan, Mccune, & Truxillo, 2011). Consequently, these factors may also be relevant for AP.

Team adaptive performance

As noted earlier, our review focused specifically on the individual level. However, we believe that a number of the challenges identified at the individual level, especially those regarding construct and methodological clarity, are important for the development of the team AP literature as well. In addition, findings regarding individual difference and training factors could be extended to guide research into team-level composition factors and training techniques, respectively, some of which is already underway (see Ilgen, Hollenbeck, Johnson, & Jundt, 2005, for a brief review). It is important to note, though, that the team literature has taken a more dynamic view of process aspects of AP (e.g., Burke, Stagl, Salas, Pierce, & Kendall, 2006; Kozłowski, Watola, Jensen, Kim, & Botero, 2009), and in this respect, there is much that could be used to inform individual research.

Concluding thoughts

How far has research come in responding to the various academic and applied goals underlying inquiry into AP? Our answer to this question is: far, but not far enough. As a whole, prior research has contributed knowledge regarding

categories of predictors of AP. However, in a sense, it has raised more questions than it has answered regarding the nature and process of AP, the mechanisms linking various predictors to AP, the outcomes of AP for individuals and organizations, whether AP is fundamentally different depending on the nature of the change, and so forth. We argue that research needs to go beyond extant perspectives and designs to investigate these questions. Moreover, such efforts should be based on a firm conceptualization, theoretical model, and operationalization of AP. We share the enthusiasm of early writers regarding the potential of the investigation of AP to contribute to our understanding of performance at work and to the management of an increasingly present issue for organizations. We encourage authors to tackle the challenging questions raised here and by others in order to realize that potential.

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