© *Academy of Management Annals*
2017, Vol. 11, No. 2, 825–885.
https://doi.org/10.5465/annals.2015.0151

A LOOK BACK AND A LEAP FORWARD: A REVIEW AND SYNTHESIS OF THE INDIVIDUAL WORK PERFORMANCE LITERATURE

JOSEPH A. CARPINI
SHARON K. PARKER
MARK A. GRIFFIN
Business School, The University of Western Australia

Individual work performance has been a central topic for scholars over the past century. There is a mass of research on performance but it is embodied in a variety of disconnected literatures each using their own set of constructs and theoretical lenses. In this paper, we synthesize this disparate literature to better understand individual work performance and pave the way for future research. First, using a bibliometric technique to analyze 9,299 articles, we identify the cumulative intellectual structure of the field and show how the field has evolved over the past 40 years. Second, drawing on the Griffin, Neal, and Parker (2007) model, we classify 97 performance constructs according to their form (proficiency, adaptivity, proactivity) and level of contribution (individual, team, organization). We conclude this model is useful for understanding the similarities and differences among many distinct performance constructs. Third, using the Griffin et al. (2007) model, we illuminate the nomological network by mapping the antecedents and outcomes of each form and level of contribution. Our synthesis identified theoretically relevant and differentiating antecedents of form; whereas the nomological network is underdeveloped in relation to the level of contribution. Finally, we propose 18 recommendations which include ensuring conceptual clarity for performance constructs, expanding theoretical models to account for more performance dimensions, greater attention to the underlying mechanisms through which individual performance contributes to higher-level outcomes, increased consideration of how performance changes over time and across contexts, and more investigations into how multiple performance constructs interact with each other to shape effectiveness.

[By assessing performance]…"the individual can measure his comparative value as a worker and thereby determine his position among his fellow men" (Henderschott, 1917, p. 215).

INTRODUCTION

Work performance is an essential concept for understanding an individual's contribution to the organization. Defined as individual behavior that generates value for the organization (Campbell, McCloy, Oppler, & Sager, 1993), work performance is a primary dependent variable in almost every area of management and organizational behavior. Indeed, individual work performance constitutes around one-fifth of all dependent variables in this field (Campbell & Wiernik, 2015), with over 290 meta-analyses including individual work performance as an outcome of interest since 1980.[1] The sheer volume of studies, including many meta-analyses, might suggest that research concerning performance has reached a mature stage of theoretical development. Unfortunately, that is not the case. There have been relatively few systematic attempts to comprehensively define the nature of work performance, and the processes through

This research is supported by the Social Sciences and Research Council of Canada through a doctoral fellowship (752-2013-1861), a University Postgraduate Award and an International Postgraduate Scholarship to the first author, and by Australian Research Council grants of the second and third authors. We extend our thanks to our Action Editor, Matthew Cronin, for his helpful feedback on earlier versions of this paper. Finally, we thank our research assistants Lisa Jooste and Katrina Hosszu.

[1] Search executed using PsycINFO under the "job performance" subject heading and specifying 3600−3660 classification codes and "meta-analysis."

which individual behavior generates organizational value remains underspecified.

In this paper, we provide a historical and theoretical review of work performance research to identify advances and limitations in understanding this construct. In 1964, Katz (p. 131) wrote "our major dependent variables are the behavioral requirements of the organization." This influential essay represented a critical juncture in the development of work performance concepts. Katz presaged two alternative paths of understanding that have been explored to different degrees in subsequent decades. On the one hand, Katz foreshadowed a notable shift in the individual work performance literature away from a narrow focus on core task proficiency to a more pluralistic perspective that includes many other value-generating behaviors exhibited by employees at work. A prime example of this is the exponential growth in attention to organizational citizenship behaviors (OCB; Podsakoff, MacKenzie, Paine, & Bachrach, 2000), and the same trajectory of rapid growth for constructs relating to proactivity (Potočnik & Anderson, 2016; see Figure 1).

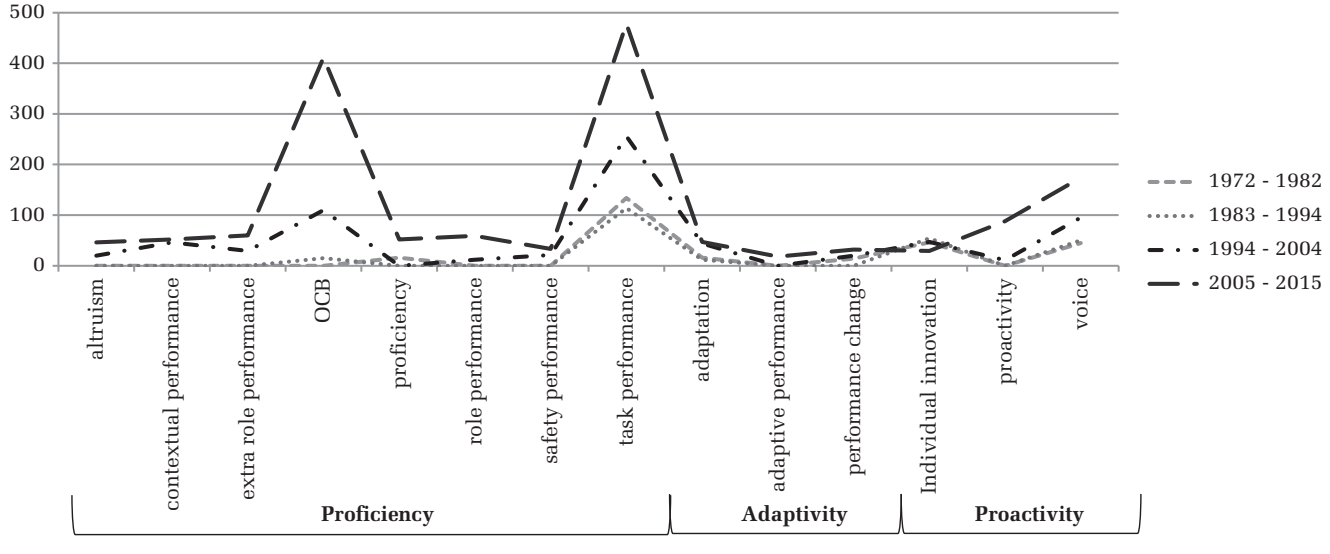
On the other hand, Katz argued for a holistic and integrated view of the diverse ways that individual behavior contributes to the organization. Research has not built on this insight in a way comparable to the growth in research on specific performance subdimensions. There is little research investigating the way different subdimensions of performance relate to each other, or how they interact in more complex ways to influence organizational outcomes. This limitation not only impairs theoretical development, but makes it challenging to offer sensible guidance to practitioners. It is not surprising that scholars have pleaded for researchers to "locate the measure of performance within a broader *substantive* picture" (Campbell, 2012: 161), that is, within a holistic framework that highlights similarities and differences between constructs. Our overall aim in this paper is to provide this more substantive picture by clarifying the content domain and theoretical structure of individual work performance. We have three specific goals.

Our first goal is to map the trajectory of development in individual work performance research. We extend existing meta-analyses and major reviews by conducting a systematic bibliometric analysis that captures the breadth of the field and clusters of topics within the field which helps to "overcome barriers to discussion and collaboration across disconnected research communities" (Lee, Felps, & Baruch, 2014: 340).

Our second goal is to synthesize and extend theory by establishing a comprehensive nomological network of constructs. To achieve this goal, we leverage the Griffin et al. (2007) integrative performance framework. This framework is integrative because it

FIGURE 1

Occurrence of Performance-Related Terms by Temporal Interval. Constructs are presented in alphabetical order and divided according to their ultimate classification within the Griffin et al. (2007) model of performance. Term counts are derived from *VosViewer* using binary counting and represents the number of articles in which a given term is present as opposed to the total number of times a term is present the corpus (van Eck et al., 2010).



results from the combination of form (proficiency, adaptivity, and proactivity) and the level of contribution of the behavior (individual, team, and organization; Griffin et al., 2007) and as such draws various performance literatures together. Using this framework, we review performance constructs and analyze similarities, differences, convergence, and divergence among them, as well as among their antecedents and consequences. We build greater coherence in a disjointed field by identifying linkages across various performance topic areas.

Our third goal is to articulate a research agenda to address key methodological and theoretical gaps in the literature. We propose 10 construct and measurement-related recommendations, each designed to clarify the content of the field and build a more cohesive empirical literature. We then outline 8 key research questions around which we believe future work should focus. A key theme of these research recommendations is the need for additional work articulating the pathways through which different forms of individual work performance contribute to higher-level outcomes such as team and organizational performance and effectiveness, particularly under dynamic conditions.

Our article is bounded by the conceptualization of individual work performance "as things that people actually do, actions they take, that contribute to the organization's goals" (Campbell & Wiernik, 2015: 48). Therefore, we include constructs such as OCBs, adaptive and proactive performance. This definition means that we exclude positive work behaviors such as socialization and career behaviors, because the primary beneficiary of these work behaviors is the self, and the contribution to the attainment of organizational goals is indirect (e.g., Ashford, Blatt, & VandeWalle, 2003). We also exclude creativity because this focuses on the generation of novel ideas but precludes the implementation of ideas (Hammond, Neff, Farr, Schwall, & Zhao, 2011). We also exclude counter-productive behaviors, occupational violence, and deviance as these work behaviors are "intended to hurt the organization or its employees" (Spector & Fox, 2002: 269). Finally, we do not consider emergent team- or organization-level performance constructs that go beyond the individual level of analysis.

A LOOK BACK: MAPPING HISTORICAL DEVELOPMENTS IN PERFORMANCE RESEARCH

We turn now to the first goal of our article, which is to review the development of work performance research. To conduct this review, we employed scientific mapping[2] procedures to analyze all relevant published research across 62 peer-review journals from 1972 to 2015. Scientific mapping quantitatively analyses the content of academic outputs (specifically, nouns in abstracts and titles of articles) and visualizes relationships between concepts by generating research topic maps (van Eck, Waltman, Dekker, & van den Berg, 2010). Although high-quality reviews of the individual performance literature exist, these qualitative reviews are reliant on the subjective view of authors (Ramos-Rodrigez & Ruíz-Navarro, 2004). On the other hand, quantitative reviews such as meta-analyses are narrowly focused on only a select number of constructs (Lee et al., 2014) and usually fail to distinguish between types of performance (Campbell, 2012; e.g., Joseph & Newman, 2010; Oh, Harold, & Lee, 2014). Both quantitative and qualitative reviews are limited by theoretical research topic boundaries, which means only a piece of the performance literature is reviewed (e.g., OCBs, adaptive, and proactive). Science mapping overcomes these obstacles by allowing scholars to "zoom out further, and empirically capture the relationship between multiple topic areas" (Lee et al., 2014: 340). Insights generated through this process assist in identifying future directions, which we return to in the Discussion.

We adopted two strategies to analyze the individual work performance literature. First, we mapped the overall structure of the contemporary individual performance field ("the big picture") by analyzing articles from 1972 until 2015. From this cumulative 40-year map, we are able to highlight areas where cross-fertilization has occurred and where research areas are isolated from one another. Specifically, we identified five topic clusters, or themes of research, which we elaborate shortly. Second, to unpack how the field arrived at its current structure, we went back in time to analyze how research has developed over the 40-year period, focusing on how topics of interest have waxed and, in some cases, waned. Specifically, we analyzed

[2] Scientific mapping uses multidimensional scaling procedures to extract nouns from article abstracts and titles, clustering topics into maps of research topics (van Eck & Waltman, 2010; White, 1990). We used *VOSviewer* (van Eck & Waltman, 2010) to create visual representations of the strength of association between scientific terms (Rip & Courtial, 1984). Appendix A details the selection of articles and the mapping process.

topic clusters for each of four consecutive 10-year periods beginning in 1972. We elaborate each strategy, and our observations, in turn.

The Big Picture: 40 Years of Research on Individual Work Performance

Right now, what does the field of research on performance look like? To answer this question, we used scientific mapping to analyze the abstracts of 9,299 articles on performance published between 1972 and 2015. We began in 1972 since this is the first year of the *Social Science Citation Index* and captures a time when scholars began conceptualizing behavioral measures as criteria rather than output measures (Austin & Villanova, 1992).

The resulting big picture map of performance terms (from 1972 to 2015) was based on 996 terms—36 of which were specific performance constructs. The terms formed five clusters (see Figure 2). Each cluster was quantitatively determined through the strength of association between terms, such that terms in the same cluster appear together more frequently than those in other clusters (Waltman, van Eck, & Noyons, 2010). Put simply, terms clustering together depicts that these topics are commonly investigated together. Table 1 shows the five clusters, the frequently occurring terms, and the underpinning theoretical perspectives of each cluster. We named each cluster by carefully analyzing the high frequency terms that occur within it.

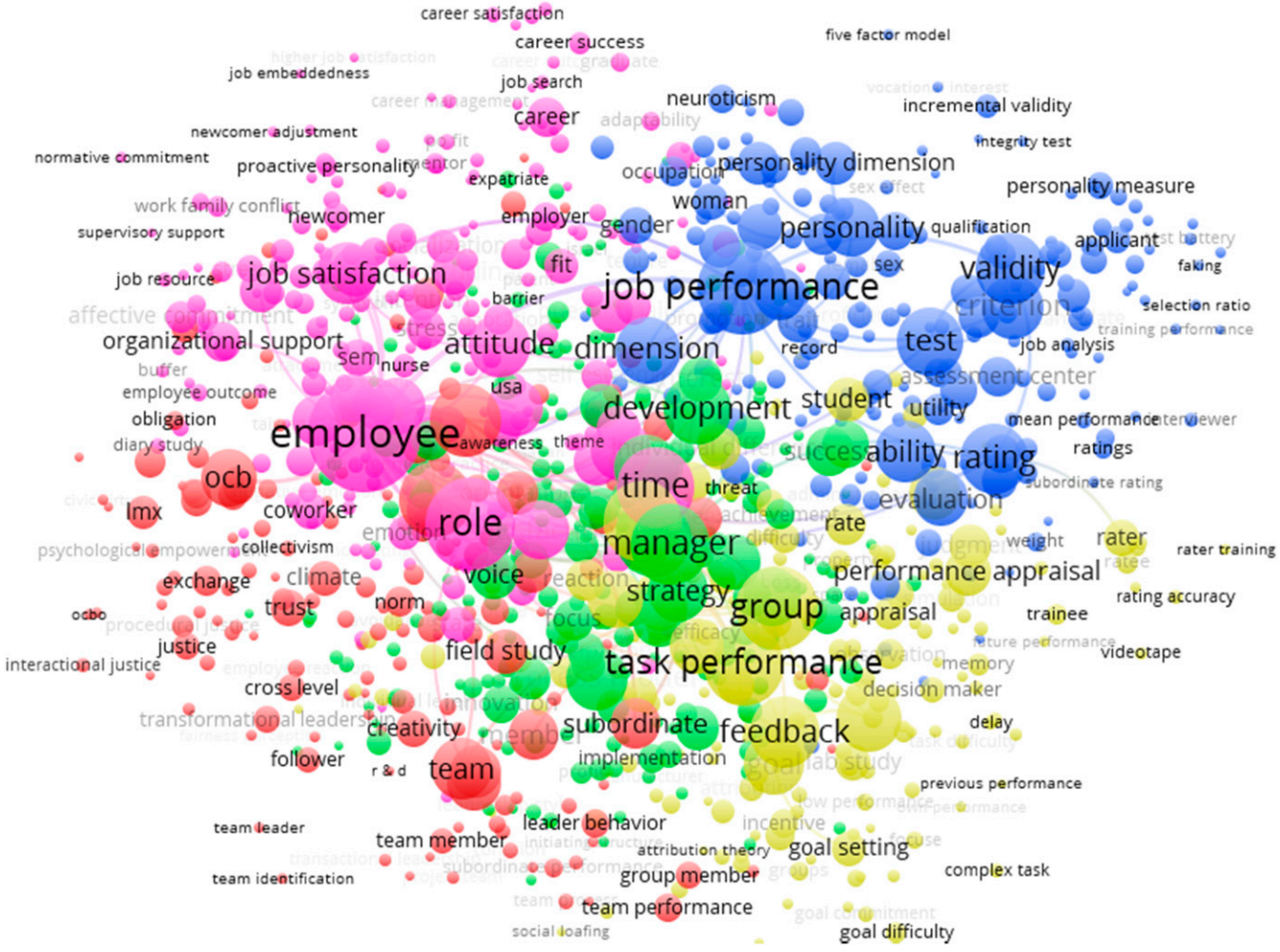
The five clusters depicted in the overall map of individual work performance indicate a breadth of perspectives. First, the *management* cluster (Figure 2, green) largely represents the "so what" of performance, capturing key outcomes and highlighting the study of performance as an integral part of almost every element of organizations from employee knowledge, skills, and abilities, to organization-level strategy and growth. Second, the *personnel selection perspective* (Figure 2, blue) is concerned with the measurement and prediction of job performance. Third, the *motivation* cluster (Figure 2, yellow) is dominated by a focus on the underlying motivational mechanisms of task performance. Fourth, the *good citizen* cluster (Figure 2, red) captures the OCB literature. Although this cluster is the smallest, it contains almost twice as many performance constructs as any other cluster, attesting to the importance of this perspective in broadening the domain beyond the traditional focus on task and job performance, to a wider set of positive behaviors. Finally, the *job attitudes* cluster (Figure 2, purple) represents the "happy-productive" worker debate, and the closely related job design literature. We briefly elaborate each of the five clusters.

The management cluster. The largest and most central cluster of terms in the map ($N = 225$ terms), which we refer to as *management*, has a strong focus on the role of individual performance in achieving organizationally relevant outcomes. Frequent terms include "strategy," "success," "quality," "productivity," and "production." The terms within and the centrality of this cluster attests to the age-old argument that individual work performance contributes to the achievement of organizational goals through bottom-up processes (Campbell & Wiernik, 2015; Katz, 1964)—an argument so pervasive in the literature that few question it—but as we shall discuss later, few explicitly test.

The personnel selection perspective cluster. A further key cluster of topics, which we refer to as the *personnel selection perspective* ($N = 191$ terms) captures two fundamental pursuits within the personnel selection literature. The first pursuit, to identify and reliably measure individual work performance, is represented in terms such as "criterion," "validity," "rating," and multiple performance-related terms (see Table 2). The second pursuit is the reliable prediction of future work performance using selection tests, particularly of individual differences such as personality. Consistent with reviews of the personality-performance literature that show its centrality for predicting core task performance (Barrick & Mount, 1991), "conscientiousness" is larger and more central in the map than the other four personality dimensions. These two pursuits come together as a single cluster of topics because they both originate in the personnel selection literature which is fundamentally concerned with defining, measuring, and predicting performance. Interestingly, this cluster is the most isolated, suggesting limited integration with the broader performance literature.

The motivation cluster. Scholars have long sought to understand what factors promote performance. The third cluster, which we refer to as *motivation* ($N = 195$ terms), covers questions about the role of motivation in facilitating task performance. This cluster is defined by the central term "task performance," and the closely related terms of "group," "feedback," "motivation," and "experiment." The importance of goal setting theory (Locke, 1968) is shown by a tight cluster of terms such as "goal setting,"

FIGURE 2
Cumulative Map of the Individual Work Performance Literature (1972–2015). Map Interpretation: Terms are presented in varying sizes representing the frequency with which terms are observed in the data such that larger terms appear more often than smaller ones. The distance between terms represents their relatedness. Relatedness can be assessed at two levels: first, terms appearing close to one another co-occur more often than those far apart; second, terms occupying central positions in the map co-occur with more terms in the map than those on the peripheral. The color of terms denote "clusters" such that those terms most similar share a common color and are more similar to one another than those terms of another color (van Eck & Waltman, 2010). The 40-year map includes 1,006 scientific terms extracted from 9,299 articles. The clusters present in the 40-year map are the *Management* (green, *N* = 227 terms); the *Personnel Selection Perspective* (blue, *N* = 191 terms); *Motivation* (yellow, *N* = 195); *The Good Citizen* (red, *N* = 161); *and Job Attitudes* (purple, *N* = 232). Please refer to Table 2 for an analysis of key terms present in this map by corresponding cluster.



"goal commitment," and "incentive." In addition, the "performance appraisal" and "judgement" terms appear proximally to the "evaluation" and "rating" terms from the *motivation* cluster, highlighting dual interests in assessing individual performance (Levy & Williams, 2004). Finally, the presence of the "adaptive performance," "learning," and "performance change" terms within the same cluster as "task performance" is consistent with the domain-specific adaptation perspective (Baard, Rench, & Kozlowski, 2014) in which adaptation is a response to changes in order to maintain or improve task performance.

The good citizen cluster. As we will elaborate shortly, a key development within the performance

TABLE 1
Positive Work Role Behavior Model Summary

		Level of Uncertainty		
		Proficiency Individual behaviors that can be formalized and anticipated in advance	**Adaptivity** "Behaviors in which individuals cope with, respond to, and or/support changes"[1]	**Proactivity** Individual agentic and self-starting, change-oriented, and future focused behavior
Level of Interdependence	**Individual task behaviors**	**Individual task proficiency** "that reflect the degree to which an employee meets the known expectations and requirements of his or her role as an individual"[1]	**Individual task adaptivity** "reflects the degree to which individuals cope with, respond to, and/or support changes that affect their roles as individuals"[1]	**Individual task proactivity** "extent to which individuals engage in self-starting, future-oriented behavior to change their individual work situations, their individual work roles, or themselves"[2]
	Team-member behaviors	**Team member proficiency** "behaviors that can be formalized and are embedded in a team or group. . . (or) the degree to which an individual meets the expectations and requirements of his or her role as a member of a team"[1]	**Team member adaptivity** "reflects the degree to which individuals cope with, respond to, and/or support changes that affect their roles as members of a team"[1]	**Team member proactivity** "extent to which individuals engage in self-starting, future-oriented behavior to change their a team's situation or the way the team works"[2]
	Organization member behaviors	**Organization member proficiency** "reflects the degree to which an individual meets the expectations and requirements of his or her role as a member of an organization"[1]	**Organization member adaptivity** "reflects the degree to which individuals cope with, respond to, and/or support changes that affect their roles as organization members"[2]	**Organization member proactivity** "extent to which individuals engage in self-starting, future-oriented behavior to change his or her organization, and/or the way the organization works"[2]

Notes. All quotes from Griffin et al. (2007). [1]p. 331, [2]p. 332. Table replicated with permission from Carpini and Parker (2017).

literature has been to recognize that performance is not just about carrying out one's prescribed job requirements (task proficiency). The *good citizen* cluster ($N = 150$ terms) captures OCBs and related concepts, and is almost as large as the *personnel selection perspective* and *motivation clusters*. Terms show the strong influence of social exchange theory (Blau, 1964), leadership (Podsakoff, MacKenzie, Moorman, & Fetter, 1990), and the trust literature (Mayer & Gavin, 2005). Additionally, the proximity of the "OCB" term with "satisfaction" is not surprising given the vast literatures linking these variables (e.g., Bateman & Organ, 1983; Fassina, Jones, & Uggerslev, 2008).

The job attitudes cluster. One of the longest-running debates within the performance literature is the "happy-productive worker" hypothesis, that is, the belief that a satisfied worker is also a high performing one (Wright & Cropanzano, 2000). The final cluster, which we refer to as *job attitudes* ($N = 235$ terms), captures this debate as evident by the terms "role," "job satisfaction," "attitude," and "turnover" as well as the cluster's close proximity and overlap with the *good citizen* cluster. The role of job design in shaping job attitudes is well recognized, so it is unsurprising to see elements of the work design literature (e.g., "autonomy" and "engagement") are strongly represented (Hackman & Oldham, 1976). Finally, we also note the presence of proactive concepts, including "personal initiative" and "proactivity." The closeness of these concepts with research on job attitudes makes sense as early work on proactivity had a strong focus on job design (Grant & Parker, 2009).

The result of our mapping the individual work performance literature has revealed five distinct approaches to its study. As we will see next, these five topic areas are deeply rooted in the historical development of the field, as opposed to theoretical

TABLE 2
Terms Defining Each of the Five Clusters of the Individual Performance Literature

	What Terms				Methodological Terms		
	Correlates	**Performance Constructs**	**Outcomes and Indicators**	**Theoretical Perspectives**	**Where**	**Who**	**How**
Cluster 1 *Management*	Development Ability Strategy Knowledge Nature Structure Skill Interest Opportunity Focus Idea Culture Respect Participation	Effort Whistle blowing/voice Communication Loyalty Help Cooperation Collaboration Innovative performance Problem-solving Employee Participation	Quality Value Success Productivity Innovation Pay Efficiency Output Recognition Production	Agency theory Organization theory interactionist perspective	Service Industry Uncertainty Interdependence Office Labor market Bank United States Manufacturing	Manager[1] Worker[2] Practitioner Professional Staff	Process model Intervention Field experiment
Cluster 2 *Personnel Selection Perspective*	Validity Test[3] Personality[4] Conscientiousness[5] Age Selection Trait Criterion validity Interview Bias Gender Reliability Cognitive ability	Job performance Criterion Overall job performance Proficiency Managerial performance Mean performance Supervisor Performance	Rating Performance rating Promotion Supervisory rating Superior performance Sale	Five-factor model	Assessment center	Woman[6] Man Personnel Applicant Candidate Psychologist Officer Job applicant White Black Minority	Meta-analysis Factor analysis Self-report Personality measure Peer rating
Cluster 3 *Motivation*	Time Feedback[7] Goal Motivation Training Judgment Individual difference Reaction Belief Learning Reward Tendency Appraisal	Task performance Persistence Adaptive performance	Effectiveness Performance appraisal Team performance Performance outcome High-performance work quantity Performance change	Goal-setting theory Expectancy theory Person-team fit Equity theory	Group Context	Student[8] Rater Group member Decision maker Ratee Performer Trainee	Experiment[9] Rate Observation Simulation
Cluster 4 *The Good Citizen*	Perception Leadership Commitment Orientation Organizational commitment Identification	OCB Employee performance Contextual performance Extra-role performance Role performance Altruism Safety performance	Subordinate performance Leadership effectiveness Organizational effectiveness Leader effectiveness Individual outcome	LMX Social exchange theory Leadership theory	Workplace China USA	Employee Supervisor Team (Member) Leader Subordinate	Field study HLM Cross-level Multisource data

TABLE 2
(Continued)

	What Terms				Methodological Terms		
	Correlates	**Performance Constructs**	**Outcomes and Indicators**	**Theoretical Perspectives**	**Where**	**Who**	**How**
	Organizational support Trust Climate Counterproductive work behavior Affective commitment	Prosocial behavior OCBO Civic virtue OCBI Courtesy Interpersonal facilitation Sportsmanship	High quality Leadership development				
Cluster 5 *Job Attitudes*	Satisfaction[10] Attitude Expectation Stress Intention Status Conflict State Emotion Autonomy Self-esteem Health Feeling Workday Engagement	Proactivity Personal initiative	Turnover Career Status Adaptation Work outcome Work engagement Career success Career development Organizational outcome Withdrawal behavior Employee outcome Career satisfaction	Role theory Job resource-demands theory[11] Self-efficacy[12] Fit[13] Work design[14]	Hospital Home Germany Netherlands	Student[15] Newcomer Nurse Adult Teacher Mentor Full-time employee Graduate Parent Faculty member Physician Diverse sample	Survey[16] Longitudinal Structural equation modeling (SEM)

Expanding on the framework proposed by Lee et al. (2014) we distinguish terms across several categories. Terms were coded by the first author and reviewed by the second and third authors. Discrepancies were resolved through discussion. "What" terms represent construct names and are divided into four categories: (1) "Correlates" which denote terms which are likely to be examined in conjunction with others. Given the high number of generic "what" terms, we present the top 10 percent of terms in this category. (2) "Performance Constructs" which represent individual performance constructs. Consistent with the focus of the paper, we include all performance constructs in a given cluster. Performance constructs accounted for the following percentage of variance in each of their respective clusters: (1) *Classical Perspective on Performance* = 6 percent, (2) *The Criterion Problem* = 12 percent, (3) *Motivating Goals for Task Performance* = 6 percent, (4) *The Good Citizen* = 7 percent, (5) *The Proactive Employee* = 1 percent. (3) The "Outcomes and Indicators" category builds on the work of Campbell and Weirnik (2015) who distinguished between individual performance and outcomes and indicators of individual performance. Building on this distinction, we highlight terms falling within the outcome (e.g., sales, salary, promotion) and indicators (e.g., efficiency, productivity) categories. (4) "Theoretical Perspectives" are prominent terms that relate to theories. In the second major category, "Methodological Terms," terms are divided into three categories of terms: (1) "Where" terms reflect research context characteristics, (2) "Who" identifying terms emphasize the substantive actors, and (3) "How" terms highlight both data collection and analytical strategies (Lee et al., 2014). All terms are presented in order of the total number of occurrences. To search for terms using the interactive map, please use all lowercase letters without hyphenates. For all categories except "Correlates" and "Performance Constructs," terms were included until at least 80 percent of the total number of terms occurrence were accounted for in the list. For parsimony, we combined some terms in this table: [1]includes "manager," "boss," "top management team," "HR manager," "direct supervisor," "middle manager," "line manager," and "senior manager"; [2]includes "worker" and both "knowledge worker" and "blue collar worker"; [3]includes both "test" and "evaluation"; [4]includes "personality," "dimension," and "personality dimension"; [5]although Organ (1997) advocated the continued use of the term "conscientiousness" in relation to OCBs, the relative position of this term suggests it is in relation to the personality dimension and not the OCB term; [6]includes "woman" and "female"; [7]includes both "feedback" and "performance feedback"; [8]includes "student," "undergraduate student," and "college student"; [9]includes both "experiment" and "lab study"; [10]includes "job satisfaction," "satisfaction" (undefined), and "life satisfaction"; [11]includes both "resource" and "demands" terms; [12]includes both "self-efficacy" and "role breadth self-efficacy"; [13]includes "fit," "po fit," "person environment fit," and "person job fit"; [14]although "job characteristics model" is cited only a few times, 19 percent of terms in this cluster belong to the expanded work design model presented by Humphrey, Nahrgang, and Morgeson (2007); [15]includes "university student," "graduate student," and "high school student"; [16]includes references to "survey" and "questionnaire."

perspectives, a fact that may have impeded theoretical advancements and the bridging of topic areas.

A Look Back at the Development of the "Big Picture"

Next, to help understand how the cumulative structure of performance research emerged, we trace the development of the field using a sequence of four scientific maps with each map representing a 10-year period[3] (1972–1982; 1983–1993; 1994–2004; 2005–2015). Mapping the evolution of the field allows us to ask how the field is progressing, which we do with reference to different hypotheses about field development (De Bakker, Groenewegen, & Den Hond, 2005). The *progression hypothesis* states the literature in a given domain benefits from incremental advances in empirical theory and testing; whereas the *variegation hypothesis* proposes that the literature is hindered by the proliferation of similar or slightly divergent terms. In contrast, the *normativism hypothesis* holds that limited progress in a field has been made due to a lack of theory and empirical study (De Bakker et al., 2005). As we shall see, the current structure of the field has strong roots in its history and has overall benefitted from progression, as indicated by more comprehensive coverage of multiple behaviors and attention to more nuanced types of performance over time. However, variegation does appear to be an issue in relation to the OCB and proactivity literatures, whereas normativism has likely limited the conceptualization of task performance.

In the first map (1972–1982; Figure 3), which we characterize as *understanding the core*, we highlight scholars' narrow focus on job and task performance—essentially capturing the most basic unit of an employee's organizational contribution. The following map (1983–1993; Figure 4), which we describe as *flowering of dimensions*, is characterized by many conceptual developments including the introduction of OCBs, prosocial organizational behavior (POB), and contextual performance all of which expanded scholars' focus from "the core" to new types of employee contributions. In the third map (1994–2004; Figure 5), described as *scattering in the wind*, we note the rise of the proactivity and adaptivity literatures, but also underscore the increasing isolation of various performance constructs from one another—that is to say, there are more performance constructs in the map, but they are dispersed across it and with fewer linkages between constructs. The final map (2005–2015; Figure 6), labeled *new concepts take root*, contains the most unique performance construct terms and includes clusters of terms related to proactivity, adaptivity, and careers. In recognition of the ever more complex and disjointed literature, during this period, scholars such as Bartram (2005) and Griffin et al. (2007) introduced comprehensive models attempting to bridge various types of performance.

Next, we elaborate the maps and recap key conclusions about the field's development.

"Understanding the Core" (1972–1982)

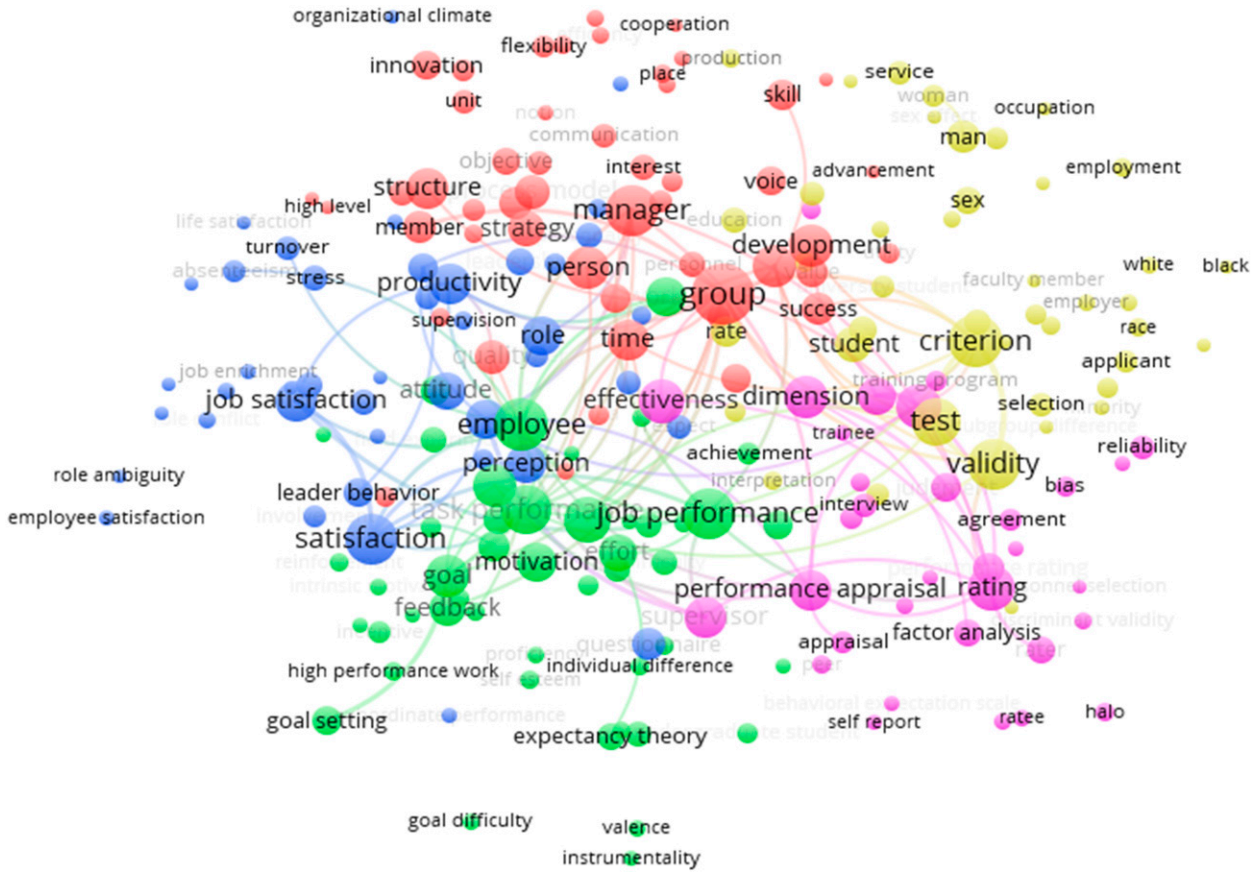
The contemporary structure of the performance field has been strongly shaped by research conducted between 1972 and 1982 (Figure 3). The legacy of this early research is reflected in the fact that four of the five clusters in this map are also in the "big picture" map (Figure 2), suggesting this early research formed a core foundation on which the field would build. Further, research during this period was dominated by a singular focus on task and job performance (core job performance) as reflected by the prominence of these terms; it would not be for some time after that the literature would move away from this limited conceptualization of performance to include additional positive work behaviors.

More specifically, this 10-year map depicts five topic clusters (1,281 articles). At the outset, we can see the emergence of the *management* cluster (N = 50 terms) that is still distinct and dominant within the 40-year map. This cluster includes generic terms such as "group," "manager," and "success," alongside theoretically important outcomes of individual work performance, such as "team performance," "innovation," "organizational effectiveness," and "efficiency." The term "voice" is present, but is linked to organizational concepts of whistle-blowing rather than later behavioral concepts such as speaking up (Farrell & Petersen, 1982; Parmerlee, Near, & Jensen, 1982). The presence of this cluster demonstrates early scholars were concerned with the higher-order outcomes of performance.

We can also see that the *personnel selection perspective* (N = 43 terms) was an early and influential focus of performance research. Attention to this issue reflected an important aspect of the socio-political context at the time: the application of psychology to the recruitment and selection of appropriate military personnel beginning with World War I (Austin & Villanova, 1992; Ghiselli, 1973). The prominence of

[3] Our analyses of major reviews suggested 10-year periods provided adequate scope to identify changes in focus.

FIGURE 3
Understanding the Core: Term Map for 1972–1982. Clusters: The *Management* (red), *Appraisal* (yellow), *Personnel Selection Perspective* (purple), *Motivation* (green), *Job Attitudes* (blue).



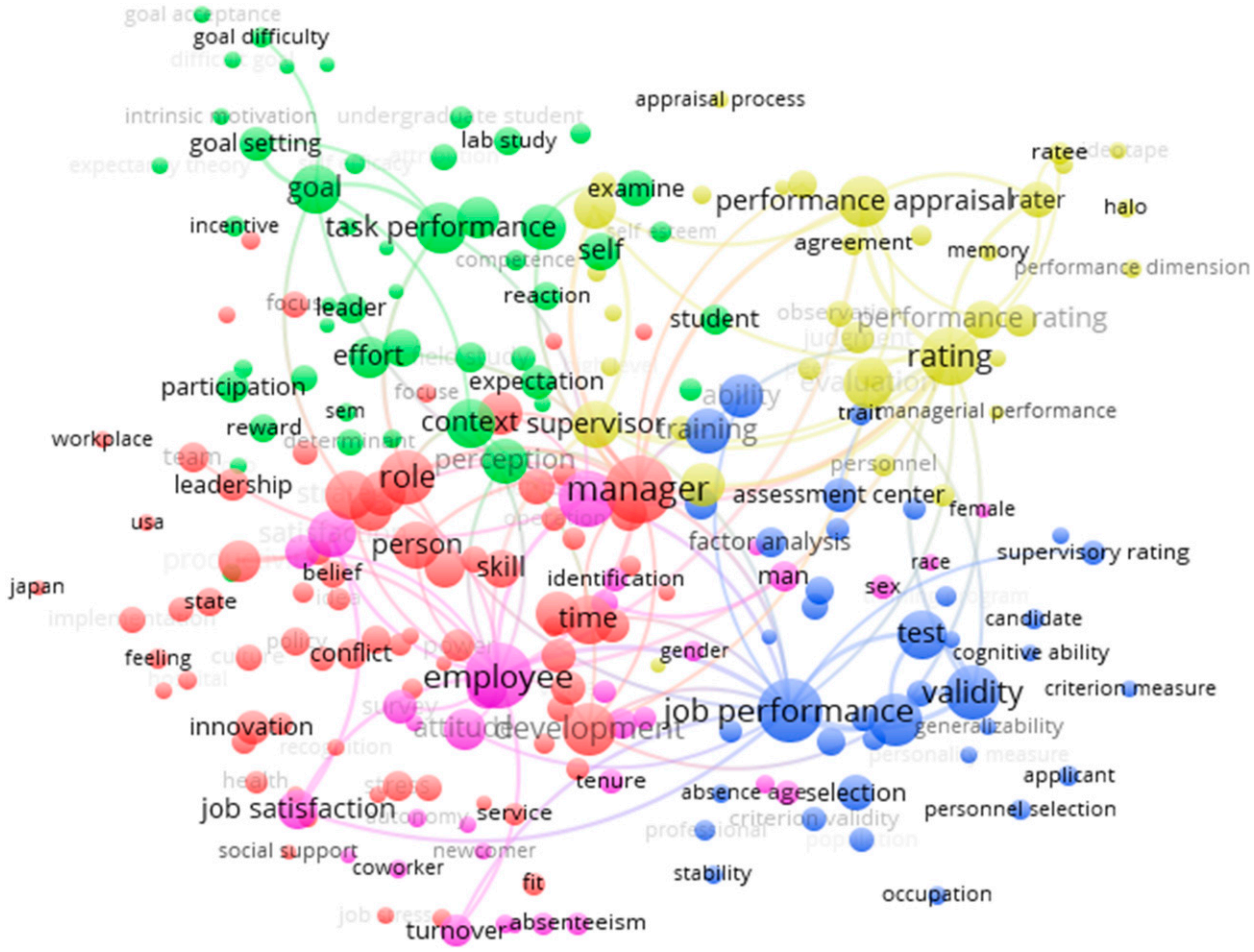
"performance appraisal," "ratings," "dimension," and "reliability" as key terms within this cluster reflects what Austin and Villanova (1992: 836) described as "[t]he legacy of the first 60 years of scientific research on criteria." Ghiselli (1973: 475−476) summarized over half a century of research on ability tests across eight categories of occupations, concluding "for every job there is at least one type of test which has at least moderate validity." The prevalence of research on personnel selection and the use of individual differences as predictors of performance are shown by its continued visibility in the 40-year cumulative scientific map.

This period was also one in which there were important developments in motivation theory, with the obvious question surfacing as to how motivation shapes performance. The *motivation* cluster ($N = 47$ terms) shows terms reflecting Vroom's (1964) expectancy theory, which proposed performance to be a function of ability and motivation, and goal setting theory (Locke, 1968), which explained how setting goals facilitates task performance. The importance of this perspective is underscored by its continued visibility in the 40-year map.

A further notable historical development that is again reflected in the map is shown by the beginning of the *job attitudes* cluster ($N = 43$). This cluster includes terms such as "job characteristic," "job enrichment," "job satisfaction," "perception", and "role ambiguity." This cluster captures research stimulated by the job characteristics model (Hackman & Oldham, 1976) as well as other theories such as the demand-control model of strain (Karasek Jr, 1979) and role theories (e.g., Rizzo, House, & Lirtzman, 1970). The array of terms in this cluster shows that research within this perspective often examined outcomes of work design beyond performance, such as "turnover," "absenteeism," and "stress."

Finally, a cluster of research, which we refer to as *appraisal* ($N = 33$ terms), also reflected an important

FIGURE 4
Flowering of Dimensions: Term Map for 1983–1993. Clusters: The *Management* (red), *Appraisal* (yellow), *Personnel Selection Perspective* (blue), *Motivation and Personality* (green), *and Job Attitudes* (purple).



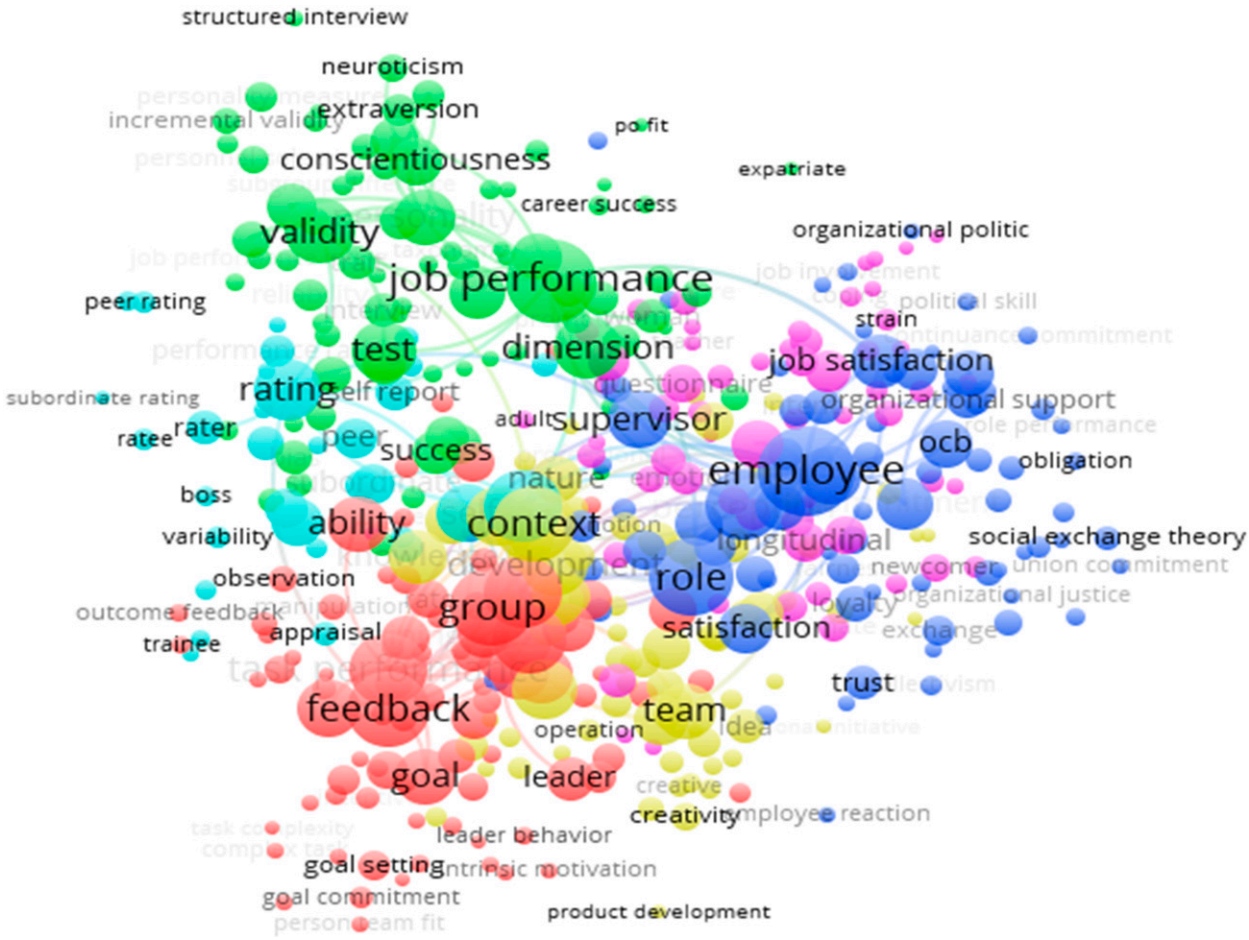
issue of the time, that is, the U.S. Equal Employment Opportunity Commission rulings designed to reduce adverse impact in selection practices (Bigoness, 1976). Terms in the map such as "bias," "woman," "man," and "race" all point to the strong emphasis on examining selection methods for potential adverse impact. In the 40-year map, the appraisal cluster is present within the larger *personnel selection perspective* cluster.

"Flowering of Dimensions" (1983–1993)

Scientific mapping of articles from 1983 to 1992 demonstrates a progression of research topics from the previous 10 years, with similar labels defining the five clusters (1,310 articles, Figure 4). In other words, the early avenues of performance research using the management and personnel selection perspectives continued, as did work examining the roles of individual motivation, appraisal, and job attitudes. Nevertheless, we refer to this period as "flowering" because researchers' developed new concepts, and explored novel relationships within the *motivation and personality, personnel selection perspective, and job attitudes* clusters; whereas the other two clusters remained largely unchanged.

The *motivation and personality* cluster ($N = 64$ terms) continues to focus on how to motivate individuals to achieve task performance, with expanded theoretical perspectives, such as how "self-efficacy" affects performance (Bandura, 1977). Additionally, the term "personality" is in close proximity to "job performance," consistent with the publication of Barrick and Mount's (1991) meta-analysis; the culmination of over 25 years of empirical work on the question as to how personality

FIGURE 5
Scattering in the Wind: Term Map for 1994–2004. Clusters: *Motivation* (red), *Personnel Selection Perspective* (green), *Job Attitudes* (blue), *Proactive Concepts* (yellow), *Expanded Job Attitudes* (purple), *Appraisal* (aqua).



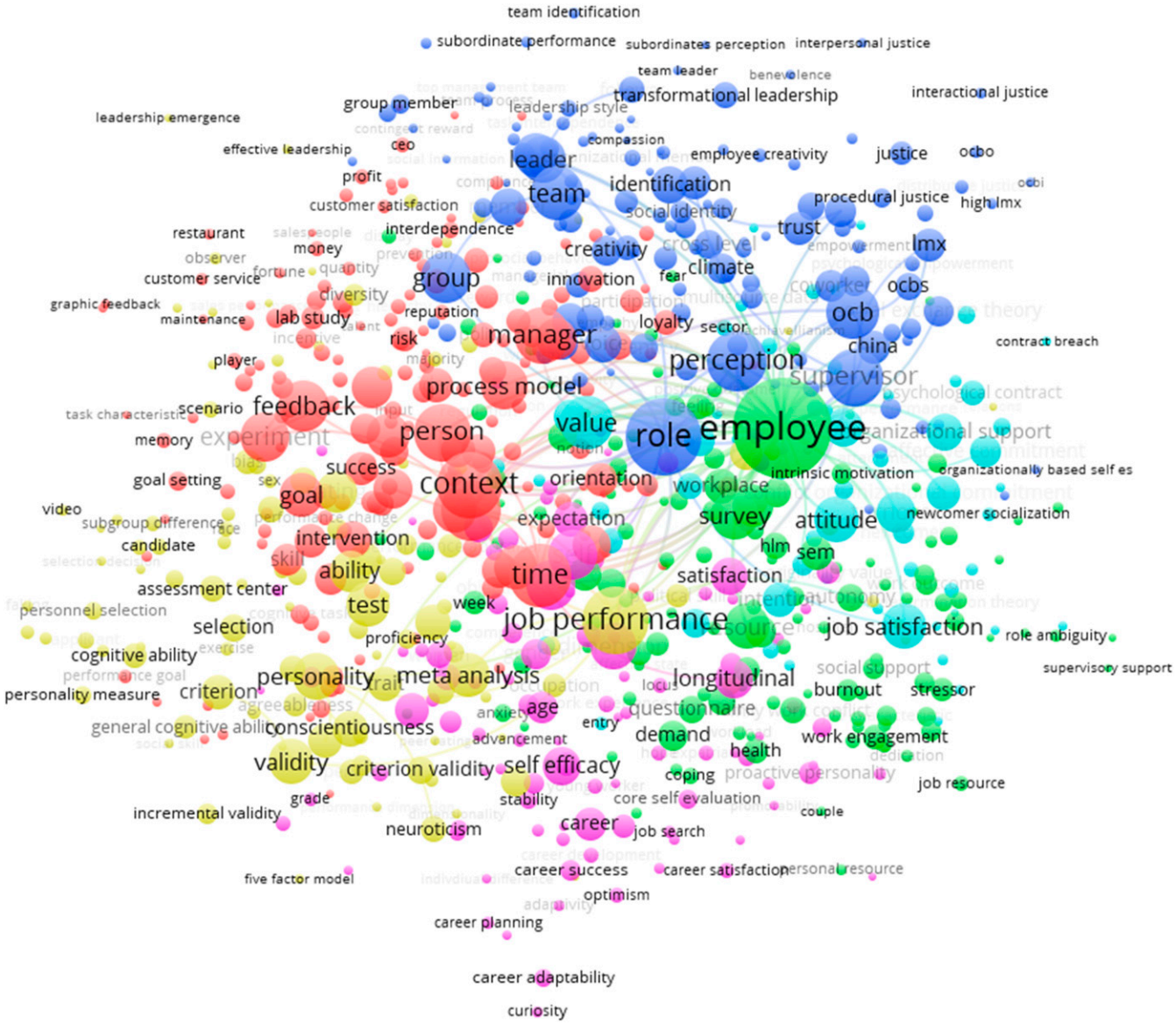
affects performance. This meta-analysis cemented conscientiousness as the key antecedent of task performance.

The *personnel selection perspective* (N = 50 terms) remained a distinct cluster. An important meta-analysis in this period was Hunter and Hunter's (1984) review, which demonstrated ability to be a valid predictor of entry-level jobs, but also showed selection based on ability was likely to adversely impact minority groups. A further meta-analysis by Schmidt, Hunter, and Outerbridge (1986) found that job knowledge mediated the relationship between general mental ability and job experience on supervisory ratings of performance.

The emergence of the term "autonomy" in the *job attitudes* cluster (N = 33 terms) is consistent with the job characteristics model (Hackman & Oldham, 1976) that identified autonomy as key for enhancing meaning at work, and hence for promoting performance. Also within the same cluster is the term "commitment." Early commitment literature was predominately concerned with predicting turnover among employees; however, Meyer, Paunonen, Gellatly, Goffin, and Jackson (1989) advanced this literature by showing that affective commitment positively predicted performance and promotability, whereas continuance commitment negatively predicted these outcomes.

Perhaps most importantly during this period, three specific constructs were introduced that are visible within the *job attitudes* cluster (and which have become more important over time, as we shall see). The first new construct to be introduced, which lent on the earlier distinction between "in-role" and "extra-role" behavior (Katz, 1964), was OCB (Organ, 1988; Smith, Organ, & Near, 1983). Bateman and

FIGURE 6
New Concepts Take Root: Term Map 2005–2015. Clusters: *Motivation* (red), *Expanded Job Attitudes* (green), *OCB* (blue), *Personnel Selection Perspective* (yellow), *Careers* (purple), *Proactive and Adaptive Concepts* (aqua).



Organ define OCB as "behavior that cannot be prescribed or required in advance for a given job" (1983: 588) and "lubricate the social machinery of the organization but . . . do not directly inhere in the usual notion of task performance." Although an original taxonomy of nine distinct behaviors was identified (Bateman & Organ, 1983), Williams and Anderson (1991) later classified the constructs into two overarching categories: OCB-O, behaviors such as compliance that benefit the organization; and OCB-I, behaviors directed at specific individuals such as helping.

A second concept introduced during this period was *POB* (Brief & Motowidlo, 1986). Influenced by the above work, as well as advances in developmental and social psychology, POB refers to behaviors targeted toward an individual, group, or organization with the intention of improving the target's welfare. Brief and Motowidlo presented 13 forms of POB including 11 organizationally functional behaviors

(e.g., assisting coworkers) as well as two organizationally dysfunctional behaviors (e.g., showing leniency in personnel decisions). Scholars have argued (reasonably, we believe) that there is considerable overlap between OCB and POB constructs (Borman & Motowidlo, 1997; O'Reilly & Chatman, 1986). For instance, Bolino and Grant (2016) argued that both OCB and POB are types of "prosocial behavior," along with mentoring, knowledge sharing, brokering introductions, and compassion.

The third key construct to be introduced during this period came from Borman and Motowidlo (1993: 73), who distinguished core task performance from *contextual performance*, which they defined as behaviors that "do not support the technical core itself as much as they support the organizational, social, and psychological environment in which the technical core must function." Contextual performance encompasses both OCB and POB constructs. Empirical studies support the distinction between task and contextual performance (Motowidlo & Van Scotter, 1994), with the latter being more strongly predicted by personality than the former (Borman & Motowidlo, 1997). Meta-analytic reviews have supported the importance of contextual performance (e.g., Christian, Garza, & Slaughter, 2011), although many studies use contextual performance and OCB interchangeably (Carpenter, Berry, & Houston, 2014; Organ, 1997). As we discussed, several authors have lamented the variegated state of the OCB/contextual performance literature (e.g., Organ, 1997; Organ et al., 2006), although the overall convergence of concepts is evident in the cumulative map's OCB cluster because the constructs are all positioned as OCBs.

Finally, in an effort to be comprehensive, Campbell et al. (1993) introduced a taxonomy of performance. Drawing on research in the military, and critiquing the notion of a single performance criterion (Dunnette, 1963), these authors identified eight performance factors that were argued to capture "the top of the latent hierarchy in all jobs in the *Dictionary of Occupational Titles*" (Campbell et al., 1993: 46). Later, Campbell (2012) updated the eight-factor model. This model played an important role in expanding the criterion domain, although the structure requires additional validation.

"Scattering in the Wind" (1994–2004)

In this period (Figure 5), there was further growth in the number of performance constructs. Although this increase reflects more nuance and diversity in performance constructs, it also shows an increasing detachment of some dimensions from the overall concept of job performance. For example, terms such as "voice," "extra-role," "proactivity," "adaptivity," and "counterproductive work behavior" are quite dispersed across the map with little connection to task performance or one another. Therefore, we describe this period as one of scattering concepts. During this period, two integrative models were also introduced which attempted to address the fragmented literature, which we describe shortly.

The map for this period is based on six clusters (2,305 articles; Figure 5) with a threefold increase in the total number of performance constructs represented in the map compared to the previous map. This map signals the reorganization of the overarching intellectual structure of the field with the dissolution of the *management* and *appraisal* clusters into other clusters as well as the splitting of existent clusters into parts.

The *motivation* cluster continued to be distinct and now has the largest number of terms ($N = 87$ terms), among them "task performance," "feedback," and "intervention." For example, the meta-analysis by Kluger and DeNisi (1996), showed feedback interventions on average improved performance, although interventions also decreased performance in about a third of cases. The term "safety performance" also emerges reflecting the introduction of distinct safety behavior dimensions spurred on by advances in safety performance models (Burke, Sarpy, Tesluk, & Smith-Crowe, 2002; Griffin & Neal, 2000).

The *personnel selection perspective* is the second largest cluster ($N = 79$ terms) and continues to focus on generic "job performance" and many of the criterion-centric terms such as "criterion," "validity," and "test." Of note is the shift of "personality" and related terms (e.g., "conscientiousness") out of the *motivation* cluster (previously *motivation and personality*) and into this cluster. Additionally, "contextual performance" is introduced (Borman & Motowidlo, 1993) and scholars elaborated its subdimensions (Borman & Motowidlo, 1997) and discriminate validity (Motowidlo & Van Scotter, 1994).

As the field has matured, methodological issues have received more attention. Consistent with this, we continue to identify the *appraisal* cluster ($N = 33$ terms) in the map. The measurement of performance, particularly from multiple sources such as self, supervisor, and peer is a consistent theme in this area. A seminal review on common method bias by Podsakoff, MacKenzie, Lee, and Podsakoff (2003) continues to be highly influential.

At this time, the map shows the growing separation of performance elements and the emergence of a very prominent "OCB" term within the larger *job attitudes* cluster ($N = 78$ terms). The "OCB" term was not present in the maps of the previous decades, and appears as the nexus of the *good citizen* cluster in the 40-year map. The *job attitudes* cluster includes broad terms such as "employee," "role," "job satisfaction," and "supervisor," but is characterized by a substantial increase in "OCB" and related terms such as "altruism," "loyalty," "extra-role performance," "organizational support," and "social exchange theory." The expansion of the OCB literature is highlighted in LePine, Erez, and Johnson's (2002) review of 133 OCB studies which identified 40 different measures. The dimensionality of OCB was also investigated suggesting seven (Podsakoff et al., 2000), five (LePine et al., 2002), and three (Coleman & Borman, 2000) underling factors. Additionally, the OCB cluster now includes "voice" which was previously located in the *management* cluster; however, Van Dyne and LePine (1998: 109) presented voice as a form of extra-role behavior involving "innovative suggestions for change and recommending modifications to standard procedures even when others disagree." Another similarly constructive and active construct associate with OCB during this period was "taking charge" (Morrison & Phelps, 1999).

The emergence of a further set of performance concepts is shown in the *proactive concepts* ($N = 77$) cluster, defined by terms such as "proactivity," "initiative," and "personal initiative"; all highly agentic concepts that focus on changing the environment (Crant, 2000). Although interest in the topic of employee proactivity occurred in periods before this one (Ashford & Cummings, 1983), the earlier literature occurred within specific topic domains such as careers and socialization (Ashford & Black, 1996). Specific proactive concepts introduced during this period included Bateman and Crant's (1993) notion of proactive personality, and the concept of personal initiative (Frese, Kring, Soose, & Zempel, 1996).

An unintended consequence of the growth of scholarship related to proactivity was construct proliferation because of the origin of these constructs in different literatures. For example, voice has been considered a challenge-oriented OCB (Van Dyne et al., 1995), an extra-role behavior (Van Dyne & LePine, 1998), a change-oriented OCB (Chiaburu, Lorinkova, & Van Dyne, 2013), and a proactive construct (Parker & Collins, 2010). This means that authors examining the same phenomena are sometimes contributing to different literatures that often do not intersect (Carpini & Parker, 2017). Consequently, neither the proactivity nor adaptivity literatures have emerged as discrete clusters within the larger performance field.

The final cluster, the *expanded job attitudes*, contains 62 terms which are fairly dispersed across the map. Some key terms include "work family conflict," "demand," "resource," "stress," "cope," "burnout," as well as "counterproductive work behavior" and "adaptation." These topics reflect the popularity of job demands-resource model (Demerouti, Bakker, Nachreiner, & Schaufeli, 2001), the growing counterproductive work behavior literature (Spector & Fox, 2002), and the emerging adaptivity literature (Pulakos, Arad, Donovan, & Plamondon, 2000). "Adaptation" occurs near to "culture," "diversity," and "organizational context," indicating a growing acknowledgment of the need for employees to operate within increasingly volatile, diverse, and dynamic contexts (Schmitt, Cortina, Ingerick, & Wiechmann, 2003). Pulakos et al. (2000) presented an empirically-derived taxonomy of individual adaptive work performance which synthesized the existing literature and added two new dimensions.

It is clear that the literature at this point had become quite diffuse, with many different concepts and competing perspectives. Unsurprisingly, therefore, scholars began to develop integrative frameworks intended to draw the literature together. One of the most important in this period was the *role-based model of performance* (Welbourne, Johnson, & Erez, 1998), which incorporated role theory (Katz, 1964) and identity theory (Stets & Burke, 2000) to identify five distinct employee roles: job, organization, team, innovator, and career roles. The job role is defined as "doing things specifically related to one's job description" (Welbourne et al., 1998: 554). The organization role is defined in terms of "extra role behaviors" and is consistent with the OCB literature, specifically the support and civic virtue dimensions. The team role is defined as working interdependently with coworkers to achieve objectives, capturing the helping and cooperative elements of OCB. The innovator role mirrors the proactivity literature and is defined as "creativity and innovation in one's job and the organization as a whole" (Welbourne et al., 1998: 554). Finally, the career role reflects self-development behaviors necessary for career progression. Welbourne et al. (1998) provided evidence of the distinctiveness of the five roles using multi-source data from five organizations, although subsequent work has failed to replicate the five factor

structure (Chen, Kirkman, Kanfer, Allen, & Rosen, 2007). The role-based model of job performance has been used in several empirical studies (e.g., Wallace, Edwards, Arnold, Frazier, and Finch, 2009), although the inclusion of outcome measures (e.g., quality and quantity of work) is inconsistent with a behavioral approach to job performance (Campbell et al., 1993).

A further integrative model introduced in this period was Johnson's (2003) *hierarchical taxonomy of individual performance* that has three distinct dimensions: task performance, citizenship performance, and adaptive performance. Task performance includes five of the eight components from the Campbell et al. (1993) taxonomy, plus an additional sixth component, conscientious initiative. Citizenship performance is similar to OCB, and includes conscientious initiative, organizational support, and personal support. Adaptive performance refers to dealing with uncertain and unpredictable work situations (Hesketh & Neal, 1999; Pulakos et al., 2000), and includes behaviors such as imposing structure in dynamic situations, taking action under uncertainty (Pulakos et al., 2000), and demonstrating flexibility to cope with change (Hesketh & Neal, 1999). Interestingly, Johnson (2003) allocated many of the other adaptive performance dimensions proposed by Pulakos et al. (2000) into the task performance and citizenship performance dimensions (e.g., handling emergencies was categorized as part of the task performance dimension and handling work stress was argued to be an element of citizenship performance). Although this model lacks empirical validation, including adaptive performance as a job performance dimension was unique at the time, and adaptivity was subsequently introduced into other performance models (e.g., Griffin et al., 2007; Schmitt et al., 2003).

"New Concepts Take Root" (2005–2015)

This final period is characterized by the continued rapid growth of the field with almost twice as many articles and terms included in this map compared to the previous one (4,403 articles, Figure 6). Structurally, the map in this period yielded six clusters that have considerable parallels with the previous period, as well as some key points of divergence. Consistent with the previous period, there are clear *motivation, personnel selection perspective,* and *expanded job attitudes* clusters. The most significant deviations from previous maps are the emergence of a clear *OCB and job attitudes* cluster, the redefining of the *proactive concepts* cluster, and a distinct *careers* cluster. Consistent with the rise of the OCB literature, other performance concepts such as adaptivity and proactivity continued to be investigated in their own right—without necessarily referencing to concepts of task performance or overall performance. The increase in performance concepts led some scholars during this period to develop further integrative models, which we elaborate shortly.

As previously, the *motivation* cluster ($N = 186$ terms) remained central and includes recurring terms such as "task performance," "goal setting," "feedback," and "experiment." Interestingly, this cluster also includes terms (e.g., "manager" and "production") associated with the *management* cluster as seen in previous maps and in the 40-year map. The cluster also depicts advances in motivation research assessing explanatory mechanisms underlying task performance using experimental methods (e.g., "process model" and "incentive").

Consistent with previous maps, the *personnel selection perspective* cluster ($N = 111$ terms) remains a prominent element of the present map. The driving theme of this cluster continues to be the examination of individual differences in the prediction of performance. The cluster contains the "contextual performance" term, consistent with the personality-performance model presented by Johnson (2003). The continued attention to personality traits predicting performance is illustrated in the meta-analysis by Dudley, Orvis, Lebiecki, and Cortina (2006) and a growing literature examining the role of context in shaping the personality-performance literature (Tett & Burnett, 2003).

The *expanded job attitudes* cluster ($N = 63$ terms) remains almost identical to that of the previous map, with key terms such as "job satisfaction," "value," "attitude," and "turnover." Consistent with previous decades, research continued to investigate the job satisfaction–performance relationship (e.g., Sy, Tram, & O'Hara, 2006; Wright, Cropanzano, & Bonett, 2007), the effect of commitment on performance (e.g., Fu & Deshpande, 2014; Hunter & Thatcher, 2007; Jaramillo, Mulki, & Marshall, 2005) and a strong research tradition using the job demands-resource model (Bakker & Demerouti, 2007). This cluster also depicts developments in relation to the fit literature. "Fit"-related terms increased twofold during this period and a meta-analysis by Kristof-Brown, Zimmerman, and Johnson (2005) showed consistent effects of fit constructs on job satisfaction, but more complex relationships with job performance.

Attesting to the study of OCBs as a bona fide research area, the *job attitudes* cluster from the

previous map is now defined by the dramatic growth of OCB-related terms including "OCB," "OCBI," and "OCBO"; as such this cluster is now referred to as the *OCB and job attitudes* cluster ($N = 136$). Continuing to cement the distinction between OCBs and task performance, Hoffman, Blair, Meriac, and Woehr (2007) found OCBs to be more highly related to attitudinal variables compared to task performance. Of note is the dramatic increase in prominent leadership-related terms (e.g., "transformational leadership" and "LMX"). These terms reflect the longstanding tradition to leveraging social exchange theory in understanding the role of leaders in shaping subordinates' OCBs (Cropanzano & Mitchell, 2005; Ilies, Nahrgang, & Morgeson, 2007) with consistent support for the positive effect of transformational leadership and high LMX (Piccolo & Colquitt, 2006; Wang et al., 2005). A final theme within this cluster are trickle-up effects of individual performance on group outcomes as evident in terms such as "group," "team," and "cross level." The meta-analysis by Podsakoff, Whiting, Podsakoff, and Blume (2009) demonstrated OCBs to be related to a number of important individual-level outcomes (e.g., performance ratings, turnover) as well as collective outcomes (e.g., productivity, unit-level turnover).

The fifth cluster, *adaptive and proactive performance*, ($N = 146$ terms) evolved from the earlier cluster of *proactive concepts.* Relative to its previous incarnation, the cluster includes more behaviorally-oriented terms, as well as those concerned with coping with change (e.g., adaptive performance) or initiating change (e.g., personal initiative, proactivity, job crafting, and i-deals). The literature on adaptive performance distinguished reactive adaptive in response to an external change, whereas anticipatory adaptive performance is a change in behavior occurring prior to an anticipated external change (Jundt, Shoss, & Huang, 2015), with the latter definition overlapping with proactivity. A meta-analysis by Huang, Ryan, Zabel, and Palmer (2014) distinguished antecedents of reactive and anticipatory adaption.

Proactivity research also burgeoned during this time, with attention moving to behaviors rather than proactive personality (Parker, Williams, & Turner, 2006). Much research examined the antecedents (Fritz & Sonnentag, 2007; Ohly, Sonnentag, & Pluntke, 2006; Parker et al., 2006) and consequences (e.g., Thomas, Whitman, & Viswesvaran 2010) of proactive behavior. A meta-analysis of 107 studies by Fuller and Marler (2009) showed that proactive personality predicts proactive work behaviors and, in turn, supervisor ratings of overall job performance, whereas Parker and Collins (2010) demonstrated 11 types of proactive work behavior formed three higher-order factors with differential antecedents.

The sixth cluster is also a departure from the previous decade's map. We refer to this cluster as *careers* ($N = 99$ terms) because of the dominance of several career-related terms (e.g., "career development" and "career success"). The cluster reflects a growing concern for the longer-term impact of work behaviors for individuals. For example, Thompson (2005) showed that proactive personality is positively related to networking-building (which in turn predicts career success), as well as initiative taking both of which in turn predicted overall job performance. "Core self-evaluations," or one's overall assessment about their worthiness, competence, and capabilities (Judge, Locke, Durham, & Kluger, 1998), also emerged within this cluster. A meta-analysis by Judge and Bono (2001) found that core self-evaluations positively related to job performance with a magnitude similar to that reported for conscientiousness by Barrick and Mount (1991).

As well as the developments reflected in the scientific map, two important integrative models of individual performance were introduced in this period. The first is the *great eight competency framework*. Competency models reflect how work is accomplished as opposed to just the outcomes of behavior (Catano, Darr, & Campbell, 2007). Bartram's (2005) evidence-based competency framework, validated across 29 studies and 10 countries, is structured hierarchically with eight competency domains at the highest level, 20 competency dimensions across the domains, and 112 competency components across the dimensions. Some scholars have criticized the model for confounding knowledge, skills, and performance (Campbell & Wiernik, 2015), as evident in such components as "thinking quickly." The inclusion of components such as "meeting customer expectations" also confounds outcomes and performance. There is limited independent assessment of this framework, at least partially due to proprietary rights surrounding the instrument.

A further integrative model introduced in this period—and in fact the one we focus on most in this article—was *model of positive work role behaviors* by Griffin et al. (2007, Table 2). This model combined role theory with an analysis of context to specify nine performance dimensions derived from the combination of two overarching dimensions: forms of role

behavior (related to uncertainty) and levels of contribution (related to interdependence). The forms of behavior (proficiency, adaptivity, proactivity) were argued to be relevant to different degrees of uncertainty, or unpredictability in work inputs, processes, or outcomes. When uncertainty is low, then employees can closely follow prescribed job roles (proficiency) but as uncertainty increases, employees need to take on more dynamic and emergent roles within the organization, including reacting to change (adaptivity) as well initiating change (proactivity). The second dimension, levels of contribution, is based on the requirement for interdependence at work and distinguishes behaviors that contribute to effectiveness via individual tasks, contribution to the team, and contribution to the organizational context. In their initial paper, Griffin et al. (2007) presented factorial evidence for the distinctiveness of the nine types of performance and evidence of unique antecedents. Neal, Yeo, Koy, and Xiao (2011) similarly showed how big five personality dimensions related differentially to the various types of performance in the model. In the next section, we will synthesize the literature using this model.

Summary of How the Individual Work Performance Literature Developed

The individual work performance literature as a whole shows theoretical progression; however, the vast number of disconnected constructs militates against the integration of subresearch areas (e.g., OCBs, proactivity). Unfortunately, the variegation at the construct-level does not produce a coherent picture when viewed at a distance. We conclude that the individual work performance literature has largely developed in historical factions (e.g., the *personnel selection* and *job attitudes* clusters) that have had unique interests in the study of performance but lack a comprehensive theory to bridge topic areas. Consequently, we find strong evidence that many performance constructs have developed in isolation from one another and there remains little understanding of how various performance constructs relate to one another. To build a more integrated picture, we next systematically develop a nomological network that captures the relationships among various performance constructs, antecedents, and outcomes (Cronbach & Meehl, 1955). As Schwab (1980) argued, constructs are only valuable to the extent to which they relate to other valued constructs. Although efforts have been made to identify nomological networks within specific performance topics (e.g., Parker & Collins, 2010; Spitzmuller, Van Dyne, & Ilies, 2008; Thomas et al., 2010; Van Dyne et al., 1995), there has been little research that seeks to bring the various networks together (Campbell, 2012). Our goal is to do just that in the next section.

SYNTHESIZING THE NOMOLOGICAL NETWORK OF PERFORMANCE

The second goal of our paper is to synthesize and extend theory by establishing a comprehensive nomological network. We pursue this goal via two strategies. First, we use the Griffin et al. (2007) performance model as the underpinning framework to analyze how various performance constructs "fit together." We assess whether and to what extent this model can be used to synthesize diverse concepts. As such, we address the critical issue of variegation within the field. Our second strategy is to synthesize antecedents and outcomes of different performance constructs, again using the underpinning Griffin et al. model.

We use the Griffin et al. model as our underpinning framework for several reasons. First, this model is theoretically driven, grounded in role theory as well as an analysis of context. Second, this model integrates research across most of the key performance concepts, making it one of the most comprehensive models. Third, the model directly links to key aspects of organizational context, notably the interdependence and uncertainty of situations. Context has been argued to be an essential feature of work role performance (Hattrup & Jackson, 1996), yet is most often ignored (Austin & Villanova, 1992; Bailey, 1993; Johns, 2006). Fourth, the model circumvents the issue of in-role versus extra-role behavior by defining performance in terms of behaviors contributing to effectiveness—regardless of perceived role prescriptions (Morgeson, Delaney-Klinger, & Hemingway, 2005; Morrison, 1994; Vey & Campbell, 2004). Finally, by distinguishing the level of contribution (individual, team, organization), this model recognizes the inherent nested nature of much organizational work and also draws parallels with Campbell's et al. (1990) categorization of performance as either job-specific or job-non-specific, Williams and Anderson's (1991) distinction between OCBI and OCBO, as well as the work of Van Dyne et al. (1995) who classified beneficiaries of behavior as either the self, other people, or the organization.

We turn first to the question of whether this model is useful in capturing the diversity of constructs in the individual work performance literature.

A Synthesis of Individual Work Performance Constructs

In the scientific mapping section, we identified 97 unique performance constructs, and now ask: what extent do these constructs fit together in any sort of coherent way? In this section, we assess the extent to which the framework proposed by Griffin et al. (2007) provides a useful vehicle for fostering synthesis. This framework classifies work behaviors into proficient, adaptive, and proactive forms of performance, with each from being directed toward outcomes at the individual, team, and organization level, resulting in nine broad performance dimensions (see Table 1). Using a range of information, including scale items, definitions, and empirical studies, we categorized all of the performance constructs into the model, with most constructs fitting well. With this said, we also highlight gaps where constructs do not fit well and propose opportunities for research and construct refinement.

Table 3 summarizes our synthesis and contains the full list of performance constructs, each categorized into the nine performance dimensions. The following sections unpack these results, beginning with proficient forms of performance, classified by level of contribution, followed by adaptivity and proactivity.

Proficient Forms of Performance

Proficient performance refers to "behaviors that can be formalized and anticipated in advance" (Griffin et al., 2007: 331), including formal and informal requirements and expectations of organizational members. The emphasis placed on this type of performance is evident in the fact that we identified 52 performance constructs as being types of proficiency including, as we elaborate next, several OCBs (Table 3). Indeed, we classified 71 percent of the OCB constructs[4] reviewed by Podsakoff et al. (2014) as being forms of proficiency.

Individual task proficiency. Griffin et al. (2007: 331) defined individual task proficiency as behaviors "that can be formalized and are not embedded in a social context. . . [that] reflect the degree to which an employee meets the known expectations and requirements of his or her roles as an individual." This category represents the essence of the "task performance" term visualized in the bibliometric analysis and encapsulates many core performance dimensions including "job-specific," and "non-job-specific" (Campbell et al., 1993), "job-role performance" (Welbourne et al., 1998), "task performance" (Johnson, 2003), and "presenting and communicating information" (Bartram, 2005). All these dimensions concern expected performance of individuals in relation to their tasks, particularly in light of the growing importance of the knowledge and service industries. We identified 25 performance constructs that fit within this category (Table 3, individual task behaviors—proficiency); showing the importance of this category.

Griffin et al. (2007) also argued that various OCBs could be conceptualized as types of individual task performance because these behaviors can be readily anticipated in advance, especially when work is conducted interdependently (e.g., helping; Carpini & Parker, 2017), and OCBs can often be conceptualized as a high degree of proficiency (e.g., conscientiousness); a view echoed in recent work by Dekas, Bauer, Welle, Kurkoski, and Sullivan (2013) on OCBs among knowledge workers. Carpini and Parker (2017) elaborated this perspective and identified 12 OCB-related constructs as types of individual task proficiency; categorizing them as "persistence and effort," "adherence to rules and procedures," and "attendance and punctuality." Several scholars have identified persistence and effort as important types of performance including Campbell et al. (1993), Borman and Motowidlo (1997), and Bartram (2005). In reviewing the OCB literature, Carpini and Parker (2017) found multiple examples of constructs with strong elements of persistence and effort (e.g., personal industry, job dedication). With this said, demonstrating persistence and effort in the pursuit of one's own tasks is not necessarily going "above and beyond" but rather reflects a high degree of individual task proficiency (Griffin et al., 2007).

The adherence to rules and established procedures has long been recognized as a core element of individual job performance and are formalized in job descriptions and codes of conduct. Indeed, Katz (1964: 134) observed, "Once people enter a system they accept the fact that membership in the system means complying with legitimate rules." Adherence to both formal and informal rules is evident in multiple performance constructs (Bartram, 2005; Borman & Motowidlo, 1993; Farh, Earley, & Lin, 1997; Van Dyne

[4] Consistent with the purpose of this review, we excluded self-development, self-training, and career development as these are directed at the self (Grant & Ashford, 2008).

TABLE 3
Synthesis of Individual Performance Constructs into the Griffin et al. (2007) Performance Model

	Proficiency	Adaptivity	Proactivity
Individual task behaviors	Job role behavior[1] Job specific performance[2] Monitoring and maintaining quality[3] Nonjob specific performance[2] Planning and organizing[3] Presenting and communicating information[3] Task performance[4,5] Working systematically[3] Writing and reporting[3] Written and oral communication[2] OCB-O[6] **Persistence and effort**[7,8] Demonstrating effort[2] Individual initiative[9] Job dedication[10] Personal industry[11] **Adherence to rules and procedures**[8,21] Compliance[4] Organizational obedience[12] Protection of company resources[13] **Orderliness**[14,12] **Attendance and punctuality**[8,21] Conscientiousness[13] Job dedication[10] Personal industry[15]	Adapting and responding to change[3] Adapting†[3] Dealing with ambiguity†[3] Dealing with uncertain and unpredictable work situations[5] Demonstrating physical adaptivity[24] Handling emergencies or crisis situations[24] Learning work tasks, technologies, and procedures[24] Reactive adaptivity†[25] Sportsmanship†[21,26] Task adaptivity[27]	Challenging OCB[46] Constructive ideas†[27] Individual Innovation†[29,43] Innovator role†[1] Making constructive suggestions†[22] Personal initiative†[44] Proactive behavior†[30] Proactive work behavior†[31] Problem prevention†[31] Seeking and initiating change†[3] Taking charge†[32] Voice†[33] Voluntary performance of task activities†[4]
Team member behaviors	Affiliative OCB[46] Helping and cooperating with others[3] OCB-I[6] Peer/team member leadership[16] Personal support[5] **Helping**[8,9,21] Altruism (toward colleagues)[17,18,19] Interpersonal helping/facilitation[11] OCB supervisor[8,28] **Cooperation and interpersonal facilitation**[3,8] Cheerleading[20] Courtesy[21] Interpersonal harmony[13] Peacekeeping[20] Supporting and cooperating[3] Team-role performance[1]	Adapting to the team[3] Adapting†[3] Dealing with ambiguity†[3] OCB-supervisor[8,28] Reactive adaptivity†[25] Sportsmanship†[21,26]	Challenging OCB[46] Constructive ideas†[27] Individual innovation†[29,43] Innovator role†[1] Making constructive suggestions†[22] Personal initiative†[44] Proactive behavior†[30] Proactive work behavior†[31] Problem prevention†[31] Seeking and initiating change†[3] Taking charge†[32] Voice†[33] Voluntary performance of task activities†[4] **General interpersonal proactivity** Interpersonal proactivity[34] Proactive helping[43] **Voice constructs**[8] Prohibitive voice[35] Promotive voice[35]

TABLE 3
(Continued)

	Proficiency	Adaptivity	Proactivity
			Speaking out[36] Speaking up[36]
Organizational member behaviors	Endorsement, support, and defense of the organization[4] Organization role behavior[1] **External clients** Loyal boosterism[22] Promoting the company's image[15] Spreading goodwill[22] Organizational identification[13] **Internal clients** Altruism—distant [17] Civic virtue[21,42] Knowledge sharing[23,41] Organizational identification[12] Organizational participation[13]	Adapting†[3] Cross-functional adaptivity[25] Dealing with ambiguity†[3] Demonstrating cultural adaptivity[24] Reactive adaptivity†[25] Sportsmanship†[21,26] **Adaptation—people** Adopting interpersonal style[3] Demonstrating interpersonal adaptability[25] Showing cross-cultural awareness[25] **Adaptation-situations** Handling emergencies or crisis situations[24] Handling work stress[24,3]	Challenging OCB[46] Constructive ideas†[27] Individual innovation†[29,43] Personal initiative†[44] Innovator role†[1] Making constructive suggestions†[22] Proactive behavior†[30] Proactive work behavior†[31] Problem prevention†[31] Seeking and initiating change†[3] Taking charge†[32] Voice†[33] Voluntary performance of task activities†[4] **General organizational proactivity** Proactive performance directed at organization[34] **Voice**[8,44] Advocacy participation[13] Grievance filing[38] Issue selling[39,31] Organizational identification[13] Organizational participation[12] Principled dissent[12] Whistle-blowing[40]

Notes. † Constructs contributing at multiple levels (individual, team, organizational). Bolded constructs are those higher-order constructs previously discussed in text and as synthesized by Carpini and Parker (2017)[1]; Welbourne et al. (1998)[2]; Campbell et al. (1993)[3]; Bartram (2005)[4]; Borman and Motowidlo (1993)[5]; Johnson (2003)[6]; Williams and Anderson (1991)[7]; Motowidlo, Borman, and Schmit (1997)[8]; Carpini and Parker (2017)[9]; Organ et al. (2006)[10]; Van Scotter and Motowidlo (1996)[11]; Moorman and Blakely (1995)[12]; Van Dyne et al. (1994)[13]; Farh, Earley, and Lin (1997)[14]; Bateman and Organ (1983)[15]; Moorman et al. (1998)[16]; Campbell (2012)[17]; Becker and Vance (1993)[18]; Brief and Motowidlo (1986)[19]; Smith et al. (1983)[20]; MacKenzie, Podsakoff, and Rich (1994)[21]; Podsakoff et al. (2000)[22]; George and Jones (1997)[23]; Bolino and Grant (2016)[24]; Pulakos, Arad, Donovan, and Plamondon (2000)[25]; Griffin and Hesketh (2003)[26]; Organ (1997)[27]; Smith, Ford, and Kozlowski (1997)[28]; Rupp and Cropanzano (2002)[29]; Scott and Bruce (1994)[30]; Crant (2000)[31]; Parker and Collins (2010)[32]; Morrison and Phelps (1999)[33]; Van Dyne and LePine (1998)[34]; Belschak and Den Hartog (2010)[35]; Liang et al. (2012)[36]; Liu et al. (2010)[37]; Katz (1964)[38]; Farrell (1983)[39]; Dutton and Ashford (1993)[40]; Near and Miceli (1985)[41]; Dekas et al. (2013)[42]; Organ (1988)[43]; Hammond et al. (2011)[44]; Frese, Kring, Soose, and Zempel (1996)[44]; Bashshur and Oc (2015)[45]; Van Dyne et al. (1995).

et al., 1995). For example, the safety literature includes constructs such as "using personal protective equipment" and "engaging in work practices to reduce risk" (Burke et al., 2002), all of which capture this "generalized acceptance of the rules of the game" (Katz, 1964: 134). Orderliness appears to be a related theme (Bateman & Organ, 1983; Dekas et al., 2013; Van Dyne et al., 1995). Indeed, most formal procedures and rules are designed to reinforce consistency from the bottom-up and as such contribute at the individual level.

The final category of OCB constructs identified by Carpini and Parker (2017) as a type of individual task proficiency is attendance and punctuality. Most organizations have clear standards for attendance (e.g., amount of annual leave and sick days) as well as formal and informal expectations related to punctuality which are reflected in several constructs (Farh et al., 1997; Moorman, Blakely, & Niehoff, 1998; Smith et al., 1983; Van Scotter & Motowidlo, 1996). Interestingly, we also include OCB-Os within the individual task proficiency category as this construct emphasizes attendance and the adherence to both formal and informal rules (Williams & Anderson, 1991).

In addition to the conceptual fit of OCBs as types of proficiency, some empirical evidence supports our reasoning. Turnley, Bolino, Lester, and Bloodgood (2003) observed a correlation of 0.85 between in-role performance and OCB-O, and a correlation of 0.74 between in-role performance and OCB-I with similar patterns reported by Le et al. (2011) and Sinclair, Tucker, Cullen, and Wright (2005). Across the literature, we find many examples of studies demonstrating high correlations between task performance and OCB constructs (Allen & Rush, 1998; Hoffman et al., 2007; Piccolo & Colquitt, 2006; Wang et al., 2005).

Team member proficiency. Team member proficiency involves meeting the expectations and requirements that arise from being a contributing member of work group. Scholars have long argued for the integral role of helping and cooperation: "Cooperation is a fundamental aspect of organizational life that has become increasingly important. . . Interdependent job roles are more common. . . Indeed, for most members of organizations, cooperation with fellow coworkers. . . is a routine exercise" (Flynn, 2006: 133–134). This observation echoes a much earlier observation by Katz (1964: 132) "that we are not aware of the co-operative nexus any more than we are of any habitual behavior like walking." In essence, we suggest cooperation is an expected requirement in interdependent contexts, and hence is best considered as a type of proficiency.

In support of this argument, the continued centrality of cooperation is evident in a review of occupations listed on O*NET, a comprehensive national (U.S.) information system describing both worker and occupation attributes across 957 occupations (Peterson et al., 2001). O*NET includes "interpersonal relationships" as one of three core work context dimensions, representing the extent to which individuals work interdependently within a given occupation. With 80 percent of occupations listed on O*NET rating high on this dimension, there is little doubt of the importance of interdependent work in the modern workplace.[5] These observations are consistent with empirical work by Morrison (1994) and Vey and Campbell (2004) who demonstrated the majority of employees believe helping and cooperating with coworkers to be part of their designated roles, can be readily anticipated, and are an essential element of organizations. Indeed, the pervasiveness of interdependent work, as well as the requirements for coordination and cooperation is well documented (Dekas et al., 2013; Nielsen Bachrach, Sundstrom, & Halfhill, 2012; Van der Vegt & Van de Vliert, 2005).

Team member proficiency is conceptually similar to several existing interpersonal performance dimensions found across various taxonomies (Borman & Motowidlo, 1993; Campbell, 2012; Williams & Anderson, 1991). In their recent review of the OCB literature, Carpini and Parker (2017) observed that many of the OCB constructs could be further categorized according to two broad themes: helping and cooperation. OCB constructs such as "altruism" (Becker & Vance, 1993) and "interpersonal helping" (Moorman & Blakely, 1995) all capture assistance to team or group members in the pursuit of organizational goals (Organ, 1997). Alternatively, constructs such as "team-role performance" (Welbourne et al., 1998) and "supporting and cooperating" (Bartram, 2005) readily fit within the cooperation dimension. Such a classification of constructs is consistent with the meta-analytic findings of LePine et al. (2002)

[5] Data obtained from www.onetcenter.org. The "interpersonal relationships" dimension is a composite of three subdimensions assessed on five-point Likert-like scales: "work with work group or team," 0 = "not important at all," 50 = "important," and 100 = "extremely important" (97 percent = "important" or above); "responsibility for outcomes and results," 0 = "no responsibility," 50 = "moderate responsibility," and 100 = "very high responsibility" (68 percent = "moderate responsibility" or above); "coordination" (75 percent = "important" or above).

who, on reviewing the OCB literature, concluded that many OCB constructs represent a general tendency toward helping and cooperation.

Organization member proficiency. Griffin et al. (2007: 331) defined organization member proficiency as behaviors reflecting "the degree to which an individual meets the expectations and requirements of his or her role as a member of an organization." Constructs classified within this category (e.g., "organization role behavior") embody a general tendency for representing the organization in a positive light and participating in organizational affairs such as sitting on committees. As Griffin et al. (2007: 331) explain, "behaviors such as defending organizational reputation and participating in organizational committees would be considered organization member proficiency. . . as these contributions are often expected." Building on these observations, many constructs can be distinguished based on their intended target (Grant & Ashford, 2008) with some types of performance directed at those outside the organization (e.g., clients), and some directed internally (e.g., sitting on committees).

Employees are often considered organizational ambassadors charged with representing the organization's interest to the wider community. As such, there are multiple examples of constructs capturing organizational member behavior directed at external clients (George & Jones, 1997; Johnson, 2003; Moorman et al., 1998; Podsakoff, Podsakoff, MacKenzie, Maynes, & Spoelma, 2014; Wisecarver, Carpenter, & Kilcullen, 2007). Conversely, we also find several types of performance directed toward the organization and its internal stakeholders (Farh et al., 1997; Graham, 1991; Podsakoff et al., 1990).

Adaptivity as a Form of Performance

Although proficiency is fundamentally about the required and expected types of individual performance, scholars have increasingly considered the dynamic forms of performance that facilitate the achievement of organizational objectives (Allworth & Hesketh, 1999). Okakura Kakuzo, a Japanese scholar, is credited with saying, "The art of life is a constant readjustment to our surroundings." Indeed, in the workplace employees need to adapt to economic, technological, regulatory, and structural changes in work (Chan, 2001; Jundt et al., 2015; Parker, Van den Broeck, & Holman, 2017).

Among the various approaches to individual adaptivity (see Baard et al., 2014 for review), we focus on adaptive performance, or "the degree to which individuals cope with, respond to, and/or support changes that affect their roles" (Griffin et al., 2007: 331–332). Adaptive performance is distinct from the trait of individual adaptivity, or the ability or skills necessary for adaptation, as well as the motivation to adapt (Schmitt & Chan, 2014); and is narrower than the definition presented by Baard et al. (2014: 50), who define "performance adaptation as cognitive, affective, motivational, and behavioral modifications made in response to the demands of a new or changing environment, or situational demands." As such, we do not consider constructs such as "willingness to adapt" (Cronshaw & Jethmalani, 2005), or any other such motivational, cognitive, and emotional states. Although the majority of the adaptivity literature conceptualizes adaptive performance as a response to external changes, few models of adaptivity explicitly connect types of adaptive performance to the wider organizational context; integrating the adaptivity literature within the broader Griffin et al. model contributes a much needed link to the broader context (Jundt et al., 2015).

In essence, adaptive performance is about meeting changing environmental demands. Multiple constructs fall within this category, such as "overcoming challenges or crises" in the pursuit of organizational goals (Campbell et al., 1993; Tucker & Gunther, 2009), "dealing with ambiguity" (Bartram, 2005), and "reactive adaptivity" (Griffin & Hesketh, 2003). More contextually specific examples include "adaptive selling" (Spiro & Weitz, 1990) and the "communication of critical incident information" (Burke et al., 2002). Finally, Carpini and Parker (2017) also include "sportsmanship" as a type of adaptivity. The authors argue that the "get on with it" facet of sportsmanship represents a core element of individual adaptivity (Bachrach, Bendoly, & Podsakoff, 2001). We identified a total of 19 adaptive performance constructs and classified them by their level of contribution with many contributing at multiple levels.

Individual task adaptivity. Individual task adaptivity is defined as adapting to changes in one's core individual tasks and learning new skills when necessary (Griffin et al., 2007). For example, surgeons in a new hospital adapt to new instrument sets, anaesthesiologists to new equipment, and nurses to new rules and procedures (Carpini, Flemming, & Parker, 2015). Table 3 shows that constructs that fit within this category including "task adaptivity" (Smith, Ford, & Kozlowski, 1997), "adapting and responding to change" (Bartram, 2005), and several of the dimensions identified by Pulakos et al. (2000).

Team member adaptivity and organization member adaptivity. We combine our discussion of constructs reflecting team and organizational member contributions as the adaptivity literature seldom distinguishes between them (Griffin et al., 2007). Exceptions are Bartram (2005) who identified "adapting to the team" as a subcompetency, and Carpini and Parker (2017) who argued that "OCB-supervisor" is a type of team member adaptivity when conceptualizing the supervisor as a core member of a team. Indeed, in reviewing the current measure of OCB-supervisor, 40 percent of the items fit within the team member adaptivity role category: "*Helps when you have a heavy workload*" and "*Accepts added responsibility when you are absent*" (Rupp & Cropanzano, 2002: 942). Both of these constructs focus on the need for the individual to constructively adapt to changes within the team environment.

Shifting to organization member adaptivity, constructs that fit clearly within this category include "demonstrating cultural adaptivity" in relation to working with other groups within the organization, and other organizations (Pulakos et al., 2000). Griffin and Hesketh (2003) included the need for individuals to adapt their behavior when working cross functionally (team or department). These performance constructs are examples of organization member adaptivity as this behavior goes beyond one's immediate team.

There are several constructs that span the team or organizational member roles which Table 3 shows clustering in two groups: "the need to adapt to other people" and "the need to adapt to demanding situations." Adapting to others is an increasingly important type of performance (Allik & McCrae, 2004) as the interdependence of work continues to intensify in many industries (see O*NET data above; Bartram, 2005; Pulakos et al., 2000). Furthermore, the need to adapt in the face of challenging situations has become a prominent theme in the adaptivity literature with examples including Pulakos et al.'s (2000: 617) "handling emergencies or crisis situations" and "handling work stress."

Proactivity as a Form of Performance

Proactive behavior is defined by the presence of three critical elements: self-initiation, a future-focus, and change (Parker & Collins, 2010). For example, an employee only exhibits proactive upward voice if the voice is self-initiated, without the supervisor soliciting input. Similarly, creativity involves both agency and foresight but lacks the behavioral change element, which distinguishes it from individual innovation (Hammond et al., 2011; Scott & Bruce, 1994).

Research on individual proactivity and related constructs shows exponential growth over the past 20 years (see Figure 1 and bibliometric analysis; Potočnik & Anderson, 2016). Individual proactivity has been linked to numerous important outcomes including job satisfaction (Thomas et al., 2010), career progression (Seibert, Kraimer, & Crant, 2001), task performance (Thompson, 2005; Tornau & Frese, 2013), and has been argued to be a critical ingredient for organizational performance (Bateman & Crant, 1993; Parker, 2000). Indeed Katz (1964: 133), observed in relation to the proactive sharing of constructive ideas that "the system which does not have this stream of contributions from its members is not utilizing its potential resources effectively."

In total, we classified 26 different constructs as types of proactivity although only 14 of those constructs were clearly directed to only one level contribution; the other constructs span multiple levels and did not have specified targets or the target is ambiguous. These general proactive constructs include the "voluntary performance of task activities" (Borman & Motowidlo, 1993), the "innovator role" (Welbourne et al., 1998), "voice" (Van Dyne & LePine, 1998), "taking charge" (Morrison & Phelps, 1999), and "proactive work behavior" (Parker & Collins, 2010). Thus future research should clarify the intended level of contribution of various proactive performance constructs and thus support more fine-grained theory building. Furthermore, a review of the measures suggests considerable overlap. For example, voice (Van Dyne & LePine, 1998), innovation (Scott & Bruce, 1994), and taking charge (Morrison & Phelps, 1999) all include at least one item which entails the promotion and champion of ideas to others or the expression of a unique opinion (Tornau & Frese, 2013) and virtually all the measures include items describing the generation and implementation of ideas to achieve organizationally functional outcomes.

It is equally important to distinguish proactive work performance from closely related constructs including "change-oriented citizenship behavior" (Chiaburu et al., 2013; Choi, 2007) and "change and innovation-related constructs" (Potočnik and Anderson, 2016). Chiaburu et al. (2013: 292) defined change-oriented citizenship behavior as "proactive actions aimed at identifying and implementing changes in work processes, products, and services" and included creative performance, proactive behavior, taking charge, and adaptive performance without considering the origin of the change. We also

distinguish proactive work performance from more general change and innovation behaviors discussed by Potočnik and Anderson (2016), such as job crafting, which encompass a wide range of different behaviors. As discussed later, future research should consider how generic constructs involving work performance link to specific performance constructs described here.

Individual task proactivity. Individual task proactivity is constructive self-initiated, anticipatory action that seeks to change the nature of work tasks (Griffin, Neal, & Parker, 2007). There is a dearth of constructs explicitly assessing the extent to which employees are proactive in the performance of their core tasks. Apart from Griffin et al. (2007), we did not locate any other measure using one's core tasks as a referent. Although voice and taking charge are examples of proactive performance constructs, the measures of these behaviors do not specify a referent, and when they do, it is often as a team member contribution (e.g., Liang, Farh, & Farh, 2012; Van Dyne & LePine, 1998)

At first glance, it might appear that constructs such as task revision (Staw & Boettger, 1990), job crafting (Wrzesniewski & Dutton, 2001), and i-deals (idiosyncratic deals; Hornung, Rousseau, Glaser, Angerer, & Weigl, 2010) are examples of individual task proactivity. However, these proactive behaviors are primarily directed toward the self (Grant & Ashford, 2008; Potočnik & Anderson, 2016) as evident in the definition of job crafting: "In job crafting, employees independently modify aspects of their jobs to improve the fit between the characteristics of the job and their *own* needs, abilities, and preferences" (Tims, Bakker, Derks, & van Rhenen, 2013: 230; emphasis added). Similarly, i-deals are defined as "employment terms individuals negotiate *for themselves*, taking myriad forms from flexible schedules to career development" (Hornung et al., 2010: 188; emphasis added). Although job crafting can generate value for the organization (e.g., Leana, Appelbaum, & Shevchuk, 2009), the primary purpose is to benefit the individual, falling outside the performance definition of Campbell et al. (1993). Thus, our conceptualization of individual task proactivity is more stringent than the original operational definition presented by Griffin et al. (2007) and distinguishes proactive performance constructs from closely related proactive behavior constructs. The lack of constructs explicitly addressing individual task proactivity represents a rich opportunity for research and theory building.

Team member proactivity. Team member proactivity is defined as "the extent to which an individual engages in self-starting, future-directed behavior to change a team's situation, or the way the team works" (Griffin et al., 2007: 332). Building on established OCB-affiliative constructs (Van Dyne et al., 1995), a stream of research within the proactivity literature has examined general forms of interpersonal proactivity. Extending the work by Grant and Ashford (2008), Belschak and Den Hartog (2010) introduced interpersonal proactivity, which is defined as proactive behaviors "directed at the workgroup/colleagues" (p. 476) and demonstrated its discriminant validity from organizational and personal proactivity. The measurement of the construct included proactive knowledge sharing, newcomer socialization, and collaborative idea implementation. Additionally, Grant, Parker, and Collins (2009) and Spitzmuller and Van Dyne (2013) both presented proactive helping constructs that recognize providing help can be proactive as well as reactive.

Voice is a second major form of team member proactivity. Voice was defined by Van Dyne and LePine (1998: 109) as "making innovative suggestions for change and recommending modifications to standard procedures even when others disagree." Although the construct definition does not specify this type of performance as being a team-level contribution, the items use the work group as a referent throughout making this a form of team member contribution. There are two important recent extensions of the voice construct. First, the work of Liang et al. (2012) who identified two forms of voice: promotive (defined as "employees' expression of new ideas or suggestions for improving the overall functioning of their work unit or organization," p. 74) and prohibitive (defined as "employees' expression of concern about work practices, incidents, or employee behavior that are harmful to their organization," p. 75). Again, although the operational definition appears to position this construct as an organization–member contribution, the measurement items all use the "work unit" and "colleagues" as referents. Second, work by Liu, Zhu, and Yang (2010) differentiated between voice directed toward peers (speaking out) and voice directed at the supervisor (speaking up). Although the specific target within the team is different (peers versus supervisors) between these two types of voice, these constructs remain team member contributions as supervisors and peers are part of the overarching team structure.

Organization member proactivity. Organization member proactivity is defined as "the extent to which an individual engages in self-starting, future-directed

behavior to change her or his organization, and/or the way the organization works" (Griffin et al., 2007: 332). Mirroring our analysis of the team member proactivity construct, we find constructs reflecting general proactive performance as an organizational member as well as more specific forms of voice.

Belschak and Den Hartog (2010) developed a measure of proactive performance directed at the organization. Replicating the findings of Griffin et al. (2007), the authors demonstrate organizational commitment to be an antecedent of "organizationally directed proactive performance." Another general type of proactive organizational contribution is "strategic scanning," defined as "being concerned with proactively improving the organization's fit with the environment, such as by identifying future organizational threats and opportunities" (Parker & Collins, 2010: 639). Together, these constructs represent general individual proactive behaviors contributing at the organizational level.

Several voice constructs can be seen as organizational member proactivity. In recent reviews, both Bashshur and Oc (2015) as well as Klaas, Olson-Buchanan, and Ward (2012) argued "voice," "grievance filing," "whistle-blowing," "informal complaints," "issue selling," "upward-feedback," and "participation in suggestion systems" to be forms of voice. Carpini and Parker (2017) extended these syntheses to include "advocacy participation," "principled dissent," "organizational participation," as well as "organizational identification" (Farh et al., 1997). The commonality across all these constructs is the verbal communication of opportunities for improvement that are intended to benefit the organization.

Finally, we also include "issue selling" as a type of individual performance contributing at the organizational level. Issue selling is defined as "individuals' behaviors that are directed toward affecting others' attention to and understanding of issues" (Dutton & Ashford, 1993), and has been argued to be "an important form of change instigation. . . that enhances an organization's dynamic capability. . . by influencing what issues are treated as important enough to trigger action" (Dutton, Ashford, Lawrence, & Miner-Rubino, 2002: 355). Issue selling has been argued to be a critical mechanism through which change initiatives get activated (Dutton, Ashford, O'Neill, & Lawrence, 2001) and a means through which middle managers can shape the strategic agenda of the organization (Dutton & Ashford, 1993). Lending on the work of Liu et al. (2010), issue selling can be conceptualized as a type of speaking up, but in this instance it is directed at achieving changes at the organizational level instead of within the team. Empirical work by Parker and Collins (2010) demonstrated issue selling and strategic scanning could be clustered together within a higher-order factor they called "proactive strategic behavior" and this higher-order factor is highly correlated to general proactive work behaviors including voice and taking charge.

Although we conceptualize constructs such as voice, issue selling, and principled dissent as forms of voice contributing at the organizational level, we do acknowledge that many represent unique forms of voice with different forms, focus, and level of identifiability (Klaas et al., 2012). For example, grievances operate through formal mechanisms, are justice oriented, and generally highly identifiable. In contrast, upward-feedback (speaking up) is often done through informal means, can be improvement or justice oriented, and identifiable. Klaas et al. (2012) noted that much of the research on voice has focused on the highly visible forms of voice (e.g., speaking out/up), neglecting more subtle forms (e.g., anonymous suggestion making), which is a critique that can be applied to other proactive constructs. For example, a nurse may implement a new multidisciplinary briefing procedure in theater to improve team coordination, which would be highly visible, whereas another might make more subtle changes to the way instrumentation is prepared and laid out to improve performance, which would be much less visible to others (Carpini et al., 2015).

Summary of a Synthesis of Individual Work Performance Constructs

Reflecting on Schwab's (1980) argument that constructs are only valuable to the extent to which they relate to other valued constructs, we have taken an important—albeit often ignored step—in clarifying similarities and differences among performance constructs. We leveraged the Griffin et al. (2007) model to classify 97 unique performance constructs by their form and level of contribution. Results of our synthesis suggest that all constructs could be meaningfully integrated within the framework and important links between constructs could be established based on the theoretical dimensions of interdependence and uncertainty.

Consequently, our synthesis has established bridges across research areas, linking together topic areas that were previously isolated from one another

(see science map, Figure 2). Overall, 52 constructs were classified as types of proficiency, 19 as adaptive, and 27 as proactive (see Table 3).[6] Of the 52 proficiency-related constructs, 25 were classified as types of individual task proficiency reflecting the historical emphasis on this type of performance (see historical review; Figures 1 and 3). Given the adaptive and proactive performance literatures are much more recent than the proficiency literature; it is not surprising to find that adaptive and proactive constructs have yet to fully distinguish between the levels of contribution. This highlights opportunities for additional theoretical and empirical work to refine constructs (e.g., voice and sportsmanship), a point we return to in the Discussion.

Finally, this approach is particularly valuable in so far as our synthesis might allow us to better come to grips with the array of antecedents and outcomes related to individual work performance. Indeed, the vast amount of research on the antecedents and outcomes of performance far outweighs attention paid to the dimensionality of performance itself (Campbell & Wiernik, 2015) and thus would greatly benefit from our framework that can facilitate the integration research findings. Next, we leverage our synthesis to further elaborate the relationships between valued constructs by reviewing existing evidence related to how types of performance are related to important antecedents and consequences.

A Synthesized Nomological Network of Antecedents and Consequences of Performance

The different forms (proficiency, adaptivity, proactivity) and the different levels of contribution (individual, team, organization) provide a theoretical basis for distinguishing the antecedent and consequences of individual performance. To date, researchers have largely drawn antecedents from the domain of their primary topic area—operating within theoretical silos. For example, the OCB literature draws from antecedents rooted in social exchange theory such as justice, Leader Member Exchange (LMX), and leadership (see Figure 2; Konovsky & Pugh, 1994). Conversely, the proactivity literature emphasizes work design, motivational factors such as self-efficacy, and individual differences like proactive personality (Crant, 2000; Parker et al., 2006). This means that research findings from one research domain do not necessarily translate to other similar domains, thus hindering our understanding of key phenomena. The consequences of performance have received much less attention, as evident through our bibliometric analyses, with sparse theory and empirical work linking individual work performance to higher-level outcomes.

The above features of performance research limit the conceptual space within which to develop new theoretical ideas or to implement novel practical strategies for performance improvement. Thus, the full value of the literature remains untapped due to a lack of understanding how constructs relate to one another (Schwab, 1980). The changing context of work also demands a better articulated nomological network of constructs related to performance. In this section, we elaborate the nomological network by synthesizing research on the antecedents and consequences of, first, the different forms of performance and, second, the different levels of contribution. Specifically, we incorporate theory and results from 93 scholarly works that have been influential in summarizing and shaping understanding of the work performance domain (see Table 4).[7] Although previous meta-analyses and qualitative reviews are limited by their focus (e.g., OCBs, proactivity), our synthesis brings together key research findings across theoretical silos using our integrative framework.

To organize the antecedents of individual work performance derived from existing research, we adopt the distinction between "capacity," "willingness," and "opportunity" (context; Blumberg and Pringle, 1982). Capacity to perform includes both proximal capacity determinants (knowledge and skill), as well as more distal capacity antecedents (e.g., ability), with the latter often having their effect via proximal determinants (Campbell et al., 1993; Griffin & Neal, 2000). Constructs belonging to this

[6] The total here is 98 as opposed to 97 because OCB supervisor is argued to be both a form of team member proficiency as well as team member adaptivity (Carpini & Parker, 2017).

[7] We distinguish between the types of articles covered in this section in Table 4. To ensure conceptual clarity, we only include studies where it was possible to distinguish the form and/or level of contribution of individual performance and thus exclude papers operationalization performance as "overall job performance," "performance ratings," or other similarly vague terms (Campbell, 2012). We identified relevant articles using PsycInfo and a set of keywords used in identifying the articles for the bibliometric analyses (Appendix A). We cross-validated the studies included by comparing them to those contained in other meta-analyses and reviews.

TABLE 4
Preliminary Nomological Network for Synthesized Individual Work Performance Constructs

	Capacity	Willingness	Opportunity	Outcomes
Individual task proficiency	Knowledge and skills Declarative knowledge[7] Skills[8] Technical job knowledge[7] Ability and related Abilities[8] Age[59] Cognitive ability[7,55,61,62,70] Experience[7]	Motivational factors Commitment[38,39,52,63,64] Effort[a] Fairness[4] Goal commitment[25] Job engagement [26,52] Job satisfaction[10,57,63,66] Justice (interactional[10]) [38,40] Psychological empowerment[63] Self-efficacy[65,a] Trust[47] Personality Conscientiousness[4,5,45,52,54] *Negative affectivity*[4,56] Positive affectivity[56] Work promotion focus[58]	Leadership Transformational leadership[25,49] LMX[46,49] Climate Support[50,51,60] Work design Feedback[a] Role clarity[2,50] Task complexity[a] Environment Low uncertainty/stable environment[2] *Role conflict*[44]	*Absenteeism*[7,29] *Counterproductive work behavior*[7] Effectiveness[7,25,a] Efficiency[7,a] Performance appraisal[29,a] Productivity[7,a] Quality[a] Team member proficiency[25,26] *Turnover*[7,29]
Team-member proficiency	Ability and related Cognitive ability[55] Age[59]	Motivational factors Affective commitment to team /group[1,a] Commitment[38,39,53,63,68] Fairness[4,48,a] Goal commitment[25,48] Job engagement[26] Job involvement[1] Justice (interactional[10])[1,38,40,53,a] Psychological empowerment[63] Satisfaction (overall and job)[1,10,48,53,a] Trust[47] Work promotion focus[58] Personality Conscientiousness[48,53,54,67] Need for affiliation[1]/agreeableness[9,45,67] *Negative affectivity*[53,67] *Neuroticism*[67] Openness[67] Perspective taking[1] Positive affectivity[4,53,57,67,a] Trust propensity[1] Work promotion focus[58]	Leadership High LMX[4,27,46,49,a] Transformational leadership[25,49,a] Leader support [48] Climate Group cohesiveness[1]/team support[2,51] Organizational support[26,60] Work design *Role ambiguity* [44] *and conflict*[4] Environment Interdependence[1,2] Low uncertainty[2]/stable environment[1]	*Absenteeism*[7,29] *Counterproductive work behavior*[7] Customer satisfaction[29] Efficiency[1,29] Individual performance appraisal[29] Organizational effectiveness[28,a] Positive group climate[1] Productivity[29] Quality[1] Reduced costs[29] Supervisor-rated individual task proficiency[18,25,26] Team performance[37,a] *Turnover*[7,29] *Unit-level turnover*[29]
Organization-member proficiency	Knowledge and skills Ability/experience/ training knowledge[4] Ability and related Cognitive ability[7] Hierarchical level[6]	Motivational factors Organizational affective commitment[1,2] Job satisfaction[4,6,10,a] Job engagement[26] Commitment[38] Justice (interactional, procedural[10])[38,40]	Leadership High LMX [4,27,a] Climate Organizational support[26] Environment Low uncertainty[1]/stable	Productivity[29] Efficiency[29] *Turnover*[7] *Absenteeism*[7] *Counterproductive work behavior*[7] Organizational effectiveness[28,a]

TABLE 4
(Continued)

	Capacity	Willingness	Opportunity	Outcomes
		Personality Agreeableness[4]	environment[2] Interdependence[2]	Reduced costs[29] Customer satisfaction[29] *Unit-level turnover*[29] Individual Performance Appraisal[4]
Individual task adaptivity	Knowledge and skills Declarative knowledge[33] Ability and related Adaptive experience[33] Cognitive ability[33] Meta-cognition [33]	Motivational factors Commitment[38] Distributive[10,38] Job satisfaction[10] Justice (procedural, interactional) Self-efficacy[33] Personality Conscientiousness[33] Mastery goal orientation[33] Openness to change[2,24,32] Emotional stability[9,32,33]	Leadership Leader support[33] Leader vision[24,33] Climate Continuous learning activities[30] Team learning climate[30] Work design Role ambiguity [4] Environment Complexity[35] Organizational inflexibility[4] Uncertainty/dynamic environment[2,34,35]	Adaptation[31,a] Effectiveness [a] Learning[31,a] Performance change[a] Reduced costs[29] Safety and *accidents*[7]
Team-member adaptivity	Knowledge and skills Declarative knowledge[33] Ability and related Adaptive experience[33] Cognitive ability[33] Meta-cognition[33]	Motivational factors Commitment[38] Job satisfaction[10] Justice (procedural,[10] interactional,[10] distributive[10])[38] Self-efficacy[33] Personality Conscientiousness[33] Mastery goal orientation[33] Openness to change[2,32] Emotional stability[9,32,33]	Leadership Leader support[33] Transformational leadership[33] Work design Role ambiguity[4] Environment Complexity[35] Interdependence[2] Organizational inflexibility[4] Uncertainty/dynamic environment[2,34,35]	Adaptation[31,a] Team performance[22] Inter-team collaboration[31] Reduced costs [29] Safety and *accidents*[7]
Organization-member adaptivity	Knowledge and skills Declarative knowledge[33] Ability and related Adaptive experience[33] Cognitive ability[33] Meta-cognition[33]	Motivational factors Commitment[38] Job satisfaction [10] Justice (procedural,[10] interactional,[10] distributive[10])[38] Organizational affective commitment[2] Self-efficacy[33] Personality Agreeableness[4] Conscientiousness[33] Emotional stability[9,33] Mastery goal orientation[33] Openness to change[2]	Leadership Leader support[33] Transformational leadership [33] Climate Team support[2] Work design Role ambiguity & conflict [4] Environment Complexity[35] Interdependence[2] Uncertainty/dynamic environment[2,34,35] Organizational inflexibility [4]	Adaptation[31,a] Safety and accidents[7] Customer service [31] Reduced costs[29]

TABLE 4
(Continued)

	Capacity	Willingness	Opportunity	Outcomes
Individual task proactivity	Ability and related Education[18] Emotion regulation[13] Expert power[17] Cognitive ability[55] Hierarchical level[1] Job experience[42]	Motivational factors Commitment[58,63] Engagementa,[41] Felt responsibility for change[11,17,42] Job satisfaction[13,58,63,a] Role breadth self-efficacy[2,3,11,a] Psychological empowerment[63] Self-efficacy (general)[17] Personality *Agreeableness*[9] Ambition[32] Conscientiousness[42] Consideration of future consequences [11] Creative personality[36] Extraversion[9,42] Learning goal orientation[11,58] *Performance goal orientation*[58] Need for achievement[9] Openness[36,42] *Neuroticism*[42] *Negative affect*[50] Proactive personality [11,12, 41]	Leadership Leader vision[24] LMX[49] Transformational leadership [49] Climate Climate for innovation [36] Top management openness[17,36] Environment Uncertainty[2]/dynamic environment[1] Social support[42] Work design Ambiguity[15] *Role ambiguity*[a] *Role conflict*[a] Autonomy[15,16,36,41,a] Job complexity[20,36,41] Job control[42]	Adaptation[a] Career outcomes[21,42,69,a] Creativity[14] Engagement[a] Impressions[21] Innovation (general)[42] Performance (other rated)[42,69] Performance evaluation[21] Task-specific innovation[2] Turnover[21,a] Overall performance[13] Subjective performance[13] *Withdrawal behavior*[a]
Team-member proactivity	Ability and related Education[18] Emotion regulation[13] Expert power[17] Cognitive ability[55] Hierarchical level[17]	Motivation factors Engagement[41,a] Felt responsibility for change[11,17,42] Job satisfaction[13,42,58,a] Organizational affective commitment[20,42,58] Role breadth self-efficacy[2,3,11,42,a] Self-efficacy (general)[17,42] Personality *Agreeableness*[9] Ambition[32] Consideration of future consequences[11] Creative personality[36] Extraversion[9] Learning goal orientation[11,58] *Negative affect*[50] Openness [36] *Performance goal orientation*[58] Proactive personality [11,12,41]	Climate Climate for innovation[36] LMX [49] Psychological safety[14] Team commitment [43] Team support[2]/group norms[17] Top management openness[17,36] Transformational leadership[49] Work design Ambiguity[15] Autonomy[15,16,36,41,a] Job complexity[20,36,41] Environment Interdependence[2] Uncertainty [2]/dynamic environment [1]	Adaptation[a] Career outcomes[21,42,69,a] Creativity [14] Effectiveness[1,21] Efficiency[29,a] Innovation[1,42,a] Impressions[21] Performance evaluation[21,42,69] Productivity[29,a] Quality[a] Success[42,a] *Turnover*[21,a] *Unit-turnover*[29] *Costs*[29] *Withdrawal behavior*[a]
Organization-member proactivity	Ability and related Education[18] Emotion regulation[13]	Motivational factors Engagement[41,a] Felt responsibility for change[11,17]	Climate Climate for innovation[36] LMX[49]	Adaptation[a] Career outcomes[21,69,a] Creativity[14]

TABLE 4
(Continued)

Capacity	Willingness	Opportunity	Outcomes
Expert power[17]	Job satisfaction[13,58,a]	Psychological safety[14]	Effectiveness[1]
Cognitive ability[55]	Learning goal orientation[58]	Top management openness[17,36]	Efficiency[a]
Hierarchical level[6,17]	Organizational affective commitment[2,20,58,a]	Transformational leadership[49]	Impressions[21]
	Performance goal orientation[58]	Work design	Innovation[1,42,a]
	Role breadth self-efficacy[2,3,11,a]	Ambiguity [15]	Performance evaluation[21,69]
	Self-efficacy (general)[17]	Autonomy[15,16,36,41,a]	Productivity[a]
	Team affective commitment[20]	Job complexity[20,41]	Quality[a]
	Personality	Environment	Success[42,a]
	Agreeableness[9]	Interdependence[2]	*Turnover*[21,a]
	Ambition[32]	Uncertainty[2]/dynamic environment[1]	*Withdrawal behavior*[a]
	Consideration of future consequences[11]		
	Creative personality[36]		
	Extraversion[9]		
	Learning goal orientation[11]		
	Negative affect[50]		
	Openness[36]		
	Performance goal orientation[11]		
	Proactive personality[11,12,41]		
	Risk propensity[1]		

Notes. Constructs appearing in italics are negatively correlated to the performance category. Superscript numbers refer to the citation. Article type is differentiated using the following notation: [M]meta-analysis, [E]empirical study, [T]theoretical/qualitative review. [a]Results of cumulative science map (1972–2015), [1]Van Dyne et al. (1995)[T], [2]Griffin et al. (2007)[E], [3]Parker (1998)[E], [4]Podsakoff et al. (2000)[M], [5]Barrick and Mount (1991)[M], [6]Van Dyne et al. (1994)[E], [7]Schmitt et al. (2003)[T], [8]Johnson (2003)[T], [9]Bartram (2005)[M], [10]Fassina et al. (2008)[M], [11]Parker and Collins (2010)[E], [12]Fuller and Marler (2009)[M], [13]Thomas et al. (2010)[M], [14]Edmondson and Lei (2014)[T], [15]Grant and Ashford (2008)[T], [16]Parker et al. (2006)[E], [17]Morrison and Phelps (1999)[E], [18]Van Dyne and LePine (1998)[E], [19]Grant (2013)[E], [20]Belschak and Den Hartog (2010)[E], [21]Morrison (2014)[T], [22]Nielsen et al. (2012)[E], [23]Demerouti Xanthopoulou, Tsaousis, & Bakker, (2014)[E], [24]Griffin et al. (2010)[E], [25]Piccolo and Colquitt (2006)[E], [26]Rich et al. (2010)[E], [27]Wang et al. (2005)[E], [28]Podsakoff and MacKenzie (1997)[E], [29]Podsakoff et al. (2009)[M], [30]Han and Williams (2008)[E], [31]Pulakos et al. (2000). Outcomes derived from construct definitions[E], [32]Huang et al. (2014)[M]. [33]Jundt et al. (2015)[T], [34]Schmitt and Chan (2014)[T], [35]Baard et al. (2014)[T], [36]Hammond, Neff, Farr, Schwall, and Zhao (2011)[M], [37]Bachrach, Powell, Bendoly, and Richey (2006)[E], [38]Hoffman et al. (2007)[M], [39]Shore and Wayne (1993)[E], [40]Colquitt, Conlon, Wesson, Porter, and Ng (2001)[M], [41]Marinova et al. (2015)[M], [42]Tornau and Frese (2013)[M], [43]Belschak, Den Hartog, and Fay (2010)[E], [44]Eatough, Chang, Miloslavic, and Johnson (2011)[M], [45]Ilies, Fulmer, Spitzmuller, and Johnson (2009)[M], [46]Ilies, Nahrgang, and Morgeson (2007)[M], [47]Colquitt, Scott, and Lepine (2007)[M], [48]Lepine et al. (2002)[M], [49]Chiaburu, Smith, Wang, and Zimmerman (2014)[M], [50]Parker, Johnson, Collins, and Nguyen (2013)[E], [51]Chiaburu and Harrison (2008)[M], [52]Cooper-Hakim and Viswesvaran (2005)[M], [53]Dalal (2005)[M], although OCB is included as a single factor, we categorized the results based on the most commonly used dimensions which are interpersonal in nature, [54]Dudley, Orvis, Lebiecki, and Cortina (2006)[M], [55]Gonzalez-mulé, Mount, and Oh (2014)[M], [56]Kaplan, Bradley, Luchman, and Haynes (2009)[M], [57]Harrison, Newman, and Roth (2006)[M], [58]Lanaj, Chang, and Johnson (2012)[M], [59]Ng and Feldman (2008)[M], [60]Rhoades and Eisenberger (2002)[M], [61]Schmidt and Hunter (1998)[M], [62]Schmidt and Hunter (2004)[M], [63]Seibert, Wang, and Courtright (2011)[M], [64]Wright and Bonett (2002)[M], [65]Judge, Jackson, Shaw, Scott, and Rich (2007)[M], [66]Judge, Thoresen, Bono, and Patton (2001)[M], [67]Chiaburu, Oh, Berry, Li, and Gardner (2011)[M], [68]Meyer, et al. (2002)[M], [69]Crant (2000)[T], [70]Hunter (1986)[T], [71]Moorman (1991)[E], [72]Moorman, Blakely, and Niehoff (1998)[E], [73]Sinclair, Tucker, Cullen, and Wright (2005)[E], [74]Bell and Kozlowski (2008)[E], [75]Neal, Yeo, Koy, and Xiao (2011)[E], [76]Frese and Fay (2001)[T], [77]Bateman and Crant (1993)[E], [78]Salas and Cannon-Bowers (2001)[T], [79]Karriker and Williams (2009)[E], [80]Chen, Tang, & Wang (2009)[E], [81]Cohen et al. (2012)[E], [82]Chen, Hui, and Sego (1998)[E], [83]Spiro and Weitz (1990)[E], [84]Maynes andPodsakoff (2014)[E], [85]Lam and Mayer (2014)[E], [86]Detert et al. (2013)[E], [87]MacKenzie et al. (2011)[E], [88]Seibert et al. (1999)[E], [89]Burris (2012)[E], [90]Whiting et al. (2008)[E], [91]Johnson (2001)[E], [92]MacKenzie et al. (1991)[E], [93]Motowidlo & van Scotter (1994)[E].

family of antecedents is largely represented by the *personnel selection perspective* cluster (see Table 2 and Figure 2). Willingness to perform similarly includes proximal determinants, which are mostly motivational states (e.g., job satisfaction), as well as more distal antecedents that affect motivation (e.g., personality). Research on willingness has largely emerged from the *motivation* and *job attitudes* clusters. Finally, opportunity to perform (context) includes core elements of the work environment such as equipment, and working conditions, as well as social elements including leadership, coworkers, policies, and work design. These contextual antecedents often have their influence on individual work performance through the more proximal determinants noted earlier (i.e., knowledge, skill, motivation), although they can also have direct effects on performance because they shape or constrain the opportunity for action (Blumberg & Pringle, 1982). Opportunity antecedents are found primarily across the *job attitudes* and *the good citizen* clusters.

For the consequences of performance, we build on the work of Campbell and Wiernik (2015) who distinguished between "indicators" of performance such as efficiency and productivity; and "outcomes" of performance such as sales, salary, and career advancement. In our review, we refer to both types of performance consequence as "outcomes." Outcomes of individual work performance can be seen across several clusters but most notably the *management, personnel selection perspective*, and *job attitudes* clusters.

Antecedents of Form (Proficiency, Adaptivity, and Proactivity)

We identified some constructs that were antecedents across all three forms of performance and others that were more clearly linked to specific forms. For example, job satisfaction, cognitive ability, and transformational leadership were consistent drivers of all three forms suggesting their enabling and motivational underpinnings are important drivers of work-related behaviors regardless of the level of uncertainty. Antecedents of specific forms included cognitive ability and role clarity for proficiency, meta-cognition and support for adaptivity, and self-efficacy, proactive personality, and autonomy for proactivity.

The relative importance of different forms of behavior is a function of uncertainty and predictability in work requirements. When predictability is high, performance requirements can be anticipated in advance and formalized through job descriptions and other formal and informal processes (proficient performance), but when uncertainty is high, tasks cannot always be prespecified and things change, so adaptive and proactive performance is required to achieve organizationally functional outcomes (Griffin et al., 2007). These contextual requirements help to differentiate the kind of antecedents that are important for motivating and enabling each form of performance.

Proficiency. In terms of individual capacity to perform proficiently, the most robust antecedent has been cognitive ability, or the ability to learn (Schmidt, 2002; Schmidt & Hunter, 2004). This result is likely due to the strong relationship between job knowledge and general cognitive ability (Hunter, 1986), such that job knowledge allows an individual to execute prescribe tasks to a high degree of proficiency (Schmitt et al., 2003). The robustness of this relationship is summarized by Hunter (1986: 342), "the fact that general cognitive ability predicts job performance [proficiency] on all jobs needs not be theoretically proved. It can be demonstrated by [the] brute force [of] empirical studies showing positive correlations for a large representative sample of jobs."

In addition, there is clear evidence that proficiency is shaped by a willingness to perform, notably motivational factors such as satisfaction, commitment, engagement, and justice (Hoffman, Blair, Meriac, & Woehr, 2007; Moorman, 1991; Moorman et al., 1998; Sinclair, Tucker, Cullen, & Wright, 2005). The motivational mechanisms of these factors are consistent with social exchange theory such that individuals are likely to want to reciprocate positive feelings, such as satisfaction, with effort (Cropanzano & Mitchell, 2005). The propensity to get along with others (agreeableness; Bartram, 2005) and experience positive affect (Podsakoff et al., 2000) are also consistent antecedents of proficiency. Positive affect likely triggers the desire to reciprocate with effort, and in addition, can improve perceptions of self-efficacy (Baron, 1990), which motivate performance on prescribed tasks (Lyubomirsky, King, & Diener, 2005).

From the perspective of context, Griffin et al. (2007) found a positive relationship between role clarity and proficiency. A similar pattern of results was observed by Judge and Piccolo (2004) in regard to transformational leaders who provide subordinates with a clear direction. Given that individual task proficiency is about completing one's prescribed tasks, it is not surprising that clarity would foster this type of performance by reducing uncertainty.

Adaptivity. Adaptive performance, or coping with and responding well to change, has been predicted

by several capacity factors, including knowledge and cognitive ability, but also—and distinct from proficiency—meta-cognition, and adaptive experience (Jundt et al., 2015). As Bell and Kozlowski (2008: 299) explain, "meta-cognitive activities include planning, monitoring, and revising goal appropriate behavior." The authors found meta-cognition to be positively related to adaptivity as mediated through knowledge enhancement. Meta-cognition appears to be a quite distinct capacity predictor for adaptive performance relative to other forms of performance, perhaps because it is highly related to the acquisition of new skills and knowledge, as well as self-awareness, which are implicated in adaptation (Bell & Kozlowski, 2008). Indeed, both meta-cognition and adaptive experience are likely to support adaptive performance through the acquisition and implementation of novel information (Pulakos et al., 2000).

When it comes to willingness factors, evidence shows that job satisfaction and justice perceptions predict individuals' motivation to accommodate change (Fassina et al., 2008). For example, satisfied employees are more likely to react constructively to change: it seems they are better able to tolerate the increased stress and inconvenience that often arises when things change (Podsakoff et al., 2000). Because of the dynamic nature of change, there is inherent uncertainty, so willingness factors that enable responding to this uncertainty have also been identified as important predictors of adaptivity, including: self-efficacy (Jundt et al., 2015), mastery goal orientation (Jundt et al., 2015), openness to change (Griffin et al., 2007; Griffin et al., 2010), and emotional stability (Bartram, 2005; Huang et al., 2014)—all of which play a more global role in the personal management of change. Additionally, conscientiousness is important when learning new tasks and adhering to new policies and procedures (Neal, Yeo, Koy, & Xiao, 2011).

With respect to opportunity factors, there are rather consistent findings in relation to leadership and several characteristics of the work environment that support and engender adaptivity (e.g., team support, team learning climate). Griffin et al. (2010) showed that leader vision promoted adaptive performance, which these scholars attributed to the fact that vision highlights there is a discrepancy between the current state of affairs and the desired state, and therefore endorses the need for change. Adaptive behavior is also fostered by leader support (Jundt et al., 2015), which makes sense because adaptivity occurs when there is uncertainty and hence likely comes with anxiety. An environment that values learning by offering multiple learning activities, or a learning climate, has also been shown to foster adaptive performance (Han & Williams, 2008). In contrast to proficiency, role ambiguity and conflict (Podsakoff et al., 2000) as well as dynamic and complex work environments (Griffin et al., 2007; Schmitt & Chan, 2014; Baard et al., 2014) are strong drivers of adaptive performance because these environmental forces exert pressure on individuals to adapt.

Proactivity. Proactive performance is defined by self-initiated, future-focused, and change-oriented behavior. As such, the role of capacity in predicting proactive performance has had less attention relative to both proficiency and adaptivity. This trend makes sense because, agency is often perceived as psychologically risky, and thus scholars have argued that motivation is most crucial for proactivity (Parker et al., 2010). Nevertheless, individual studies have shown a positive correlation between both education (e.g., Van Dyne & LePine, 1998) and cognitive ability (Frese & Fay, 2001) with proactive performance. Frese and Fay (2001) argued that capacity matters for stimulating proactivity because—when individuals possess knowledge and skill—they are more likely to experience feelings of mastery, which in turn motivates proactive behavior. From this perspective, capacity is more of a motivational resource. It is possible that capacity matters more when it comes to promoting highly *effective* proactivity (e.g., Chan, 2006) and that it matters more for promoting highly creative forms of proactive behavior (e.g., Wu, Parker, & de Jong, 2014).

As noted earlier, willingness factors (e.g., motivation) are likely to be vital for proactive performance because it involves self-initiated effort and persistence in overcoming obstacles, as well as confidence to engage in what is often considered risky behavior. Research shows the important role of job satisfaction (Ng & Feldman, 2012; Whitman & Viswesvaran, 2010) and felt responsibility for change (Tucker, 2016) for proactive behavior. Importantly, employees are also motivated to change the status quo through enhanced role breadth self-efficacy, the perception of having the capabilities necessary to proactively carry out a wider set of work-related tasks (Parker, 1998). Additionally, proactive performance is inherently future-focused (Parker & Collins, 2010), self-starting, and change-oriented (Parker et al., 2006); so it is unsurprising that personality variables related to these behaviors have been shown to be important, including proactive personality (Bateman & Crant, 1993; Fuller & Marler, 2009), creative personality (Hammond et al., 2011), and openness to new experience (Tornau & Frese, 2013). Because change is often risky and challenging, it often

requires individuals to transgress against norms and to be assertive in bringing about change. Consistent with this notion, ambition (Huang et al., 2014) and extraversion (Bartram, 2005) have been shown to be important predictors of this outcome.

When it comes to contextual predictors, several opportunity factors have been shown to be important. One of the most vital aspects is having job autonomy (e.g., Marinova, Peng, Lorinkova, Van Dyne, & Chiaburu, 2015), in part because autonomy generates the sorts of motivation required to self-initiate change (e.g., engagement, self-efficacy), and in part because autonomy directly allows individuals the latitude to behave proactively. In a similar vein, more complex jobs offer greater opportunity for proactivity as there are more elements present and greater scope for modification (Belschak & Den Hartog, 2009; Hammond et al., 2011). Other aspects of the context also motivate proactivity. For example, with respect to the change focus of proactive behavior, leader vision promotes this outcome (Griffin, Parker, & Mason, 2010; Lowe, Kroeck, & Sivasubramaniam, 1996), likely because it raises awareness of the need for improvement and thereby motivates change-oriented action. Evidence also shows having a positive environment conducive to taking risks is important: both climate for innovation and top management openness predict proactive behavior (Hammond et al., 2011). Similarly, because proactivity often requires endorsement and support from coworkers, it makes sense that team support (Marinova et al., 2015) and psychological safety (Edmondson, 2003; Edmondson & Lei, 2014) have been shown to promote this behavior.

Antecedents of Contribution Level (Individual, Team, and Organization)

In this section, we differentiate antecedents that motivate or enable performance constituting individual-, team-, and organizational-level contributions. The level of contribution of each behavior reflects the degree of interdependence. When interdependence is low, the relationship between behavior and effectiveness is relatively straight forward; however, when interdependence increases (team or organization member behaviors), the relationship between individual behavior and effectiveness become more complex (Griffin et al., 2007). The various levels of contribution are related to one another through an additive composition model (Chan, 1998: 236) such that a "higher level unit [e.g., team member behavior] is a summation of the lower level units [e.g., individual task behavior]."

Some antecedents naturally overlap with those that predict different forms, so we focus on key theoretical differences among antecedents for each level. Notably, capacity factors show little discrimination between levels of contribution (Table 4). This is not surprising given that factors such as declarative knowledge, cognitive ability, and job experience are likely to contribute to a wide range of behaviors differing in their form rather than level of contribution. Additionally, the comparatively newer adaptivity and proactivity literatures are less well developed than the proficiency literature, which means antecedents are not yet distinguished to the same degree. Finally, some antecedents reflect interdependence rather than a specific level of contribution (team or organization member behavior). Scholars have found factors including fairness (Podsakoff et al., 2000), justice (Colquitt, Conlon, Wesson, Porter, & Ng, 2001; Fassina et al., 2008; Hoffman et al., 2007), and psychological safety (Edmondson & Lei, 2014) to be positively related to both team and organization member contributions. These results are consistent with the notion that interdependence, by definition, requires organizational members to care about, consider, and support their immediate (team) and distal colleagues (organization).

Individual task behaviors. Individual task behaviors are not embedded within a larger social context and as such the relationship between behavior and effectiveness is simplest. In terms of willingness, self-efficacy (Griffin et al., 2007; Jundt et al., 2015; Tornau & Frese, 2013), commitment (Hoffman et al., 2007; Marinova et al., 2015; Rich, Lepine, & Crawford, 2010), and engagement (Marinova et al., 2015; Piccolo & Colquitt, 2006; Rich et al., 2010) have all been demonstrated to be positively related to individual task behaviors as these motivational factors support and energize effort directed toward core tasks. Additionally, conscientiousness is positively associated with individual task behaviors (Barrick & Mount, 1991; Neal, Yeo, Koy, & Xiao, 2011; Salas & Cannon-Bowers, 2001; Tornau & Frese, 2013). This is likely due to the fact that conscientiousness reflects dependability manifested in careful, thorough, and organized behavior (Barrick & Mount, 1991: 4), all of which are particularly important in the completion of prescribed core tasks as well as learning new tasks. Finally, transformational leadership supports individual task behaviors (Jundt et al., 2015; Piccolo & Colquitt, 2006; Wang et al., 2005), albeit through different mechanisms. Griffin et al. (2010) observed that leader vision was positively related to individual adaptivity

when employees were high on openness to work role change, whereas high role breadth self-efficacy resulted in more proactive behavior.

Team member behaviors. Team member behaviors reflect interdependence within a broader team social context such that individual behavior contributes to team effectiveness rather than to individual effectiveness (Griffin et al., 2007). Antecedents emphasizing cohesiveness and identification with the group are strongly related to the willingness to support the team, its members, and constructive social structures that enable team performance. Of the motivational factors, the most distinct is team commitment. For example, studies by Van Dyne and LePine (1998) found affective commitment to the team to be positively associated with helping behavior, and Belschak and Den Hartog (2010) observed a positive relationship between team commitment and team member proactive behavior. Affective team commitment is likely to result in the team becoming an extension of oneself and thus motivates behavior directed toward the betterment of the group and its members (Meyer, Stanley, Herscovitch, & Topolnytsky, 2002).

In addition to the willingness to contribute to the team, certain opportunity factors also shape team member contributions. Several studies have pointed to the central role of transformational leadership in fostering team member contributions (Detert & Burris, 2007; Liu, Zhu, & Yang, 2010; Piccolo & Colquitt, 2006; Podsakoff et al., 2000). Transformational leaders create cohesion within groups by articulating a shared vision (Podsakoff et al., 2000), fostering team potency (Schaubroeck, Lam, & Cha, 2007), and engendering high LMX relationships with subordinates (Wang et al., 2005). Indeed, Karriker and Williams (2009) demonstrated high LMX was positively and strongly related to subordinates' team member contributions. During periods of change, the leader support element of transformational leadership is likely to be particularly important for adaptive team member contributions (Jundt et al., 2015) as team members must adapt to new ways in which the team functions, and exhibit sportsmanship. Finally, team characteristics such as group cohesiveness (Chen, Tang, & Wang, 2009; Cohen et al., 2012; Podsakoff et al., 2000) and team support (Griffin et al., 2007)/norms (Morrison & Phelps, 1999) are important proximal contextual factors that shape team member contributions. Consistent with social exchange theory, these interpersonal factors likely increase the propensity for team members to help and coordinate with one another and reciprocate positive behavior in the future.

Organization member behaviors. Organization member behaviors are directed at, and support, organization effectiveness as opposed to team or individual effectiveness (Griffin et al., 2007). The willingness to contribute to organizationally functional behavior that extends beyond one's immediate work tasks and team has been consistently linked to individuals' organizational commitment (Hoffman et al., 2007; Podsakoff et al., 2000; Tornau & Frese, 2013). Griffin et al. (2007) demonstrated organizational commitment to be positively related to all forms of organization member behavior, results which were replicated by Belschak and Den Hartog (2010) in relation to proactive organization member behaviors. These findings are consistent with the notion that individuals will contribute to the wider organizational context when they perceive the organization to be concerned with their general welfare (Griffin et al., 2007). This explanation is consistent with findings regarding the opportunity to perform organization member behaviors such that climates characterized by organizational support (Rich et al., 2010) and top management support (Hammond et al., 2011; Morrison & Phelps, 1999) have been related to increases in these behaviors.

Outcomes of Form (Proficiency, Adaptivity, and Proactivity)

Relative to the burgeoning body of research on the antecedents of individual work performance, the literature on the outcomes of performance is far less developed (Campbell & Wiernik, 2015). As previously explained, the relative contribution of individual behavior is a function of the level of environmental uncertainty as evident in the outcomes associated with each form of performance.

Proficiency. Proficiency has been positively related to several traditionally important outcomes. In their review and synthesis of the individual work performance literature, Schmitt et al. (2003) included individual productivity and efficiency as key outcomes of proficiency, a finding later supported in a meta-analysis (Podsakoff et al., 2009). Scholars have also examined negative outcomes of low proficiency such as individual-level turnover, absenteeism, and counterproductive work behaviors (Schmitt et al., 2003). For example, Chen, Hui, and Sego (1998) found subordinates' actual turnover was predicted by supervisor-rated OCB, results which were supported by a subsequent meta-analysis

(Podsakoff et al., 2009). It can be inferred that a reduction in proficient behaviors may signal psychological detachment from the organization resulting in reduced effort directed at core tasks and interpersonal behavior such as helping (Burris, Detert, & Chiaburu, 2008).

Adaptivity. Adaptivity reflects a response to change and as such the literature has generally focused on a rather narrow set of outcomes such as successfully responding to change (Pulakos et al., 2000), safety, and accidents (Schmitt et al., 2003). The existent research has largely been theoretical rather than empirical. Indeed, the literature on outcomes of adaptive performance is considerably less developed than comparative literatures examining adaptivity as an individual difference or as a process (Baard et al., 2014). With this said research on sportsmanship point to potentially important outcomes such as reduced organizational costs (Podsakoff et al., 2009), and research on adaptive selling behavior suggests adaptivity may contribute to overall performance ratings (Spiro & Weitz, 1990). Thus, the outcomes of individual adaptive performance requires further attention (Jundt et al., 2015) and should consider a breadth of potential outcomes.

Proactivity. Proactive efforts to drive improvements and constructive change in the workplace has been argued to result in learning, adaptivity, improved decision-making, and as a whole, meta-analyses support the positive role of proactive behavior on overall performance (Maynes & Podsakoff, 2014; Tornau & Frese, 2013), although there remains scant empirical evidence (Bashshur & Oc, 2015). Existing evidence shows that proactivity results in task-specific (Griffin et al., 2007) and general innovation (Tornau & Frese, 2013). The outcomes of voice extend well beyond those of innovation with research showing important unit- and organization-level outcomes such as service performance, customer satisfaction (Lam & Mayer, 2014), unit-level performance (Detert, Burris, Harrison, & Martin, 2013), and overall profitability (MacKenzie, Podsakoff, & Podsakoff, 2011). There is also growing concern for negative outcomes of proactive behavior and an increasing awareness of boundary conditions (Bolino & Grant, 2016; Bolino, Valcea, & Harvey, 2010).

An outcome more specific to proactivity is the effect of proactive behavior on positive career-related outcomes (Morrison, 2014). In the first paper of its kind, Seibert, Crant, and Kraimer (1999) found innovation to be positively related to salary progression, promotions, and career satisfaction. Interestingly, this study also highlighted that not all voice results in positive outcomes such that voice was negatively related to both salary progression and promotions. This point was later elaborated on by Burris (2012) who found supportive voice was related to improved performance evaluations, whereas the reverse was true for challenging forms of voice. Interestingly, results of the science map situate key terms such as quality, success, efficiency, and productivity in close proximity to proactive terms, although as we discuss later, the aggregate effects of proactivity, and performance constructs at large, on higher-level outcomes like organizational productivity have sparsely been examined.

Outcomes of Contribution Level (Individual, Team, and Organization)

The level of contribution reflects the extent to which behaviors are interdependent. Individual task behaviors are those executed with the least amount of interdependence, and as such, the relationship between performance and outcomes is relatively simple; however, as interdependence increases, the relationship between individual behaviors and outcomes becomes more complex (Griffin et al., 2007). Integrating the level of contribution of various behaviors implies looking at higher-level outcomes (e.g., team outcomes and organizational outcomes), which is very complex and is an issue we return to later in the discussion.

Individual task behaviors. Interesting patterns related to the outcomes of individual-level work performance emerged from our synthesis. Of particular, note are the commonalities between proficiency and proactivity— which is somewhat surprising given the difference in form. Both proficiency and proactivity at this level of contribution have been related to improved performance appraisals (Whiting, Podsakoff, & Pierce, 2008), reduced turnover (Morrison, 2014), and both withdrawal and counterproductive work behaviors (Schmitt et al., 2003; science map). It is likely these outcomes are related to both individual task proficiency and proactivity through similar underlying processes such as exerting high amounts of effort (proficiency) and high commitment to the organization (proactivity; Griffin et al., 2007). Interestingly, both proactivity (Piccolo & Colquitt, 2006) and adaptivity (science map) appear to be related to effectiveness although via different pathways. Although individual adaptivity likely results in improved effectiveness through successful adaptation,

proactivity instigates changes to make improvements in core tasks and is thus expected to be related to effectiveness through individual task innovation (Griffin et al., 2007).

Team and organization member behaviors. As previously noted during our synthesis of performance constructs, there are few constructs that effectively distinguish between team and organization member levels, particularly within the adaptivity and proactivity literatures. As such, we cluster the outcomes of both team and organization member (interdependent) behaviors together. Consistent with the intended level of contribution, we find general support for the positive impact of team and organization member behaviors on both subjective and objective collective outcomes. Van Dyne and LePine (1998) found helping to be positively related to a functional group climate. Similarly, Bachrach, Powell, Bendoly, and Richey (2006) demonstrated OCBs to support group task performance when task interdependence was high, but negative when interdependence was low; these results were replicated by Nielsen, Bachrach, Sundstrom, and Halfhill (2012). Finally, research on voice also underlines the utility of team and organization member behaviors on group task performance (Detert et al., 2013), customer satisfaction (Podsakoff, Whiting, Podsakoff, & Blume, 2009), and overall experience (Spiro & Weitz, 1990), as well as objective outcomes (e.g., profitability and reduced costs; MacKenzie et al., 2011; Podsakoff et al., 2009). Together, these results suggest interdependent behaviors can have functional outcomes for teams and organizations, although it is likely the underlying mechanism are highly related to the form of the behavior and remain largely unarticulated.

Also, of note are the individual-level outcomes of team and organization member contributions. Several studies have found these behaviors to be positively related to supervisor-rated performance (Johnson, 2001; Motowidlo & Van Scotter, 1994; Podsakoff et al., 2009; Podsakoff et al., 2000) as well as broader career outcomes (Morrison, 2014; Podsakoff et al., 2009). One possible explanation for these findings is that team and organization member contributions are intended to be organizationally functional, thus making the jobs of supervisors easier (Podsakoff et al., 2009); subordinate contributions are then reciprocated through formal systems such as appraisals and promotions. Despite the growing body of literature emphasizing the positive career outcomes related to interdependent behaviors, scholars including Bergeron, Shipp, Rosen, and Furst (2013) found OCBs may in fact be negatively related to career outcomes in an outcome-based performance management system as these behaviors detract from time spent on core tasks.

Summary of the Synthesized Nomological Network of Individual Work Performance

Our nomological network is not exhaustive; however, patterns have begun to emerge linking antecedents and consequences with various forms and levels of contribution. Our analysis highlights the considerable literature on individual task proficiency as well as the dearth of scholarship on individual task adaptivity and proactivity. The lack of research clearly differentiating between team and organization member contributions clouds the nomological network in regard to both antecedents and consequences, giving the illusion of convergence. Consistent with our review of the antecedents, we find a clearer nomological network related to the form of individual work performance relative to the level of contribution. Finally, the mechanisms by which individual behavior results in objective outcomes (e.g., sales, promotions) and higher-level outcomes (e.g., team performance) remain to be articulated and tested—an issue we will come back to in the next section. Altogether, our analysis shows that there is value in synthesizing the literature taking into account the level of environmental uncertainty and interdependence to better tease apart and simultaneously bring together the nomological network of performance.

A LEAP FORWARD: FUTURE DIRECTIONS IN INDIVIDUAL WORK PERFORMANCE RESEARCH

In looking back across the existing literature, we have come a long way. Research examining individual work performance is burgeoning and there is a steady increase in the breadth of constructs and theoretical lenses used to understand this key phenomenon (see Figure 1). Although the literature began with a monocular focus on individual task proficiency it has since grown, and scattered across a wide range of organizationally functional behaviors. We now know that the current fragmented state of the literature is largely a product of its historical development rather than a broader theoretical framework that integrates individual work performance constructs across research domains.

We brought the fragmented field together by first synthesizing 97 individual performance constructs within a broader theoretical framework that accounts

for the level of uncertainty and interdependence (Griffin et al., 2007). Our synthesis highlights the rich tradition of research on proficiency and the relative dearth of adaptive and proactive constructs. Leveraging our synthesis to build the nomological network highlighted important common antecedents and consequences of the various forms and levels of contribution. However, it is also apparent that many constructs are not clear in their intended targets, losing nuances between the levels of contribution detracting from the coherence of the literature.

Although the field has grown tremendously and amassed over 9,000 peer-reviewed articles since 1972, as we elaborate in this section and as summarized in Table 5, there is considerable scope for further development in terms of constructs, measures, and theory.

Construct Recommendations

Our first recommendation is quite straightforward, albeit one that is not always upheld in contemporary research: ensure that performance constructs actually focus on performance—"performance means to do and act" (Frese & Fay, 2001: 173). As such performance is about observable behaviors rather than cognitive, motivational, or affective states (Schmitt et al., 2003) or the outcomes of behavior (Campbell & Wiernik, 2015). For example, measures of innovation behavior (Scott & Bruce, 1994; Welbourne et al., 1998) assess idea generation, which is a cognitive process rather than an observable behavior (Hammond et al., 2011). The construct of prosocial behavior (Brief & Motowidlo, 1986) confounds motivation and behavior (De Dreu & Nauta, 2009). And too often, outcomes and indicators are referred to as performance, even though they are not behaviors (e.g., sales, salary, efficiency; Campbell, 2012; Campbell, et al., 1993; Campbell & Wiernik, 2015).

The results of the scientific mapping analysis, as well as our review of constructs, suggests that the individual work performance literature is no exception to the challenge of construct proliferation that has long been lamented in the wider field (e.g., Schwab, 1980; Shaffer, DeGeest, & Li, 2016). As Swales (1986: 85) noted, "In the history of science and scholarship, we find numerous examples of related research streams that advance without awareness of one another." In fact, we identified 154 unique performance construct labels, many of which are conceptually similar (see Table 3). Thus, our second recommendation is also relatively straightforward: scholars should accurately define and label constructs. As an example, the constructs of "challenge-oriented OCB" (e.g., Podsakoff, et al., 2014), "change-oriented OCB" (e.g., Chiaburu, Lorinkova, & Van Dyne, 2013), and proactive behavior (Crant, 2000; Grant & Ashford, 2008; Parker & Collins, 2010) all lay claim to a collection of behaviors that challenge the *status quo* and drive change (e.g., voice, taking charge). Researchers investigating these topics should build more on each other's work and, ideally, adopt consistent labels (our preference is for proactive behavior, for the reasons already discussed).

Third, and related to the above, we advise scholars to situate their performance constructs within the larger literature. In part, this is about incremental validity: as Shaffer and colleagues (2016: 81) noted, "researchers must demonstrate that the construct is empirically distinct from related constructs. . . " In part, it is about building on findings from research on closely-related constructs. Our analysis of constructs according to the Griffin et al. model (see Table 3) can be used to facilitate this situation of a construct's contribution within the broader literature. In reviewing the literature, we note that most newly developed constructs are compared to individual task proficiency, even though more similar types of performance might exist. The lack of a general framework for the individual work performance literature has likely contributed to this issue. Indeed, not that long ago, many scholars only considered "in-role" behaviors (task proficiency) and "extra-role" behaviors (everything else) as being polarized constructs. However, the Griffin et al. (2007) framework provides a more nuanced understanding of work performance and thus the opportunity for scholars to provide more stringent tests of discriminate validity. For example, should a construct of proactive helping among team members (Carpini & Parker, 2017; Spitzmuller & Van Dyne, 2013) be developed, this would constitute a type of team member proactive behavior. As such, it should be distinct from the more reactive form of helping that is assessed in traditional citizenship models (Podsakoff et al., 2000), which we categorized as team member proficiency; meanwhile, proactive helping among team members would be expected to have some convergence with other proactive concepts, as well as with other constructs operating at the team level of contribution. Crucially, we also expect to see commonalities in the antecedents as we know apply to proactive constructs (e.g., proactive personality) and to team member contributions (e.g., interdependence).

Although construct proliferation is a problem, we agree with Katz (1964) that there are rich

TABLE 5
Design, Constructs, and Measurement Recommendations

Recommendations	Examples
Construct Recommendations	
Ensure performance constructs are conceptualized as behavior, and do not cross-over into other related domains	Adaptive performance (Baard et al., 2014) which includes willingness to adapt and Welbourne et al. (1998) who include effectiveness in their measure of job role behavior
Scholars should accurately define and label constructs	Voice has been considered an OCB, a challenge-oriented OCB, a change-oriented OCB, and a proactive work behavior
Situate performance constructs within the larger performance literature, drawing on multiple theoretical perspectives	Sportsmanship as a form of adaptive performance (Carpini & Parker, 2017)
Consider the introduction of new constructs and measures explicitly intended to fill gaps in the literature	Opportunity to refine existing adaptive and proactive constructs to specify the intended level of contribution (Carpini & Parker, 2017)
Measurement Recommendations	
Attend to overlapping content in construct operationalization and measurement	Conscientiousness, personal industry, and job dedication (OCB constructs), as well as voice and personal initiative (proactive constructs) all contain similar items
Scales should be published in full in the manuscript or online	Many scales are not readily available in print or online (e.g., Bartram, 2005; Pulakos et al., 2000)
Construct clarity should be maintained by ensuring measures tap one aspect and avoid blurring multiple performance categories	Change-oriented citizenship includes both proactive and adaptive performance although established literatures exist supporting the distinction between these types of behaviors
Performance should be conceptualized and measured as behavior	Measures of proactivity capturing ideation, and sportsmanship that focuses almost uniquely on the absence of behaviors
When using archival supervisory ratings, report the organization's intended use and control for these effects where possible	Performance appraisals may be used for a variety of organizationally relevant functions including the distribution of and for developmental purposes, among others
Composite performance constructs must be theoretically and practically meaningful, particularly when aggregating measures across multiple forms of performance	Studies aggregating various forms and levels of contribution together to represent a composite "overall performance score," which is difficult to interpret
Theoretical Recommendations	
Expand existing theoretical models through the consideration of a wider breadth of performance constructs that differ in their form and level of contribution	Integrate adaptive and proactive constructs within the group engagement model (Tyler & Blader, 2003) as well as additional types of proficiency behaviors
When possible, include multiple performance constructs within a single study, taking into account contextually-relevant forms and levels of contribution	When studies include more than one type of performance it is most commonly compared to proficiency (e.g., OCB and task proficiency), although other types of performance exist
Consider the mechanisms through which individual work performance contributes to higher-level outcomes such as team and organizational performance	A fit between the requirements of the team and either the form or level of contribution may result in improved team-level outcomes. For example, proactive behaviors during the early action phase
Measure context as a key moderator of the relationship between antecedents and performance, and performance and consequences	Consider the level of interdependence and uncertainty as potential moderators
Select contextually relevant performance constructs	When the context is characterized by greater levels of uncertainty, adaptive and proactive concepts should be included; whereas when interdependence is high, then team- and organization-level constructs should be included
Systematically measure context considering a wide range of contextually relevant variables including new ones	Skill variety dispersion—the extent to which individuals within a team utilize different activities and skills in achieving a common outcome. High-skill variety dispersion (e.g., operating room teams), and low-skill variety dispersion (e.g., intensive care units)
Assess changes in performance over time and how various performance constructs interact	Proactivity introduces change which requires adaptivity on the part of interdependent others. Through adaptive performance, individuals should focus on proficiency as the change becomes ingrained
Leverage the present synthesis as a model for the organization of the team performance literature, drawing parallels between the levels	Application of the Griffin et al. (2007) framework to the team literature, thus expanding existing team-level models

opportunities for scholars to examine the multiple ways in which employees contribute to their organizations (see Table 3). Thus, our fourth recommendation is for the development and refinement of some performance constructs. Our review shows there is a relatively thorough consideration of the individual task and team proficiency performance categories, although fewer constructs fitting within the organization member proficiency category. Most interestingly, we find that those constructs falling within the adaptive and proactive categories typically do not distinguish the level of contribution. For example, constructs such as voice (Van Dyne & LePine, 1998), taking charge (Morrison & Phelps, 1999) proactive behavior (Parker & Collins, 2010), sportsmanship (Organ, et al., 2006), and reactive adaptivity (Huang et al., 2014) can apply at multiple levels of contribution, and yet these potentially important distinctions have not been drawn. For example, distinguishing between taking charge behavior directed toward one's individual tasks, team, and organization will illuminate important distinctions in both antecedents and consequences. Taking charge to change one's individual tasks will likely be driven by job complexity and autonomy and may result in task-specific innovation. Taking charge as a team member contribution is likely fostered by psychological safety and team support, potentially resulting in team innovation and effectiveness. Finally, taking charge as an organizational-member contribution is likely supported by top management openness and interdependence among work units, and may result in organizational innovation and productivity. Although we do not advocate that all constructs must neatly fit within a given cell of the Griffin et al. (2007) model, our synthesis highlights previously neglected construct development opportunities.

Measurement Recommendations

Having reinforced the need for construct clarity in the field of performance (Podsakoff et al., 2016), the immediate trickle-down consequence is to measurement.

First, as discussed, constructs are often labeled differently yet are almost synonymous in their definition and/or operationalization. This problem results in *chameleon items*, that is, "the same or highly similar items that shift between different constructs, even though the constructs are intended to be discrete from one another" (Carpini & Parker, 2017: 36). For example, items about "speaking up" are present in measures of personal industry (Moorman et al., 1998) and organizational participation (Graham, 1991), which we categorized as types of proficiency, as well as in measures of voice (Van Dyne & LePine, 1998) and taking charge (Morrison & Phelps, 1999), which we consider to be proactive constructs. Although superficially different in their labels, if construct measures use the same items then the constructs might not be truly different (Kelley, 1927). To avoid the occurrence of chameleon items, performance scales should be accessible either in published manuscripts or as online resources. In the "measures chest" hosted by the *Research Methods Division of the Academy of Management*, only nine of the 195 instruments are measures of individual work performance, and in all cases, the nine scales were already published. There are many examples of performance scales that are not readily available (e.g., Bartram, 2005; Pulakos et al., 2000) and thus force scholars to derive items from operational definitions.

Second, measures of constructs should also tap just one aspect, and avoid blurring across categories. For example, "change-oriented citizenship," defined as a proactive behavior, includes items tapping adaptive performance (Choi, 2007; Chiaburu et al., 2011; Chiaburu et al., 2013). However, we and others (e.g., Griffin et al., 2007; Pulakos et al., 2000; Schmitt et al., 2003) have argued adaptive and proactive behaviors are not the same.

Third, it is almost self-evident that, if performance is about behavior (Campbell et al., 1993), then the items should be about behavior. As noted earlier, this is not always the case. As such, scholars should be cautious when using antithetical items (reverse scored items; Dalal, 2005) because such items often represent the lack of a desired behavior (e.g., "does not work beyond what is required"; Van Dyne, Graham, & Dienesch, 1994) or an undesirable behavior which has cross-over with counter-productive work behaviors (e.g., "complains about insignificant things at work"; Williams & Anderson, 1991). Statistically, antithetical items can be source of common method bias (Podsakoff et al., 2003), and can inflate the observed relationship between variables (e.g., Spector, Bauer, & Fox, 2010).

Our final measurement recommendations relate to the use of archival supervisory ratings as proxies for individual work performance. We define archival supervisor ratings as existing performance evaluations generated and collected by the organization for internal purposes, most commonly as annual performance appraisals. Archival supervisory ratings are distinct from ratings obtained by researchers using psychometrically validated

scales that ask supervisors to report on subordinates' behaviors. Beyond various rater errors (e.g., halo effect; see Landy & Farr, 1980; Arvey & Murphy, 1998 for review), archival supervisory ratings were not collected for research purposes, and therefore additional factors beyond the assessment of behavior might be at play. As Rynes, Gerhart, and Parks (2005: 595) note, performance appraisals are "used both to provide developmental feedback and to motivate employees via linkages between [performance appraisal] and rewards," which adds an additional layer of complexity in using such ratings for research purposes. Political issues also can be in operation. Thus, although the use of multi-source data is desirable in reducing common method bias (Podsakoff et al., 2003), scholars should report the organization's intended use of the supervisory ratings and control for these effects where possible. Such transparency will assist in the identification of moderators in future meta-analytic studies.

A further concern is that archival supervisory ratings often assess a composite of constructs. For example, a recent study by Meneghel, Borgogni, Salanova, and Martínez (2016) used ratings made up of five behavioral domains including openness, innovation (proactive construct), and cooperation and interpersonal facilitation (team member proficiency), which represent elements from multiple categories of the Griffin et al. model. Although the results of a Principle Factor Analysis supported the proposed uni-dimensionality of the ratings into a composite score, this quite likely reflects a halo effect. In the end, we do not know what aspect of performance these ratings represent, or how to fit them into a broader understanding of individual work performance.

Theoretical Directions

In the previous section, we addressed what we consider to be fundamental issues related to the operationalization, conceptualization, and measurement of individual work performance. In this section, we use our synthesis of the literature to outline a broad research agenda. In our opinion, some of the most pressing issues in the field centers around extending current models examining the antecedents and consequences of individual work performance, exploring mechanisms through which individual performance contributes to higher-level performance, the role of time and the interaction among multiple forms of performance, as well as extensions of our synthesis to the team-level of analysis.

How can we expand existing theoretical frameworks using the present synthesis? Individual work performance is one of the most important dependent variables in the field of organizational behavior (Campbell & Wiernik, 2015). Yet, many of the prominent theories used to explain individual work performance heavily emphasize the antecedents and pay sparse attention to the performance construct. In fact, many theoretical frameworks designed to predict performance focus on individual performance as a single criterion (e.g., Ashkanasy, 2003; Barrick, Mount, & Li, 2013; Chen & Kanfer, 2006; Hackman & Oldham, 1976; Humphrey et al., 2007; Van Knippenberg & Sitkin, 2013). When multiple performance criterion are considered, these are most commonly task performance and OCBs (e.g., Cohen-Charash & Spector, 2001; Gagné & Deci, 2005; Smith et al., 1983; Tyler & Blader, 2003), which we consider to be both types of proficiency. To some extent, this lack of conceptual development in performance constructs present in prominent models reflects the state of the literature when these models were developed (e.g., Hackman & Oldham, 1976). But the problem also occurs in recent articles, suggesting it is a contemporary issue. As we elaborate below, failing to consider multiple performance dimensions results in piece-meal contributions to the nomological network, and a failure to identify important distinctions between types of performance. Our first recommendation, therefore, is that scholars pay greater attention to the dimensionality of individual performance.

We use the group engagement model (Tyler & Blader, 2003) as an example of how adopting a multidimensional approach to individual performance can build theory. The group engagement model leverages social identity theory to understand "an individual's behavioral effort on behalf of a collective [and how it. . .] is influenced by the role the group plays in how the individual thinks and feels about themself" (p. 445; Blader & Tyler, 2009). According to this model, one's social identity within a group is informed by perceptions of procedural justice and economic outcomes (e.g., outcome fairness and distributive justice). The group engagement model (Blader & Tyler, 2005; Tyler & Blader, 2001) distinguishes between "mandatory behaviors" (in-role), those behaviors directly incentivized and sanctioned and "discretionary behaviors" (extra-role/helping), those behaviors driven by an individual's attitudes and values (Tyler & Blader, 2003). Tyler and Blader (2001) demonstrated group identification is

more highly related to discretionary behaviors than it is to mandatory behaviors. With this said group members can contribute to the attainment of important group-related outcomes through more than just completing assigned tasks and helping each other.

Teams are an ever increasing mode of managing dynamic and uncertain work environments (Marks, Mathieu, & Zaccaro, 2001; Townsend, Demarie, & Hendrickson, 1998) and as such adaptive and proactive behaviors become more important to ensure team success (Griffin et al., 2007). Indeed, in one expansion of the group engagement model that considered voice, Fuller, Hester, Barnett, and Frey (2006) found identification increased voice, proactive, and challenge-oriented behavior (Van Dyne & LePine, 1998). These initial findings could be expanded to consider different forms (prohibitive/promotive; Liang et al., 2012) and targets of voice (Liu et al., 2010). For example, perceived inequity or injustice may trigger a more protective state and as such may engender more prohibitive forms of voice (Burris et al., 2008; Near & Miceli, 1985). Conversely, when one perceives equity and justice this may prime individuals to be more growth oriented and engage in more promotive forms of voice directed at improvement (Kickul & Lester, 2001). It is also possible the target of voice will change as a function of inequity. For example, when treated poorly by a supervisor (low respect), employees may speak out to peers; whereas when supervisors are perceived as supportive (high respect) this will reduce the risk associated with both speaking-up (to a leader) and speaking-out (to peers; Detert & Burris, 2007).

In regard to the level of contribution, the group engagement model has largely focused on predicting individual team-level contributions. However, there is reason to believe that the underlying processes may also be important in understanding individual- and organization-level contributions. For example, meta-analyses have found procedural justice to be positively related to individual- (personal industry), team- (helping; Podsakoff et al., 2000), and organization- (loyal boosterism) level contributions (Moorman, et al., 1998). The conceptual overlap between identification (Blader & Tyler, 2009) and organizational commitment (Allen & Meyer, 1990) also suggests this theory may be useful in examining organizational-level contributions such as those targeting internal and external clients.

In sum, the value of our synthesis is more than simply organizing the individual performance literature: rather it can be used as a tool to build better theory that considers differential antecedents related to the form and level of contribution of individual work performance. Empirically, of course, our reasoning also implies that researchers should as far as possible include multiple performance constructs within a single study, ideally taking into account both their form (proficiency, adaptivity, and proactivity) as well as the level of contribution (individual, team, organization). Although our model contributes to the organization of the antecedents of different types of performance, it also assists in explaining the relationship between various types of performance and organizationally relevant outcomes.

How do the different performance dimensions contribute to organizational effectiveness? A key rationale for distinguishing among different performance dimensions is that different types of behavior contribute to organizational effectiveness in distinct ways. For example, as we discussed, proactive performance is likely to contribute to innovation outcomes, and team- and organization-member contributions across all forms (proficiency, adaptivity, proactivity) are likely to be crucial for achieving coordinated outcomes in highly interdependent settings.

Nevertheless, despite the appeal of this argument, there is limited systematic research investigating the relative importance of different dimensions for effectiveness outcomes. On the one hand, when objective effectiveness outcomes such as sales performance are used in studies, these are usually considered only in relation to a general measure of individual performance (e.g., overall performance) rather than specific dimensions. On the other hand, when different dimensions are compared, it is often in relation to a criterion of general individual performance assessed by performance ratings, with the latter often constituting multiple or highly vague elements. For example, Johnson (2001) evaluated the relative contribution of task and contextual performance to supervisors' "overall evaluation of performance," but the latter was assessed by using a composite of ratings across multiple dimensions. Overall performance ratings thus often reflect multiple individual elements (Borman, White, Pulakos, & Oppler, 1991) and are only an indirect measure of effectiveness.

A further example of this challenge of linking multiple performance dimensions to effectiveness is shown by the meta-analysis by Podsakoff et al. (2009). These scholars found that OCBs were positively related to organizational-level outcomes such as unit productivity; with an overall measure of unit performance correlated 0.44 with OCBs in five time-lagged studies. However, they could only compare the relative contribution of task performance and

OCB to the outcome of general job performance at the individual level. In other words, comparison of the relative importance of different performance dimensions was not possible at the unit level and only in a limited way at the individual level. So the unique or incremental consequences of task performance versus OCB for effectiveness at a more aggregate level remain unknown.

Three types of studies do provide some insights as to the differential effects of various individual performance categories. First, studies have compared the effects of task performance and OCB on outcomes like career success. For example, Bergeron et al. (2013) investigated the joint effects of OCB and task performance on salary increases in an outcome-focused consulting firm. Similarly, the relative contribution of contextual compared to task performance has been shown for the prediction of career advancement (Van Scotter, Motowidlo, & Cross, 2000) and supervisor rewards (Kiker & Motowidlo, 1999). Second, a few studies have evaluated task and contextual performance as predictors of effectiveness ratings in specific contexts. These studies show, for example, that contextual performance accounts for variance in ratings above and beyond task performance (Kayha, 2009), even in highly technical work such as air traffic control (Griffin, Neal, & Neale, 2000). Third, conducted at the team level, some studies have evaluated the role of multiple performance dimensions, suggesting the value of differentiating them. For example, in a study of front-line service teams, De Jong and de Ruyter (2004) showed adaptive behavior was more strongly related to customer satisfaction, whereas proactive behavior was more strongly related to sales. Although these studies hint that individual-level adaptivity and proactivity will relate differentially to effectiveness at higher levels, there is limited empirical evidence or detailed theoretical explanation.

All together, we quite simply know little about the relative impact of individual performance dimensions on effectiveness at a business unit or organizational level. Empirical studies fall short of systematically testing the theories and the assumptions that have driven interest in distinguishing these dimensions. The meta-analyses and specific studies noted above provide a broad but piecemeal picture of the way specific dimensions of performance generate effectiveness for individuals, groups, and organizations. Making a similar point, Podsakoff et al. (2009) echoed Organ's (1997) comments that little were known about the mediational process through which OCB influenced aggregate outcomes. We recommend researchers develop theory about, and test, the different ways that individual performance dimensions shape outcomes that support organizational success and sustainability.

How do team processes mediate the impact of individual performance dimensions on effectiveness? Related to the above point, team processes likely mediate the links between individual performance and aggregate outcomes. It is important to understand how different individual performance dimensions contribute to team processes which in turn affect organizational outcomes. Lorinkova, Pearsall, and Sims (2012) showed team performance improved for teams with empowering leadership when considered over longer periods, whereas directive leadership was beneficial only in the short term. They explained these results in terms of the different behaviors that team members exhibited in the different leadership contexts. In particular, teams sustained higher performance when leaders were empowering because team members engaged in more coordination and knowledge sharing.

The above study shows that the application of team development models can generate insights into the role of teams as mediators of individual performance on aggregate outcomes. The Marks, Mathieu, and Zaccaro (2001) model of team processes has stimulated numerous studies to better understand the dynamics of team development. Their delineation of multiple action and transition phases also creates a framework for integrating dimensions of individual performance. The relative importance of proactive and adaptive behaviors is likely to change as teams move through multiple action and transition phases. The relative importance of task-versus team-oriented behaviors is also likely to change through these developmental cycles. For example, proactive task behavior might be particularly important in the early action phases but adaptive team-oriented behaviors might be more important as team members adjust to the demands of the task and to the demands generated by other team members.

Future research that specifies the way individual performance contributes to critical aspects of team performance will build understanding of the bottom-up effects of individual performance. We recommend that researchers investigating team development integrate more specific dimensions of performance into their models of team development. For example, studies linking team process and team effectiveness might provide new information about the specific individual behaviors that contribute to team processes and subsequent team performance. We further

recommend that researchers investigating the link between individual performance and higher-level effectiveness outcomes draw on team research.

How does a changing work context influence the individual performance dimensions? We have argued that little is known about how specific performance dimensions influence organizational effectiveness. This concern is magnified when we consider the rapid change that is now occurring in many work contexts. For example, we could speculate that uncertainty is increasing globally and, hence, the value of proactivity and adaptivity for effectiveness is increasing—but that is speculation at this point. There is also limited guidance about the changing features of the context that are most important. Again, we can only speculate that organizations exposed to dynamic and volatile markets will require higher level of adaptivity and proactivity to be effective over time.

Ongoing adaptation is an intrinsic element of human development, but has only recently been incorporated in theories of work performance (e.g., Ployhart & Bliese, 2006). The pace of social and technological change makes it untenable to describe work performance without reference to this change. We recommend research that better articulates and assesses specific changes in the context, and how this changing context elicits or requires different types of work behavior from individuals. For example, adaptivity is particularly important in a dynamic and rapidly changing work situation, yet—as evident from our analysis (see also Jundt et al., 2015)—relatively few studies have investigated the context that supports adaptive behaviors. There is substantial scholarship examining the relationship between job characteristics and OCBs, as well as a reasonable amount looking at how work design affects proactive behavior (Parker et al., 2010), but there is limited research examining this set of antecedents for adaptive behaviors (Jundt et al., 2015).

To support our recommendation for more theory and research on how the work context influences performance dimensions, we further advocate attention to research design. A key feature of the context is the pace and unpredictability of change. Therefore, it is important to more directly incorporate changing contexts into longitudinal research designs. For example, current research provides insight into the job characteristics associated with different performance dimensions, but is less clear about the performance implications of ongoing change in these characteristics. Also important is that scholars should select contextually relevant performance constructs. If there is low uncertainty and relatively high interdependence, then team member proficiency contributions are likely to be useful. Conversely, in more dynamic and unpredictable environments, adaptive and proactive constructs become more important. Researchers should therefore ensure their selection of performance constructs captures the key variance in individual behavior likely to matter within the context. Of course, bearing in mind our earlier argument for including multiple performance constructs within a single study, we would hope that researchers include several relevant performance constructs within the study.

Finally, scholars should consider a wider range of context variables. For example, lending on the job characteristic model (Hackman & Oldham, 1976; Humphrey et al., 2007; Oldham & Hackman, 2010), future research could consider the dispersion of skill variety in teams, or the extent to which individuals in a team possess similar or different skills. Consider a surgical team made up of nurses, surgeons, and anesthesiologists. These various clinical professionals all apply very different skills (high-skill variety dispersion) in order to achieve a common objective. Now consider a team of nurses in an intensive care unit, which would be low skill variety dispersion. Low skill dispersion might facilitate helping behaviors as team members are familiar with the tasks of teammates, and can easily take the perspective of others. There is ample room for additional theoretical and empirical work examining the role of context for individual performance.

How do multiple performance dimensions interact with each other over time? Researchers have begun to articulate the way different performance dimensions might dynamically coevolve. The importance of temporal relationships was noted by Grant and Ashford (2008) who proposed planning, preparing, and implementing new ideas was likely to stimulate further proactivity. Sitzmann and Yeo (2013) showed that task performance also evolves through a dynamic interaction between behaviors and motivational states.

Change in task performance has received substantial attention as "dynamic criteria" (Deadrick & Madigan, 1990; Ghiselli, 1956; Hofmann, Jacobs, & Baratta, 1993). Earlier debates have been resolved to some extent through studies of the specific trajectories over which individual performance might change (Chen & Mathieu, 2008; Zyphur, Chaturvedi, & Arvey, 2008). Studies of performance trajectories continue to provide insights about the dynamics of

within-person change but do not illuminate temporal change among multiple criteria. For example, as a newcomer becomes proficient in core tasks, more individual resources should be available for proactivity. This process implies distinct but interrelated trajectories for proficiency and proactivity. The shape and correlation of these trajectories are likely to be influenced by individual and contextual differences.

Research in the area of job crafting provides an example of analyses of changing performance over time. Job crafting describes an active process through which individuals change the nature of their work including the content and relational boundaries of their tasks (Wrzesniewski & Dutton, 2001). Job crafting is a proactive form of work behavior that results in positive outcomes for individuals and the organization. Proactive dispositions influence the propensity to engage in job crafting and engagement is thought to mediate the impact of job crafting on other outcomes (Bakker, Tims, & Derks, 2012). Longitudinal studies have shown that this type of proactivity leads to subsequently higher levels individual task performance and citizenship behaviors (Tims, Bakker, & Derks, 2015), and indeed, to subsequent adaptivity (Petrou, Demerouti, & Schaufeli, 2016). In other words, over time, proactive work behavior might generate both proficiency and adaptivity. Likewise, when one is adaptive, this can facilitate proactivity. Berg, Wrzesniewski, and Dutton (2010, p. 159) addressed the possible dynamic relationship between proactivity and adaptivity "as interrelated processes, in which efforts to initiate or create change (proactivity) can shape and be shaped by responses to perceived challenges to making such change (adaptivity)." They proposed that, as part of a mutually reinforcing process, adaptivity might occur during or after proactive behavior. In essence, the link between performance constructs is conceptualized as a within-person process of mutual reinforcement.

Research into new employee socialization and expatriate adjustment also illuminate the relationships among dimensions of performance dimensions. Although these areas address performance links as a secondary or implicit part of their focus on adjustment to change and uncertainty, they provide important insights into adaptive and proactive processes in the workplace. Socialization research identifies proactive information seeking an important element successful adjustment (or adaptation) of employees (Wanberg & Kammeyer-Mueller, 2000). A meta-analysis by Bauer, Bodner, Erdogan, Truxillo, and Tucker (2007) found proactivity was related to subsequent role clarity and role performance. However, the authors noted there was limited information about how experiences during socialization influenced other performance outcomes such as role innovation. Ashforth, Sluss, and Saks (2007) included both task performance and role innovation as outcomes of proactive behavior during socialization. They found newcomers who were more proactive learned more about the organization, resulting in higher self-ratings of task performance.

The unfolding relationships between performance dimensions might also engage team-level processes. Tims, Bakker, Derks, and van Rhenen (2013) found job crafting was related to both individual and team member proficient performance via engagement. McClelland, Leach, Chris, and McGowan (2014) found that job crafting at the team level was associated with team task performance.

The above research begins to establish a more dynamic process through which dimensions of performance interact with each other over time. Incorporating this question with the preceding questions will build a more dynamic picture of patterns of individual performance and their link to a changing work context. For example, a particular individual team member might at one time proactively change the team context, initiating adaptive responses from other team members. At another time, the same individual might need to adapt to the changes that have been proactively initiated by others (Kozlowski, Chao, Grand, Brown, & Kuljanin, 2013). This dynamic, involving team and individual processes, begins to address fundamental question about reciprocal relationships between context and behavior (Bandura, 1978).

Can we use a framework to organize the team performance literature? Up to this point, our focus has been uniquely at the individual level of analysis. However, we suggest that the present synthesis could prove a valuable starting point for further construct and theoretical development at the team level. At present, there is no comprehensive multi-dimensional model of team performance. Thus, developing a framework similar to the present one would contribute to the organization of the field and help to develop theory about antecedents and outcomes. This is particularly important because the current team performance literature is dominated by team-level outcomes (e.g., decision quality, product quantity; De Dreu & Weingart, 2003) and indicators (e.g., expert ratings; Lim & Klein, 2006), with relatively fewer examples of team performance (that is, team behaviors that contribute to these outcomes).

Indeed, Stewart (2006: 38) noted "there are too few studies to conduct separate meta-analyses for different types of dependent variables [performance]."

Some advances have been made in specifying different forms of team performance. For example, Williams, Parker, and Turner (2010) examined work design, transformational leadership, and team composition as antecedents of team-level proactivity, and De Jong and de Ruyter (2004) explored team-level adaptive and proactive customer service recovery strategies. Additionally, there is evidence of different levels of contribution based on interdependence. Ehrhart et al. (2006) found that unit-level helping was associated with higher unit effectiveness in a military sample, which is consistent with the individual-level findings of Nielsen et al. (2012) when teams are interdependent. Additionally, Li, Kirkman and Porter (2014) presented a team-level model of altruism that is an extension of the growing body of research examining OCBs at the unit-level of analysis (see Podsakoff et al., 2014 for review). Thus, there appears to be sufficient team-level performance constructs to be meaningfully integrated into a structure similar to the Griffin et al. (2007) framework.

By way of illustration, consider the integrative theoretical model of individual and team motivation as described by Chen and Kanfer (2006). This multilevel model presents parallel motivational processes (motivational states, goal orientation, and goal striving) with both the individual- and team-level processes resulting in individual performance, and the team motivational processes and individual performance resulting in team performance. Beyond unpacking the individual performance component of this model (as per our previous recommendations), in terms of team performance, it is possible to elaborate various forms of team performance. An elaborated framework would, for example, be able to capture how team adaptivity emerges following individual proactivity. It would also allow scholars to select contextually appropriate performance dimensions such that under relatively stable and certain environments team proficient performance would be an apt choice, whereas under more dynamic uncertain conditions, team proactive and adaptive performance will likely be most relevant. Finally, an expanded model would facilitate theoretical development, tying differing types of team performance to various team-level outcomes (e.g., team production and qualitative team outcomes; Horwitz & Horwitz, 2007). The potential for advances in this area is evident in the work of Han and Williams (2008) who adopted a multilevel approach to understanding the relationship between individual and team adaptive performance.

CONCLUSION

Over 40 years ago, Katz asked "what are the types of behavior required for organizational functioning?" Our review shows progress in articulating the number and nature of these behaviors, and our synthesis is an optimistic attempt to show the conceptual linkages among diverse constructs. A bigger picture of performance has emerged that suggests individual performance can be articulated at a fine-grained level, and understood within the organizational context that gives performance its meaning. Extensive research has identified important proximal antecedents, such as motivation and personality, and distal antecedents such as leadership and job design.

However, we are less optimistic that this bigger picture represents a more integrated view of the dynamic processes linking individual performance with organizational effectiveness. The separate pieces that might comprise elements of a more integrated picture are currently dispersed across different topic domains and levels of analysis. We believe it is important to work toward a more theoretically oriented understanding of performance over time and the unfolding dynamics of individual behaviors that both react to and create change in increasingly interdependent contexts. Addressing these fundamental questions will shape the future of the field as we continue to uncover the many performance dimensions relevant to understanding the value of workers (Henderschott, 1917).

REFERENCES

Allen, N. J., & Meyer, J. P. 1990. The measurement and antecedents of affective, continuance and normative commitment to the organization. ***Journal of Occupational Psychology***, 63: 1–18.

Allen, T. D., & Rush, M. C. 1998. The effects of organizational citizenship behavior on performance judgments: a field study and a laboratory experiment. ***Journal of Applied Psychology***, 83(2): 247–260.

Allik, J., & McCrae, R. R. 2004. Toward a geography of personality traits: Patterns of profiles across 36 cultures. ***Journal of Cross-Cultural Psychology***, 35: 13–28.

Allworth, E., & Hesketh, B. 1999. Construct-oriented biodata: Capturing change-related and contextually

relevant future performance. ***International Journal of Selection and Assessment***, 7(2): 97–111.

Arvey, R. D., & Murphy, K. R. 1998. Performance Evaluation in Work Settings. ***Annual Review of Psychology***, 49: 141–168.

Ashford, S. J., & Black, J. S. 1996. Proactivity during organizational entry: The role of desire for control. ***Journal of Applied Psychology***, 81(2): 199–214.

Ashford, S. J., Blatt, R., & VandeWalle, D. 2003. Reflections on the looking glass: A review of research on feedback-seeking behavior organizations. ***Journal of Management***, 29(6): 773–799.

Ashford, S. J., & Cummings, L. L. 1983. Feedback as an individual resource: Personal strategies of creating information. ***Organizational Behavior and Human Performance***, 32(3): 370–398.

Ashforth, B. E., Sluss, D. M., & Saks, A. M. 2007. Socialization tactics, proactive behavior, and newcomer learning: Integrating socialization models. ***Journal of Vocational Behavior***, 70: 447–462.

Ashkanasy, N. M. 2003. Emotions in organizations: A multilevel perspective. In F. Yammarino & F. Dansereau (Eds.), ***Multi-level issues in organizational behavior and strategy***, vol. 2: 9–54. Oxford, UK:Emerald Group Publishing Ltd.

Austin, J. T., & Villanova, P. 1992. The crtierion problem: 1917–1992. ***Journal of Applied Psychology***, 77(6): 836–874.

Baard, S. K., Rench, T. A., & Kozlowski, S. W. J. 2014. Performance adaptation: A theoretical integration and review. ***Journal of Management***, 40: 48–99.

Bachrach, D. G., Bendoly, E., & Podsakoff, P. M. 2001. Attributions of the "causes" of group performance as an alternative explanation of the relationship between organizational citizenship behavior and organizational performance. ***Journal of Applied Psychology***, 86(6): 1285–1293.

Bachrach, D. G., Powell, B. C., Bendoly, E., & Richey, R. G. 2006. Organizational citizenship behavior and performance evaluations: Exploring the impact of task interdependence. ***Journal of Applied Psychology***, 91: 193–201.

Bailey, T. 1993. ***Discretionary effort and the organization of work: Employee participation and work reform since Hawthorne***. Unpublished manuscript. Teachers College and Conservation of Human Resources, Columbia University. New York.

Bakker, A. B., & Demerouti, E. 2007. The job demands resources model: State of the art. ***Journal of Managerial Psychology***, 22: 309–328.

Bakker, A. B., Tims, M., & Derks, D. 2012. Proactive personality and job performance: The role of job crafting and work engagement. ***Human Relations***, 65(10): 1359–1378.

Bandura, A. 1977. Toward a unifying theory of behavioral change. ***Psychological Review***, 84(2): 191–215.

Bandura, A. 1978. Self-efficacy: Toward a unifying theory of behavioral change. ***Advances in Behaviour Research and Therapy***, 1(4): 139–161.

Baron, R. A. 1990. Environmentally induced positive affect: Its impact on self-efficacy, task performance, negotiation, and conflict. ***Journal of Social Psychology***, 20: 368–384.

Barrick, M. R., & Mount, M. K. 1991. The big five personality dimensions and job performance: A meta-analysis. ***Personnel Psychology***, 44: 1–26.

Barrick, M. R., Mount, M. K., & Li, N. 2013. The theory of purposeful work behavior: The role of personality, job characteristics, and experienced meaningfulness. ***Academy of Management Review***, 38: 132–153.

Bartram, D. 2005. The Great Eight competencies: A criterion-centric approach to validation. ***Journal of Applied Psychology***, 90: 1185–1203.

Bashshur, M. R., & Oc, B. 2015. When voice matters: A multilevel review of the impact of voice in organizations. ***Journal of Management***, 41: 1530–1554.

Bateman, T. S., & Crant, J. M. 1993. The proactive component of organizational behavior: A measure and correlates. ***Journal of Organizational Behavior***, 14: 103–118.

Bateman, T. S., & Organ, D. W. 1983. Job satisfaction and the good soldier: The relationship between affect and employee "citizenship." ***Academy of Management Journal***, 26: 587–595.

Bauer, T. N., Bodner, T., Erdogan, B., Truxillo, D. M., & Tucker, J. S. 2007. Newcomer adjustment during organizational socialization: A meta-analytic review of antecedents, outcomes, and methods. ***Journal of Applied Psychology***, 92(3): 707.

Becker, T. E., & Vance, R. J. 1993. Construct validity of three types of organizational citizenship behavior: An illustration of the direct product model with refinements. ***Journal of Management***, 19: 663–682.

Bell, B. S., & Kozlowski, S. W. J. 2008. Active learning: Effects of core training design elements on self-regulatory processes, learning, and adaptability. ***Journal of Applied Psychology***, 93: 296–316.

Belschak, F. D., & Den Hartog, D. N. 2009. Consequences of positive and negative feedback: The impact on emotions and extra-role behaviors. ***Applied Psychology***, 58(2): 274–303.

Belschak, F. D., & Den Hartog, D. N. 2010. Pro-self, prosocial, and pro-organizational foci of proactive behaviour : Differential antecedents and consequences.

Journal of Occupational and Organizational Psychology, 83: 475–498.

Belschak, F. D., Den Hartog, D. N., & Fay, D. 2010. Introduction exploring positive, negative and context-dependent aspects of proactive behaviours at work. ***Journal of Occupational and Organizational Psychology***, 83: 267–273.

Berg, J. M., Wrzesniewski, A. M. Y., & Dutton, J. E. 2010. Perceiving and responding to challenges in job crafting at different ranks: When proactivity requires adaptivity. ***Journal of Organizational Behavior***, 31(2–3): 158–186.

Bergeron, D. M., Shipp, A. J., Rosen, B., & Furst, S. A. 2013. Organizational citizenship behavior and career outcomes: The cost of being a good citizen. ***Journal of Management***, 39: 958–984.

Bigoness, W. J. 1976. Effect of applicant's sex, race, and performance on employers' performance ratings: Some additional findings. ***Journal of Applied Psychology***, 61(1): 80–84.

Blader, S. L., & Tyler, T. R. 2005. How can theories of organizational justice explain the effects of fairness? In J. Greenberg & J. A. Colquitt (Eds.), ***Handbook of organizational justice***: 329–354. London, United Kingdom: Taylor and Francis.

Blader, S. L., & Tyler, T. R. 2009. Testing and extending the group engagement model: Linkages between social identity, procedural justice, economic outcomes, and extrarole behavior. ***Journal of Applied Psychology***, 94: 445–464.

Blau, P. M. 1964. ***Exchange and power in social life*** (2nd ed.). New York, NY: Transaction Publishers.

Blumberg, M., & Pringle, C. D. 1982. The missing opportunity in organizational research: Some implications for a theory of work performance. ***Academy of Management Review***, 7: 560–569.

Bolino, M. C., & Grant, A. M. 2016. The bright side of being prosocial at work, and the dark side, too: A review and agenda for research on other-oriented motives, behavior, and impact in organizations. ***Academy of Management Annals***, 10: 599–670.

Bolino, M., Valcea, S., & Harvey, J. 2010. Employee, manage thyself: The potentially negative implications of expecting employees to behave proactively. ***Journal of Occupational and Organizational Psychology***, 83: 325–345.

Borman, W. C., & Motowidlo, S. J. 1993. Expanding the criterion domain to include elements of contextual performance. In N. Schmitt & W. C. Borman (Eds.), ***Personnel selection in organizations***: 71–97. San Francisco, CA: Jossey-Bass Publishers.

Borman, W. C., & Motowidlo, S. J. 1997. Task performance and contextual performance: The meaning for personnel selection research. ***Human Performance***, 10(2): 99–109.

Borman, W. C., White, L., Pulakos, E., & Oppler, S. 1991. Models of supervisory job performance ratings. ***Journal of Applied Psychology***, 76(6): 863–872.

Brief, A. P., & Motowidlo, S. J. 1986. Prosocial organizational behavior. ***Academy of Management Journal***, 11: 710–725.

Burke, M. J., Sarpy, S. A., Tesluk, P. E., & Smith-Crowe, K. 2002. General safety performance: A test of a grounded theoretical model. ***Personnel Psychology***, 55: 429–457.

Burris, E. R. 2012. The risks and rewards of speaking up: Managerial responses to employee voice. ***Academy of Management Journal***, 55: 851–875.

Burris, E. R., Detert, J. R., & Chiaburu, D. S. 2008. Quitting before leaving: The mediating effects of psychological attachment and detachment on voice. ***Journal of Applied Psychology***, 93: 912–922.

Campbell, J. P. 2012. Behavior, performance, and effectiveness in the twenty-first century. In S. W. J. Kozlowski (Ed.), ***The oxford handbook of organizational psychology***, vol. 1: 159–194. New York, NY: Oxford University Press.

Campbell, C. H., Ford, P., Rumsey, M. G., Pulakos, E. D., Borman, W. C., Felker, D. B., & De Vera, M., et al. 1990. Development of multiple job performance measures in a representative sample of jobs. ***Personnel Psychology***, 43(2): 277–300.

Campbell, J. P., McCloy, R. A., Oppler, S. H., & Sager, C. E. 1993. A theory of performance. In N. Schmitt & W. C. Borman (Eds.), ***Personnel selection in organizations***: 35–69. San Francisco, CA: Jossey-Bass Publishers.

Campbell, J. P., & Wiernik, B. M. 2015. The modeling and assessment of work performance. ***Annual Review of Organizational Psychology and Organizational Behavior***, 2: 47–74.

Carpenter, N. C., Berry, C. M., & Houston, L. 2014. A meta-analytic comparison of self-reported and other-reported organizational citizenship behavior. ***Journal of Organizational Behavior***, 35(4): 547–574.

Carpini, J. A., Flemming, A. F. S., & Parker, S. K. (2015). Multidisciplinary team briefings: A way forward. ***Day Surgery Australia***, 14(2), 12–14.

Carpini, J. A., & Parker, S. K. 2017. The bigger picture: How OCBs fit within a broader conceptualization of work performance. In P. M. Podsakoff, S. B. MacKezie & N. P. Podsakoff (Eds.), ***Oxford handbook of organizational citizenship behavior***. Oxford, UK:Oxford University Press.

Catano, V. M., Darr, W., & Campbell, C. A. 2007. Performance appraisal of behavior-based competencies: A reliable and valid procedure. ***Personnel Psychology***, 60(1): 201–230.

Chan, D. 1998. Functional relations among constructs in the same content domain at different levels of analysis: A typology of composition models. ***Journal of Applied Psychology***, 83: 234–246.

Chan, D. 2001. Understanding adaptation to changes in the work environment: Integrating individual difference and learning perspectives. In G. R. Ferris (Ed.), ***Research in Personnel and Human Resources Management*** (pp. 1–42). Greenwich, CT: JAI Press.

Chan, D. 2006. Interactive effects of situational judgment effectiveness and proactive personality on work perceptions and work outcomes. ***Journal of Applied Psychology***, 91(2): 475–481.

Chen, G., & Mathieu, J. E. 2008. Goal orientation dispositions and performance trajectories: The roles of supplementary and complementary situational inducements. ***Organizational Behavior and Human Decision Processes***, 106: 21–38.

Chen, C. V., Tang, Y., & Wang, S. 2009. Interdependence and organizational citizenship behavior : Exploring the mediating effect of group cohesion in multilevel analysis. ***Journal of Psychology***, 143: 625–640.

Chen, G., & Kanfer, R. 2006. Toward a systems theory of motivated behavior in work teams. In ***Research in organizational behavior: An annual series of analytical essays and critical reviews***, vol. 27: 223–267.

Chen, G., Kirkman, B. L., Kanfer, R., Allen, D., & Rosen, B. 2007. A multilevel study of leadership, empowerment, and performance in teams. ***Journal of Applied Psychology***, 92: 331–346.

Chen, X., Hui, C., & Sego, D. J. 1998. The role of organizational citizenship behavior in turnover: Conceptualization and preliminary tests of key hypotheses. ***Journal of Applied Psychology***, 83: 922–931.

Chiaburu, D. S., & Harrison, D. A. 2008. Do peers make the place? Conceptual synthesis and meta-analysis of coworker effects on perceptions, attitudes, OCBs, and performance. ***Journal of Applied Psychology***, 93: 1082–1103.

Chiaburu, D. S., Lorinkova, N. M., & Van Dyne, L. 2013. Employees' social context and change-oriented citizenship: A meta-analysis of leader, coworker, and organizational influences. ***Group & Organization Management***, 38: 291–333.

Chiaburu, D. S., Oh, I.-S., Berry, C. M., Li, N., & Gardner, R. G. 2011. The five-factor model of personality traits and organizational citizenship behaviors: A meta-analysis. ***Journal of Applied Psychology***, 96: 1140–1166.

Chiaburu, D. S., Smith, T. A., Wang, J., & Zimmerman, R. D. 2014. Relative importance of leader influences for subordinates ' proactive behaviors, prosocial behaviors, and task performance. ***Journal of Personnel Psychology***, 13: 70–86.

Choi, J. N. 2007. Change-oriented organizational citizenship behavior: Effects of work environment characteristics and intervening psychological processes. ***Journal of Organizational Behavior***, 28(4): 467–484.

Christian, M. S., Garza, A. S., & Slaughter, J. E. 2011. Work engagement: A quantitative review and test of its relations with task and contextual performance. ***Personnel Psychology***, 64(1): 89–136.

Cohen, A., Ben-tura, E., Vashdi, D. R., Cohen, A., Ben-tura, E., & Vashdi, D. R. 2012. The relationship between social exchange variables, OCB, and performance: What happens when you consider group. ***Personnel Review***, 41: 705–731.

Cohen-Charash, Y., & Spector, P. E. 2001. The role of justice in organizations: A meta-analysis. ***Organizational Behavior and Human Decision Processes***, 86: 278–321.

Coleman, V. I., & Borman, W. C. 2000. Investigating the underlying structure of the citizenship performance domain. ***Human Resource Management Review***, 10(1): 25–44.

Colquitt, J. A., Conlon, D. E., Wesson, M. J., Porter, C., & Ng, K. Y. 2001. Justice at the millenium: A meta-analytic review of 25 years of organizational justice research. ***Journal of Applied Psychology***, 86: 425–445.

Colquitt, J. A., Scott, B. A., & Lepine, J. A. 2007. Trust, trustworthiness, and trust propensity : A meta-analytic test of their unique relationships with risk taking and job performance. ***Journal of Applied Psychology***, 92: 909–927.

Cooper-Hakim, A., & Viswesvaran, C. 2005. The construct of work commitment: Testing an integrative framework. ***Psychological Bulletin***, 131: 241–259.

Crant, J. M. 2000. Proactive behavior in organizations. ***Journal of Management***, 26: 435–462.

Cronbach, L. J., & Meehl, P. E. 1955. Construct validity in psychological tests. ***Psychological Bulletin***, 52(4): 281–302.

Cronshaw, S. F., & Jethmalani, S. 2005. The structure of workplace adaptive skill in a career inexperienced group. ***Journal of Vocational Behavior***, 66(1): 45–65.

Cropanzano, R., & Mitchell, M. S. 2005. Social exchange theory: An interdisciplinary review. ***Journal of Management***, 31: 874–900.

Dalal, R. S. 2005. A meta-analysis of the relationship between organizational citizenship behavior and counterproductive work behavior. ***Journal of Applied Psychology***, 90: 1241–1255.

Deadrick, D. L., & Madigan, R. M. 1990. Dynamic criteria revisited: A longitudinal study of performance

stability and predictive validity. ***Personnel Psychology***, 43: 717–744.

De Bakker, F. G. A., Groenewegen, P., & Den Hond, F. 2005. A bibliometric analysis of 30 years of research and theory on corporate social responsibility and corporate social performance. ***Business & Society***, 44(3): 283–317.

De Dreu, C. K. W., & Nauta, A. 2009. Self-interest and other-orientation in organizational behavior: Implications for job performance, prosocial behavior, and personal initiative. ***Journal of Applied Psychology***, 94: 913–926.

De Dreu, C. K. W., & Weingart, L. R. 2003. Task versus relationship conflict, team performance, and team member satisfaction: A meta-analysis. ***Journal of Applied Psychology***, 88: 741–749.

De Jong, A., & de Ruyter, K. (2004). Adaptive versus proactive behavior in service recovery: The role of self-managing teams. ***Decision Sciences***, 35(3): 457–491.

Dekas, K. H., Bauer, T. N., Welle, B., Kurkoski, J., & Sullivan, S. 2013. Organizational citizenship behavior, version 2.0: A review and qualitative investigation of OCBs for knowledge workers at Google and beyond. ***The Academy of Management Perspectives***, 27: 219–237.

Demerouti, E., Bakker, A. B., Nachreiner, F., & Schaufeli, W. B. 2001. The job demands-resources model of burnout. ***Journal of Applied Psychology***, 86(3): 499–512.

Demerouti, E., Xanthopoulou, D., Tsaousis, I., & Bakker, A. B. 2014. Disentangling task and contextual performance: A multitrait-multimethod approach. ***Journal of Personnel Psychology***, 13: 59–69.

Detert, J. R., & Burris, E. R. 2007. Leadership behavior and employee voice: Is the door really open? ***Academy of Management Journal***, 50: 869–884.

Detert, J. R., Burris, E. R., Harrison, D. A., & Martin, S. R. 2013. Voice flows to and around leaders: Understanding when units are helped or hurt by employee voice. ***Administrative Science Quarterly***, 58: 624–668.

Dudley, N. M., Orvis, K. A., Lebiecki, J. E., & Cortina, J. M. 2006. A meta-analytic investigation of conscientiousness in the prediction of job performance: Examining the intercorrelations and the incremental validity of narrow traits. ***Journal of Applied Psychology***, 91: 40–57.

Dunnette, M. D. 1963. A note on the criterion. ***Journal of Applied Psychology***, 47(4): 251–254.

Dutton, J. E., & Ashford, S. J. 1993. Selling issues to top management. ***Academy of Management Review***, 18(3): 397–428.

Dutton, J. E., Ashford, S. J., Lawrence, K. A., & Miner-Rubino, K. 2002. Red light, green light: Making sense of the organizational context for issue selling. ***Organization Science***, 13(4): 355–369.

Dutton, J. E., Ashford, S. J., O'Neill, R. M., & Lawrence, K. A. 2001. Moves that matter: Issue selling and organizational change. ***Academy of Management Journal***, 44(4): 716–736.

Eatough, E. M., Chang, C.-H., Miloslavic, S. A., & Johnson, R. E. 2011. Relationships of role stressors with organizational citizenship behavior: A meta-analysis. ***Journal of Applied Psychology***, 96: 619–632.

Edmondson, A. C. 2003. Speaking up in the operating room : How team leaders promote learning in interdisciplinary action teams. ***Journal of Management Studies***, 40: 1419–1452.

Edmondson, A. C., & Lei, Z. 2014. Psychological safety: The history, renaissance, and future of an interpersonal construct. ***Annual Review of Organizational Psychology and Organizational Behavior***, 1: 23–43.

Ehrhart, M. G., Bliese, P. D., & Thomas, J. L. 2006. Unit-level OCB and unit effectiveness: Examining the incremental effect of helping behavior. ***Human Performance***, 19: 159–173.

Farh, J.-L., Earley, C., & Lin, S.-C. 1997. Impetus for action: A cultural analysis of justice and organizational citizenship behavior in Chinese society. ***Administrative Science Quarterly***, 42: 421–444.

Farrell, D. 1983. Exit, voice, loyalty, and neglect as responses to job dissatisfaction: A multidimensional scaling study. ***Academy of Management Journal***, 26: 596–607.

Farrell, D., & Petersen, J. C. 1982. Patterns of political behavior in organization. ***Academy of Management Review***, 7: 403–412.

Fassina, N. E., Jones, D. A., & Uggerslev, K. L. 2008. Relationship clean-up time: Using meta-analysis and path analysis to clarify relationships among job satisfaction, perceived fairness, and citizenship behaviors. ***Journal of Management***, 34: 161–188.

Flynn, F. J. 2006. "How much is it worth to you?" Subjective evaluations of help in organizations. ***Research in Organizational Behavior***, 27: 133–174.

Frese, M., & Fay, D. 2001. Personal initiative: An active performance concept for work in the 21st century. In B. M. Staw & R. I. Sutton (Eds.), ***Research in organizational behavior***, vol. 23: 133–187.

Frese, M., Kring, W., Soose, A., & Zempel, J. 1996. Personal initiative at work: Differences between East and West Germany. ***Academy of Management Journal***, 39: 37–63.

Fritz, C., & Sonnentag, S. 2007. Antecedents of day-level proactive behavior: A look at job stressors and positive affect during the workday. ***Journal of Management***, 35(1): 94–111.

Fu, W., & Deshpande, S. P. 2014. The impact of caring climate, job satisfaction, and organizational commitment on job performance of employees in a China's

insurance company. ***Journal of Business Ethics***, 124: 339–349.

Fuller, B., & Marler, L. E. 2009. Change driven by nature: A meta-analytic review of the proactive personality literature. ***Journal of Vocational Behavior***, 75(3): 329–345.

Fuller, J. B., Hester, K., Barnett, T., & Frey, L. 2006. Perceived external prestige and internal respect: New insights into the organizational identification process. ***Human Relations***, 59: 815–846.

Gagné, M., & Deci, E. L. 2005. Self determination theory and work motivation. ***Journal of Organizational Behavior***, 26: 331–362.

George, J. M., & Jones, G. R. 1997. Organizational spontaneity in context. ***Human Performance***, 10: 153–170.

Ghiselli, E. E. 1956. Dimensional problems of criteria. ***Journal of Applied Psychology***, 40(1): 1–4.

Ghiselli, E. E. 1973. The validity of aptitude tests in personnel selection. ***Personnel Psychology***, 26: 461–477.

Gomez-Mejia, L. R., & Balkin, D. B. 1992. Determinants of faculty pay: An agency theory perspective. ***Academy of Management Journal***, 35(5): 921–955.

Gonzalez-mulé, E., Mount, M. K., & Oh, I.-S. 2014. A meta-analysis of the relationship between general mental ability and nontask performance. ***Journal of Applied Psychology***, 99: 1222–1243.

Graham, J. W. 1991. An essay on organizational citizenship behavior. ***Employee Responsibilities and Rights Journal***, 4: 249–270.

Grant, A. M. 2013. Rocking the boat but keeping it steady: The role of emotion regulation in employee voice. ***Academy of Management Journal***, 56(6): 1703–1723.

Grant, A. M., & Ashford, S. J. 2008. The dynamics of proactivity at work. ***Research in Organizational Behavior***, 28: 3–34.

Grant, A. M., & Parker, S. K. 2009. Redesigning work design theories: The rise of relational and proactive perspectives. ***Academy of Management Annals***, 3: 317–375.

Grant, A. M., Parker, S., & Collins, C. 2009. Getting credit for proactive behavior: Supervisor reactions depend on what you value and how you feel. ***Personnel Psychology***, 62(1): 31–55.

Griffin, B., & Hesketh, B. 2003. Adaptable behaviours for successful work and career adjustment. ***Australian Journal of Psychology***, 55: 65–73.

Griffin, M. A., & Neal, A. 2000. Perceptions of safety at work: A framework for linking safety climate to safety performance, knowledge, and motivation. ***Journal of Occupational Health Psychology***, 5(3): 347–358.

Griffin, M. A., Neal, A., & Neale, M. 2000. The contribution of task performance and contextual performance to effectiveness: Investigating the role of situational constraints. ***Applied Psychology: An International Review***, 49(3): 517–533.

Griffin, M. A., Neal, A., & Parker, S. K. 2007. A new model of work role performance: Positive behavior in uncertain and interdependent contexts. ***Academy of Management Journal***, 50: 327–347.

Griffin, M. A, Parker, S. K., & Mason, C. M. 2010. Leader vision and the development of adaptive and proactive performance: A longitudinal study. ***Journal of Applied Psychology***, 95(1): 174–182.

Hackman, R., & Oldham, G. R. 1976. Motivation through the design of work : Test of a theory. ***Organizational Behavior and Human Performance***, 16: 250–279.

Hammond, M. M., Neff, N. L., Farr, J. L., Schwall, A. R., & Zhao, X. 2011. Predictors of individual-level innovation at work: A meta-analysis. ***Psychology of Aesthetics, Creativity, and the Arts***, 5: 90–105.

Han, T. Y., & Williams, K. J. 2008. Multilevel investigation of adaptive performance individual-and team-level relationships. ***Group & Organization Management***, 33: 657–684.

Harrison, D. A., Newman, D. A., & Roth, P. L. 2006. How important are job attitudes? Meta-analytic comparisons of integrative behavioral outcomes and time sequences. ***Academy of Management Journal***, 49: 305–325.

Hattrup, K., & Jackson, S. E. 1996. Learning about individual differences by taking situations seriously. In K. R. Murphy (Ed.), ***Individual Differences and Behavior in Organizations*** (pp. 507–547). San Francisco, CA.

Henderschott, F. C. 1917. Psychology and business. ***Journal of Applied Psychology***, 1(3): 214–219.

Hesketh, B., & Neal, A. 1999. Technology and performance. In D. R. Ilgen & E. D. Pulakos (Eds.), ***The Changing Nature of Performance: Implications for Staffing, Motivation, and Development*** (pp. 21–55). Brisbane, Australia: Wiley.

Harzing, A. W. 2016. Journal Quality List. https://www.harzing.com/resources/journal-quality-list. Accessed October 10, 2016.

Hoffman, B. J., Blair, C. A., Meriac, J. P., & Woehr, D. J. 2007. Expanding the criterion domain? A quantitative review of the OCB literature. ***Journal of Applied Psychology***, 92: 555–566.

Hofmann, D. A., Jacobs, R., & Baratta, J. E. (1993). Dynamic criteria and the measurement of change. ***Journal of Applied Psychology***, 78(2), 194–204.

Hornung, S., Rousseau, D. M., Glaser, J., Angerer, P., & Weigl, M. (2010). Beyond top-down and bottom-up work redesign: Customizing job content through idiosyncratic deals. ***Journal of Organizational Behavior***, 31(2-3), 187–215.

Horwitz, S. K., & Horwitz, I. B. 2007. The effects of team diversity on team outcomes : A meta-analytic review of team demography. ***Journal of Management***, 33: 987–1015.

Huang, J. L., Ryan, A. M., Zabel, K. L., & Palmer, A. 2014. Personality and adaptive performance at work: A meta-analytic investigation. ***Journal of Applied Psychology***, 99: 162–179.

Humphrey, S. E., Nahrgang, J. D., & Morgeson, F. P. 2007. Integrating motivational, social, and contextual work design features: A meta-analytic summary and theoretical extension of the work design literature. ***Journal of Applied Psychology***, 92: 1332–1356.

Hunter, J. E. 1986. Cognitive ability, cognitive aptitudes, job knowledge, and job performance. ***Journal of Vocational Behavior***, 29: 340–362.

Hunter, J. E., & Hunter, R. F. 1984. Validity and utility of alternative predictors of job performance. ***Psychological Bulletin***, 96(1): 72–98.

Hunter, L. W., & Thatcher, S. M. B. 2007. Feeling the heat : Effects of stress, commitment, and job experience on job performance. ***Academy of Management Journal***, 50(4): 953–968.

Ilies, R., Fulmer, I. S., Spitzmuller, M., & Johnson, M. D. 2009. Personality and citizenship behavior: The mediating role of job satisfaction. ***Journal of Applied Psychology***, 94: 945–959.

Ilies, R., Nahrgang, J. D., & Morgeson, F. P. 2007. Leader-member exchange and citizenship behaviors: A meta-analysis. ***Journal of Applied Psychology***, 92: 269–277.

Jaramillo, F., Mulki, J. P., & Marshall, G. W. 2005. A meta-analysis of the relationship between organizational commitment and salesperson job performance: 25 years of research. ***Journal of Business Research***, 58: 705–714.

Johns, G. 2006. The essential impact of context on organizational behavior. ***Academy of Management Review***, 31(2): 386–408.

Johnson, J. W. 2001. The relative importance of task and contextual performance dimensions to supervisor judgments of overall performance. ***Journal of Applied Psychology***, 86: 984–996.

Johnson, J. W. 2003. Toward a better understanding of the relationship between personality and individual job performance. In M. R. Barrick & A. M. Ryan (Eds.), ***Personality and work: Reconsidering the role of personality in organizations***: 83–120. San Francisco, CA: Jossey-Bass Publishers.

Joseph, D. L., & Newman, D. A. 2010. Emotional intelligence: An integrative meta-analysis and cascading model. ***Journal of Applied Psychology***, 95: 54–78.

Judge, T. A., & Bono, J. E. 2001. Relationship of core self-evaluations traits-self-esteem, generalized self-efficacy, locus of control, and emotional stability-with job satisfaction and job performance: A meta-analysis. ***Journal of Applied Psychology***, 86(1): 80–92.

Judge, T. A., Jackson, C. L., Shaw, J. C., Scott, B. A., & Rich, B. L. 2007. Self-efficacy and work-related performance: The integral role of individual differences. ***Journal of Applied Psychology***, 92: 107–127.

Judge, T. A., Locke, E. A., Durham, C. C., & Kluger, A. N. 1998. Dispositional effects on job and life satisfaction: the role of core evaluations. ***Journal of Applied Psychology***, 83(1), 17–34.

Judge, T. A, & Piccolo, R. F. 2004. Transformational and transactional leadership: A meta-analytic test of their relative validity. ***Journal of Applied Psychology***, 89(5), 755–68.

Judge, T. A., Thoresen, C. J., Bono, J. E., & Patton, G. K. 2001. The job satisfaction–job performance relationship: A qualitative and quantitative review. ***Psychological Bulletin***, 127: 376–407.

Jundt, D. K., Shoss, M. K., & Huang, J. L. 2015. Individual adaptive performance in organizations : A review. ***Journal of Organizational Behavior***, 36: S53–S71.

Kahya, E. 2009. The effects of job performance on effectiveness. ***International Journal of Industrial Ergonomics***, 39(1): 96–104.

Kaplan, S., Bradley, J. C., Luchman, J. N., & Haynes, D. 2009. On the role of positive and negative affectivity in job performance: A meta-analytic investigation. ***Journal of Applied Psychology***, 94: 162–176.

Karasek, R. A., Jr. 1979. Job demands, job decision latitude, and mental strain: Implications for job redesign. ***Administrative Science Quarterly***, 24(2): 285–308.

Karriker, J. H., & Williams, M. L. 2009. Organizational justice and organizational citizenship behavior: A mediated multifoci model. ***Journal of Management***, 35: 112–135.

Katz, D. 1964. The motivational basis of organizational behavior. ***Behavioral Science***, 9: 131–146.

Kelley, E. L. 1927. ***Interpretation of educational measurements***. Yonkers, NY: World.

Kickul, J., & Lester, S. W. 2001. Broken promises: Equity sensitivity as a moderator between psychological contract breach and employee attitudes and behavior. ***Journal of Business and Psychology***, 16: 191–217.

Kiker, D. S., & Motowidlo, S. J. 1999. Main and interaction effects of task and contextual performance on supervisory reward decisions. ***Journal of Applied Psychology***, 84(4): 602–609.

Klaas, B. S., Olson-Buchanan, J. B., & Ward, A.-K. 2012. The determinants of alternative forms of workplace voice: An integrative perspective. ***Journal of Management***, 38(1): 314–345.

Kluger, A. N., & DeNisi, A. 1996. The effects of feedback interventions on performance: A historical review, a meta-analysis, and a preliminary feedback intervention theory. ***Psychological Bulletin***, 119: 254–284.

Konovsky, M. A., & Pugh, S. D. 1994. Citizenship behavior and social exchange. ***Academy of Management Journal***, 37: 656–669.

Kozlowski, S. W. J., Chao, G. T., Grand, J. A., Braun, M. T., & Kuljanin, G. 2013. Advancing multilevel research design: Capturing the dynamics of emergence. ***Organizational Research Methods***, 16(4): 581–615.

Kristof-Brown, A. L., Zimmerman, R. D., & Johnson, E. C. 2005. Consequences of individuals' fit at work: A meta-analysis of person–job, person–organization, person–group, and person–supervisor fit. ***Personnel Psychology***, 58(2): 281–342.

Lam, C. F. U., & Mayer, D. M. 2014. When do employees speak up for their customers? A model of voice in a customer service context. ***Personnel Psychology***, 67: 637–666.

Lanaj, K., Chang, C.-H., & Johnson, R. E. 2012. Regulatory focus and work-related outcomes : A review and meta-analysis. ***Psychological Bulletin***, 138: 998–1034.

Landy, F. J., & Farr, J. L. 1980. Performance rating. ***Psychological Bulletin***, 87: 72–107.

Le, H., Oh, I.-S., Robbins, S. B., Ilies, R., Holland, E., & Westrick, P. 2011. Too much of a good thing: Curvilinear relationships between personality traits and job performance. ***Journal of Applied Psychology***, 96(1): 113–133.

Leana, C., Appelbaum, E., & Shevchuk, I. 2009. Work process and quality of care in early childhood education: The role of job crafting. ***Academy of Management Journal***, 52(6): 1169–1192.

Lee, C. I. S. G., Felps, W., & Baruch, Y. 2014. Toward a taxonomy of career studies through bibliometric visualization. ***Journal of Vocational Behavior***, 85: 339–351.

Lepine, J. A., Erez, A., & Johnson, D. E. 2002. The nature and dimensionality of organizational citizenship behavior : A critical review and meta-analysis. ***Journal of Applied Psychology***, 87: 52–65.

Levy, P. E., & Williams, J. R. 2004. The social context of performance appraisal: A review and framework for the future. ***Journal of Management***, 30: 881–905.

Li, N., Kirkman, B. L., & Porter, C. 2014. Toward a model of work team altruism. ***Academy of Management Review***, 39(4): 541–565.

Liang, J., Farh, C. I. C., & Farh, J.-L. 2012. Psychological antecedents of promotive and prohibitive voice: A two-wave examination. ***Academy of Management Journal***, 55: 71–92.

Lim, B. C., & Klein, K. J. 2006. Team mental models and team performance: A field study of the effects of team mental model similarity and accuracy. ***Journal of Organizational Behavior***, 27(4): 403–418.

Liu, W., Zhu, R., & Yang, Y. 2010. I warn you because I like you: Voice behavior, employee identifications, and transformational leadership. ***Leadership Quarterly***, 21: 189–202.

Locke, E. A. 1968. Toward a theory of task motivation and incentives. ***Organizational Behavior and Human Performance***, 3: 157–189.

Lorinkova, N. M., Pearsall, M. J., & Sims, H. P. 2013. Examining the differential longitudinal performance of directive versus empowering leadership in teams. ***Academy of Management Journal***, 56(2): 573–596.

Lowe, K. B., Kroeck, K. G., & Sivasubramaniam, N. 1996. Effectiveness correlates of transformational and transactional leadership: A meta-analytic review of the MLQ literature. ***Leadership Quarterly***, 7(3): 385–425.

Lyubomirsky, S., King, L., & Diener, E. 2005. The benefits of frequent positive affect: Does happiness lead to success? ***Psychological Bulletin***, 131: 803–855.

MacKenzie, B., Podsakoff, P. M., & Fetter, R. 1991. Organizational citizenship behavior and objective productivity as determinants of managerial evaluations salespersons' performance. ***Organizational Behavior and Human Decision Processes***, 50: 123–150.

MacKenzie, S. B., Podsakoff, P. M., & Podsakoff, N. P. 2011. Challenge-oriented organizational citizenship behaviors and organizational effectiveness: Do challenge-oriented behaviors really have an impact on the organization's bottom line? ***Personnel Psychology***, 64: 559–592.

MacKenzie, S. B., Podsakoff, P. M., & Rich, G. A. 1994. Citizenship behaviors organizational and sales unit effectiveness. ***Journal of Marketing Research***, 31: 351–363.

Marinova, S. V., Peng, C., Lorinkova, N., Van Dyne, L., & Chiaburu, D. 2015. Change-oriented behavior : A meta-analysis of individual and job design predictors. ***Journal of Vocational Behavior***, 88: 104–120.

Marks, M. A., Mathieu, J. E., & Zaccaro, S. J. 2001. A temporally based framework and taxonomy of team processes. ***Academy of Management Review***, 26: 356–376.

Mayer, R. C., & Gavin, M. B. 2005. Trust in management and performance: Who minds the shop while the employees watch the boss? ***Academy of Management Journal***, 48(5): 874–888.

Maynes, T. D., & Podsakoff, P. M. 2014. Speaking more broadly : An examination of the nature, antecedents, and consequences of an expanded set of employee voice behaviors. ***Journal of Applied Psychology***, 99: 87–112.

Meneghel, I., Borgogni, L., Salanova, M., & Martínez, I. M. 2016. From social context and resilience to performance through job satisfaction: A multilevel study over time. ***Human Relations***, 69: 2047–2067.

Meyer, J. P., Paunonen, S. V., Gellatly, I. R., Goffin, R. D., & Jackson, D. N. 1989. Organizational commitment and job performance: It's the nature of the commitment that counts. ***Journal of Applied Psychology***, 74(1): 152–156.

Meyer, J. P., Stanley, D. J., Herscovitch, L., & Topolnytsky, L. 2002. Affective, continuance, and normative commitment to the organization: A meta-analysis of antecedents, correlates, and consequences. ***Journal of Vocational Behavior***, 61: 20–52.

Mcclelland, G. P., Leach, D. J., Clegg, C. W., & Mcgowan, I. 2014. Collaborative crafting in call centre teams. ***Journal of Occupational and Organizational Psychology***, 87: 464–486.

Moorman, R. H. 1991. Relationship between organizational justice and organizational citizenship behaviors: Do fairness perceptions influence employee citizenship? ***Journal of Applied Psychology***, 76: 845–855.

Moorman, R. H., & Blakely, G. L. 1995. Individualism-collectivism as an individual difference predictor of organizational citizenship behavior. ***Journal of Organizational Behavior***, 16: 127–142.

Moorman, R. H., Blakely, G. L., & Niehoff, B. P. 1998. Does perceived organizational support mediate the relationship between procedural justice and organizational citizenship behavior? ***Academy of Management Journal***, 41: 351–357.

Morgeson, F. P., Delaney-Klinger, K., & Hemingway, M. A. 2005. The importance of job autonomy, cognitive ability, and job-related skill for predicting role breadth and job performance. ***Journal of Applied Psychology***, 90: 399–406.

Morrison, E. W. 1994. Role definitions and organizational citizenship behavior: The importance of the employee's perspective. ***Academy of Management Journal***, 37(6): 1543–1567.

Morrison, E. W. 2014. Employee voice and silence. ***Annual Review of Organizational Psychology and Organizational Behavior***, 1: 173–197.

Morrison, E. W., & Phelps, C. C. 1999. Taking charge at work: Extrarole efforts to initiate workplace change. ***Academy of Management Journal***, 42: 403–419.

Motowidlo, S. J., Borman, W., & Schmit, M. 1997. A theory of individual differences in task and contextual performance. ***Human Performance***, 10: 71–83.

Motowidlo, S. J., & Van Scotter, J. R. 1994. Evidence that task performance should be distinguished from contextual performance. ***Journal of Applied Psychology***, 79: 475–480.

Neal, A., Yeo, G., Koy, A., & Xiao, T. 2011. Predicting the form and direction of work role performance from the Big 5 model of personality traits. ***Journal of Organizational Behavior***, 33: 175–192.

Near, J. P., & Miceli, M. P. 1985. Organizational dissidence : The case of whistle-blowing. ***Journal of Business Ethics***, 4: 1–16.

Ng, T. W. H., & Feldman, D. C. 2008. The relationship of age to ten dimensions of job performance. ***Journal of Applied Psychology***, 93: 392–423.

Ng, T. W. H., & Feldman, D. C. 2012. Employee voice behavior: A meta-analytic test of the conservation of resources framework. ***Journal of Organizational Behavior***, 33: 216–234.

Nielsen, T. M., Bachrach, D. G., Sundstrom, E., & Halfhill, T. R. 2012. Utility of OCB: Organizational citizenship behavior and group performance in a resource allocation framework. ***Journal of Management***, 38: 668–694.

Oh, I., Harold, C. M., & Lee, J. 2014. Fit happens globally: A meta-analytic comparison of the relationships of person-environment fit dimensions with work attitudes and performance across East Asia, Europe, and North America. ***Personnel Psychology***, 67: 99–152.

Ohly, S., Sonnentag, S., & Pluntke, F. 2006. Routinization, work characteristics and their relationships with creative and proactive behaviors. ***Journal of Organizational Behavior***, 27: 257–279.

Oldham, G. R., & Hackman, J. R. 2010. Not what it was and not what it will be: The future of job design research. ***Journal of Organizational Behavior***, 31: 463–479.

O'Reilly, C., & Chatman, J. 1986. Organisational commitment and psychological attachment: The effects of compliance, identification and internalization on social behaviour. ***Journal of Applied Psychology***, 71: 492–499.

Organ, D. W. 1988. ***Organizational citizenship behavior: The good soldier syndrome***. Lexington, M.A. England: Lexington Books.

Organ, D. W. 1997. Organizational citizenship behavior: It's construct clean-up time. ***Human Performance***, 10: 85–97.

Organ, D. W., Podsakoff, P. M., & Podsakoff, N. P. 2006. ***Organizational citizenship behavior: Its nature, antecedents, and consequences***. Thousand Oaks, CA: SAGE Publications.

Parker, S. K. 1998. Enhancing role breadth self-efficacy: the roles of job enrichment and other organizational

interventions. ***Journal of Applied Psychology***, 83(6): 835–52.

Parker, S. K. 2000. From passive to proactive motivation: The importance of flexible role orientations and role breadth self-efficacy. ***Applied Psychology: An International Review***, 49(3): 447–469.

Parker, S. K., Bindl, U. K., & Strauss, K. 2010. Making things happen: A model of proactive motivation. ***Journal of Management***, 36(4): 827–856.

Parker, S. K., & Collins, C. G. 2010. Taking stock: Integrating and differentiating multiple proactive behaviors. ***Journal of Management***, 36: 633–662.

Parker, S. K., Johnson, A., Collins, C. G., & Nguyen, H. 2013. Making the most of structural support: Moderating influence of employees' clarity and negative affect. ***Academy of Management Journal***, 56: 867–892.

Parker, S. K., Van den Broeck, A., & Holman, D. 2017. Work design influences: A synthesis of multi-level factors that affect the design of work. ***Academy of Management Annals***, 11(1): 267–308.

Parker, S. K., Williams, H. M., & Turner, N. 2006. Modeling the antecedents of proactive behavior at work. ***Journal of Applied Psychology***, 91: 636–652.

Parmerlee, M. A., Near, J. P., & Jensen, T. C. 1982. Correlates of whistle-blowers' perceptions of organizational retaliation. ***Administrative Science Quarterly***, 27(1): 17–34.

Peterson, N. G., Mumford, M. D., Borman, W. C., Jeanneret, P. R., Fleishman, E. A., Levin, K. Y., & Campion, M.A., et al. 2001. Understanding work using the Occupational Information Network (O* NET): Implications for practice and research. ***Personnel Psychology***, 54(2): 451–492.

Petrou, P., Demerouti, E., & Schaufeli, W. B. (2016). Crafting the change: The role of employee job crafting behaviors for successful organizational change. ***Journal of Management***, 1–27. Available online first DOI: 10.1177/0149206315624961.

Piccolo, R. F., & Colquitt, J. A. 2006. Transformational leadership and job behaviors: The mediating role of core job characteristics. ***Academy of Management Journal***, 49: 327–340.

Podsakoff, P. M., & MacKenzie, S. B. 1997. Impact of organizational citizenship behavior on organizational performance: A review and suggestion for future research. ***Human Performance***, 10(2): 133–151.

Podsakoff, N. P., Podsakoff, P. M., MacKenzie, S. B., Maynes, T. D., & Spoelma, T. M. 2014. Consequences of unit-level organizational citizenship behaviors : A review and recommendations for future research. ***Journal of Organizational Behavior***, 119: S87–S119.

Podsakoff, P. M., MacKenzie, S. B., Lee, J.-Y., & Podsakoff, N. P. 2003. Common method biases in behavioral research: A critical review of the literature and recommended remedies. ***Journal of Applied Psychology***, 88: 879–903.

Podsakoff, P. M., MacKenzie, S. B., Moorman, H., & Fetter, R. 1990. Leader behaviors and their effects on followers' trust in leader, satisfaction, and citizenship behaviors. ***Leadership Quarterly***, 1: 107–142.

Podsakoff, P. M., MacKenzie, S. B., Paine, J. B., & Bachrach, D. G. 2000. Organizational citizenship behaviors: A critical review of the theoretical and empirical literature and suggestions for future research. ***Journal of Management***, 26: 513–563.

Podsakoff, N. P., Whiting, S. W., Podsakoff, P. M., & Blume, B. D. 2009. Individual- and organizational-level consequences of organizational citizenship behaviors: A meta-analysis. ***Journal of Applied Psychology***, 94: 122–141.

Polyhart, R. E., & Bliese, P. D. 2006. Understanding adaptability: A prerequisite for performance within complex environments. ***Advances in Human Performance and Cognitive Engineering Research***, 6: 3–39.

Potočnik, K., & Anderson, N. 2016. A constructively critical review of change and innovation-related concepts: towards conceptual and operational clarity. ***European Journal of Work and Organizational Psychology***, 25(4): 481–494.

Pulakos, E. D., Arad, S., Donovan, M. A., & Plamondon, K. E. 2000. Adaptability in the workplace : Development of a taxonomy of adaptive performance. ***Journal of Applied Psychology***, 83: 612–624.

Ramos-Rodríguez, A., & Ruíz-Navarro, J. 2004. Changes in the intellectual structure of strategic management research: A bibliometric study of the ***Strategic Management Journal***, 1980–2000. ***Strategic Management Journal***, 25(10): 981–1004.

Rhoades, L., & Eisenberger, R. 2002. Perceived organizational support: A review of the literature. ***Journal of Applied Psychology***, 87: 698–714.

Rich, B. L., Lepine, J. A., & Crawford, E. R. 2010. Job engagement: Antecedents and effects on job performance. ***Academy of Management Journal***, 53: 617–635.

Rip, A., & Courtial, J. 1984. Co-word maps of biotechnology: An example of cognitive scientometrics. ***Scientometrics***, 6(6): 381–400.

Rizzo, J. R., House, R. J., & Lirtzman, S. I. 1970. Role conflict and ambiguity in complex organizations. ***Administrative Science Quarterly***, 15(2): 150–163.

Rupp, D. E., & Cropanzano, R. 2002. The mediating effects of social exchange relationships in predicting workplace outcomes from multifoci organizational justice.

***Organizational Behavior and Human Decision* Processes**, 89: 925–946.

Rynes, S. L., Gerhart, B., & Parks, L. 2005. Performance evaluation and pay for performance. ***Annual Review of Psychology***, 56: 571–600.

Salas, E., & Cannon-Bowers, J. A. 2001. The science of training: A decade of progress. ***Annual Review of Psychology***, 52: 471–499.

Schaubroeck, J., Lam, S. S. K., & Cha, S. E. 2007. Embracing transformational leadership: Team values and the impact of leader behavior on team performance. ***Journal of Applied Psychology***, 92: 1020–1030.

Schmidt, F. L. 2002. The role of general cognitive ability and job performance: Why there cannot be a debate. ***Human Performance***, 15(1–2): 187–210.

Schmidt, F. L., & Hunter, J. E. 1998. The validity and utility of selection methods in personnel psychology: Practical and theoretical implications of 85 years of research findings. ***Psychological Bulletin***, 124: 262–274.

Schmidt, F. L., & Hunter, J. 2004. General mental ability in the world of work: Occupational attainment and job performance. ***Journal of Personality and Social Psychology***, 86: 162–173.

Schmidt, F. L., Hunter, J. E., & Outerbridge, A. N. 1986. Impact of job experience and ability on job knowledge, work sample performance, and supervisory ratings of job performance. ***Journal of Applied Psychology***, 71(3): 432–439.

Schmitt, N., & Chan, D. 2014. Adapting to rapid changes at work: Definitions, measures, and research. In D. Chan (Ed.), ***Individual Adaptability to Changes at Work: New Directions in Research***. Florence, CA: Taylor and Francis.

Schmitt, N., Cortina, J. M., Ingerick, M. J., & Wiechmann, D. 2003. Personnel selection and employee performance. In C. W. Borman, D. R. Ilgen, R. J. Klimoski, & I. B. Weiner (Eds.), ***Handbook of psychology: Industrial and organizational psychology***, vol. 12. Book Section, Hoboken, NJ: John Wiley & Sones.

Schwab, D. P. 1980. Construct validity in organizational behavior. In B. Staw & L. Cummings (Eds.), ***Research in organizational behavior***. Greenwich, CT: JAI Press.

Scott, S. G., & Bruce, R. A. 1994. Determinants of innovative behavior: A path model of individual innovation in the workplace. ***Academy of Management Journal***, 37: 580–607.

Seibert, S. E., Crant, J. M., & Kraimer, M. L. 1999. Proactive personality and career success. ***Journal of Applied Psychology***, 84: 416–427.

Seibert, S. E., Kraimer, M. L., & Crant, J. M. 2001. What do proactive people do? A longitudinal model linking proactive personality and career success. ***Personnel Psychology***, 54: 845–874.

Seibert, S. E., Wang, G., & Courtright, S. H. 2011. Antecedents and consequences of psychological and team empowerment in organizations: A meta-analytic review. ***Journal of Applied Psychology***, 96: 981–1003.

Shaffer, J. A., DeGeest, D., & Li, A. 2016. Tackling the problem of construct proliferation: A guide to assessing the discriminant validity of conceptually related constructs. ***Organizational Research Methods***, 19: 80–110.

Shore, L. M., & Wayne, S. J. 1993. Commitment and employee behavior: comparison of affective commitment and continuance commitment with perceived organizational support. ***Journal of Applied Psychology***, 78(5): 774–780.

Sinclair, R. R., Tucker, J. S., Cullen, J. C., & Wright, C. 2005. Performance differences among four organizational commitment profiles. ***Journal of Applied Psychology***, 90: 1280–1287.

Sitzmann, T., & Yeo, G. 2013. A meta-analytic investigation of the within-person self-efficacy domain: Is self-efficacy a product of past performance or a driver of future performance? ***Personnel Psychology***, 66: 531–568.

Smith, E. M., Ford, J. K., & Kozlowski, S. W. J. 1997. Building adaptive expertise: Implications for training design strategies. In M. A. Quiñones & A. Ehrenstein (Eds.), ***Training for a rapidly changing workplace: Applications of psychological research***. Washington, DC: American Psychological Association.

Smith, C. A., Organ, D. W., & Near, J. P. 1983. Organizational citizenship behavior: Its nature and antecedents. ***Journal of Applied Psychology***, 68: 653–663.

Spector, P. E., Bauer, J. A., & Fox, S. 2010. Measurement artifacts in the assessment of counterproductive work behavior and organizational citizenship behavior: Do we know what we think we know? ***Journal of Applied Psychology***, 95(4): 781–90.

Spector, P. E., & Fox, S. 2002. An emotion-centered model of voluntary work behavior: Some parallels between counterproductive work behavior and organizational citizenship behavior. ***Human Resource Management Review***, 12(2): 269–292.

Spiro, R. L., & Weitz, B. A. 1990. Adaptive selling: Conceptualization, measurement, and nomological validity. ***Journal of Marketing Research***, 27: 61–69.

Spitzmuller, M., & Van Dyne, L. 2013. Proactive and reactive helping : Contrasting the positive consequences of different forms of helping. ***Journal of Organizational Behavior***, 34: 560–580.

Spitzmuller, M., Van Dyne, L., & Ilies, R. 2008. Organizational citizenship behavior: A review and extension of its nomological network. In ***The SAGE Handbook of***

Organizational Behavior (pp. 106–123). New York, NY: SAGE Publications.

Staw, B. M., & Boettger, R. D. 1990. Task revision: A neglected form of work performance. ***Academy of Management Journal***, 33(3): 534–559.

Stets, J. E., & Burke, P. J. 2000. Identity theory and social identity theory. ***Social Psychology Quarterly***, 63(3): 224–237.

Stewart, G. L. 2006. A meta-analytic review of relationships between team design features and team performance. ***Journal of Management***, 32: 29–55.

Swales, J. 1986. Citation analysis and discourse analysis. ***Applied Linguistics***, 7(1): 41–56.

Sy, T., Tram, S., & O'Hara, L. A. 2006. Relation of employee and manager emotional intelligence to job satisfaction and performance. ***Journal of Vocational Behavior***, 68: 461–473.

Tett, R. P., & Burnett, D. D. 2003. A personality trait-based interactionist model of job performance. ***Journal of Applied Psychology***, 88(3): 500–517.

Thomas, J. P., Whitman, D. S., & Viswesvaran, C. 2010. Employee proactivity in organizations: A comparative meta-analysis of emergent proactive constructs. ***Journal of Occupational and Organizational Psychology***, 83: 275–300.

Thompson, J. A. 2005. Proactive personality and job performance: A social capital perspective. ***Journal of Applied Psychology***, 90: 1011–1017.

Thomson, Reuters. 1997. InCites Journal Citation Reports. Retrieved from https://jcr.incites.thomsonreuters.com. Accessed October 10, 2016.

Thomson, Reuters. 2005. InCites Journal Citation Report. Retrieved from https://jcr.incites.thomsonreuters.com. Accessed October 10, 2016.

Thomson, Reuters. 2014. InCites Journal Citation Report. Retrieved from https://jcr.incites.thomsonreuters.com. Accessed October 10, 2016.

Tims, M., Bakker, A. B., & Derks, D. 2015. Job crafting and job performance: A longitudinal study. ***European Journal of Work and Organizational Psychology***, 24(6): 914–928.

Tims, M., Bakker, A. B., Derks, D., & van Rhenen, W. 2013. Job crafting at the team and individual level: Implications for work engagement and performance. ***Group & Organization Management***, 38: 427–454.

Tornau, K., & Frese, M. 2013. Construct clean-up in proactivity research: A meta-analysis on the nomological net of work-related proactivity concepts and their incremental validities. ***Applied Psychology***, 62: 44–96.

Townsend, A. M., Demarie, S. M., & Hendrickson, A. R. 1998. Virtual teams: Technology and the workplace of the future. ***The Academy of Management Executive***, 12: 17–29.

Tucker, A. L. 2016. The impact of workaround difficulty on frontline employees ' response to operational failures: A laboratory experiment on medication administration. ***Management Science***, 62: 1124–1144.

Tucker, J. S., & Gunther, K. M. 2009. The application of a model of adaptive performance to Army leader behaviors. ***Military Psychology***, 21(3): 315–333.

Turnley, W. H., Bolino, M. C., Lester, S. W., & Bloodgood, J. M. 2003. The impact of psychological contract fulfillment on the performance of in-role and organizational citizenship behaviors. ***Journal of Management***, 29(2): 187–206.

Tyler, T. R., & Blader, S. L. 2001. Identity and cooperative behavior in groups. ***Group Processes & Intergroup Relations***, 4: 207–226.

Tyler, T. R., & Blader, S. L. 2003. Engagement model: Procedural justice, social identity, and cooperative behavior. ***Personality and Social Psychology Review***, 7: 349–361.

Van der Vegt, G. S., & Van de Vliert, E. 2005. Effects of perceived skill dissimilarity and task interdependence on helping in work teams. ***Journal of Management***, 31(1): 73–89.

Van Dyne, L., Cummings, L. L., & McLean Parks, J. 1995. Extra-role behaviors: In pursuit of construct and definitional clarity (A bridge over muddied waters). In L. L. Cummings & B. M. Staw (Eds.), ***Research in organizational behavior: An annual series of analytical essays and critical reviews***: 215–285. Greenwich, CT: JAI Press INC.

Van Dyne, L., Graham, J. W., & Dienesch, R. M. 1994. Organizational citizenship behavior: Construct redefinition, measurement, and validation. ***Academy of Management Journal***, 37: 765–802.

Van Dyne, L., & LePine, J. A. 1998. Helping and voice extra-role behaviors: Evidence of construct and predictive validity. ***Academy of Management Journal***, 41: 108–119.

van Eck, N. J., & Waltman, L. 2010. Software survey: VOSviewer, a computer program for bibliometric mapping. ***Scientometrics***, 84(2): 523–538.

van Eck, N. J., & Waltman, L. 2014. Visualizing bibliometric networks. In ***Measuring Scholarly Impact*** (pp. 285–320). Sydney, Australia: Springer International Publishing.

van Eck, N. J., Waltman, L., Dekker, R., & van den Berg, J. 2010. A comparison of two techniques for bibliometric mapping: Multidimensional scaling and VOS. ***Journal of the American Society for Information Science and Technology***, 61: 2405–2416.

Van Knippenberg, D., & Sitkin, S. B. 2013. A critical assessment of charismatic–transformational leadership research: Back to the drawing board? ***Academy of Management Annals***, 7(1): 1–60.

Van Scotter, J. R., & Motowidlo, S. J. 1996. Interpersonal facilitation and job dedication as separate facets of contextual performance. ***Journal of Applied Psychology***, 81: 525–531.

Van Scotter, J. R., Motowidlo, S. J., & Cross, T. C. 2000. Effects of task performance and contextual performance on systemic rewards. ***Journal of Applied Psychology***, 85(4): 526–535.

Vey, M. A., & Campbell, J. P. 2004. In-role or extra-role organizational citizenship behavior: Which are we measuring? ***Human Performance***, 17(1): 119–135.

Vroom, V. H. 1964. ***Work and Motivation***. New York, NY: John Wiley & Sons.

Wallace, J. C., Edwards, B. D., Arnold, T., Frazier, M. L., & Finch, D. M. 2009. Work stressors, role-based performance, and the moderating influence of organizational support. ***Journal of Applied Psychology***, 94(1): 254–262.

Waltman, L., van Eck, N. J., & Noyons, E. C. M. 2010. A unified approach to mapping and clustering of bibliometric networks. ***Journal of Informetrics***, 4: 629–635.

Wanberg, C. R., & Kammeyer-Mueller, J. D. 2000. Predictors and outcomes of proactivity in the socialization process. ***Journal of Applied Psychology***, 85(3): 373–385.

Wang, H., Law, K. S., & Hackett, R. D. 2005. Leader-member exchange as a mediator of the relationship between transformational leadership and followers' performance and organizational citizenship behavior. ***Academy of Management Journal***, 48: 420–432.

Welbourne, T. M., Johnson, D. E., & Erez, A. 1998. The role-based performance scale: Validity analysis of a theory-based measure. ***Academy of Management Journal***, 41: 540–555.

White, H. D. 1990. Author cocitation analysis: Overview and defense. In C. L. Borgman (Ed.), ***Scholarly Communication and Bibliometrics***. Newbury Park, CA: Sage Publications.

Whiting, S. W., Podsakoff, P. M., & Pierce, J. R. 2008. Effects of task performance, helping, voice, and organizational loyalty on performance appraisal ratings. ***Journal of Applied Psychology***, 93: 125–139.

Whitman, D. S., & Viswesvaran, C. 2010. Employee proactivity in organizations: A comparative meta-analysis of emergent proactive constructs. ***Journal of Occupational and Organizational Psychology***, 83: 275–300.

Williams, H. M., Parker, S. K., & Turner, N. 2010. Proactively performing teams: The role of work design, transformational leadership, and team composition. ***Journal of Occupational and Organizational Psychology***, 83: 301–324.

Williams, L. J., & Anderson, S. E. 1991. Job satisfaction and organizational commitment as predictors of organizational citizenship and in-role behaviors. ***Journal of Management***, 17: 601–617.

Wisecarver, M. M., Carpenter, T. D., & Kilcullen, R. N. 2007. Capturing interpersonal performance in a latent performance model. ***Military Psychology***, 19: 83–101.

Wright, T. A., & Bonett, D. G. 2002. The moderating effects of employee tenure on the relationship between organizational commitment and job performance: A meta-analysis. ***Journal of Applied Psychology***, 87: 1183–1190.

Wright, T. A., & Cropanzano, R. 2000. Psychological well-being and job satisfaction as predictors of job performance. ***Journal of Occupational Health Psychology***, 5: 84–94.

Wright, T. A., Cropanzano, R., & Bonett, D. G. 2007. The moderating role of employee positive well being on the relation between job satisfaction and job performance. ***Journal of Occupational Health Psychology***, 12: 93–104.

Wrzesniewski, A., & Dutton, J. E. 2001. Crafting a job: Revisioning employees as active crafters of their work. ***Academy of Management Review***, 26(2): 179–201.

Wu, C., Parker, S. K., & de Jong, J. P. J. 2014. Need for cognition as an antecedent of individual innovation behavior. ***Journal of Management***, 40: 1511–1534.

Zickar, M. J., & Highhouse, S. 2001. Measuring prestige of journals in industrial-organizational psychology. ***Industrial-Organizational Psychologist***, 38(4): 29–36.

Zyphur, M. J., Chaturvedi, S., & Arvey, R. D. 2008. Job performance over time is a function of latent trajectories and previous performance. ***Journal of Applied Psychology***, 93(1): 217–224.

Joseph A. Carpini is in the final year of his PhD candidature at the UWA Business School, University of Western Australia. He earned his M.Sc. in Management from the John Molson School of Business, Concordia University. Joseph's research interests include job performance, proactive work behavior, motivation, work design, and teams. Corresponding author JosephCarpini@research.uwa.edu.au.

Sharon K. Parker earned her PhD from the University of Sheffield. She is currently an Australian Research Council

Laureate Fellow and a Professor at the UWA Business School, University of Western Australia. Research interests include work design, proactive work behavior, perspective taking, role orientations, organisational change, job performance, and related topics.

Mark Griffin is professor of management at University of Western Australia Business School. He received his PhD from the Pennsylvania State University and is currently Associate Editor for the Journal of Applied Psychology. His research examines the interaction between individuals and organizations in areas such as performance, leadership, and safety.

APPENDIX A: EXTENDED SCIENCE MAPPING METHODOLOGY

To achieve the aforementioned goals of mapping the overarching intellectual architecture of the individual performance literature as well as examine the historical evolution of the field, we generated a summary map of the entire individual performance literature from 1972 to 2015 (summary map) as well as four maps in 10-year increments (map slices) to examine changes in the literature (Ramos-Rodrigez & Ruíz-Navarro, 2004).

We commence in 1972 as this is the year when the *Social Science Citation Index* commenced and we ended with 2015 to avoid preprint bias. We limited our search to 62 journals in management and organizational behavior which were identified using a multi-pronged approach. We began by searching the Web of Science for all journals listed as either "applied psychology" or "management" and identified journals appearing on both lists. We then used published quality lists (Gomez-Mejia & Balkin, 1992; Harzing, 2014, 2015; Zickar & Highhouse, 2001) and the Web of Science *Journal Citation Report* (1997, 2005, 2014) to triangulate our selection. Finally, we used recent meta-analyses and reviews in OCB (Podsakoff et al. 2000), adaptivity (Huang et al. 2014), and proactivity (Thomas et al. 2010) to ensure appropriate coverage. Articles were extracted using ProQuest and the Web of Science and identified using a list of 154 unique search terms derived from key search terms contained in meta-analyses and review papers (e.g., adaptive performance, OCB, proactivity, task performance, helping). Our initial search resulted in the extraction of 13,188 titles.

We ensured the integrity of the data by first examining it for completeness and then cleaning our irrelevant entries. To ensure completeness, we searched for all the articles appearing in journals we cover contained in meta-analyses and reviews of the individual performance literature from various perspectives: Podsakoff et al. (2000), Thomas et al. (2010), Griffin et al. (2007), Parker and Collins (2010), and Carpini and Parker (2017). Overall, 97 percent of the articles cited in these papers were contained in the data file and missing entries were manually entered. This provides strong evidence for the completeness of the data file. Consistent with previous work we excluded book reviews, letters to the editor, and comments (Gomez-Mejia & Balkin, 1992). We also searched for articles outside of this review's scope using 30 key words (e.g., invest, sensory, machine, computer, product life cycle, firm, venture, team performance, organizational performance, corporate), which were designed to tease the individual work performance literature out from closely related literature. Entries containing any of the key words were manually reviewed for relevance and irrelevant entries discarded. Following cleaning, our final dataset contained 9,299 records. Please refer to Appendix B for the journals contained in our review.

The summary map was generated using all records contained in the data file providing a macro-overview of the literature. The slice maps were created by segmenting the dataset into 10-year time frames beginning in 1972 resulting in four nonoverlapping slices. Given the purpose of the review is to examine the evolution of the field it is necessary to split the data file into segments which are not intended to represent actual periods (Ramos-Rodriguez & Ruíz-Navarro, 2004). We elected to divide the dataset into 10-year increments as it created four even slices (slice 1: 1972–1982; slice 2: 1983–1993; slice 3: 1994–2004; slice 4: 2005–2015) that should be sufficiently sensitive to changes in the literature. Slice one contained 1,281 records, slice two 1,310 records, slice three 2,305 records, and slice four 4,403 records. Each record composed of the full article title and the abstract.[8]

Analyses and visualization of the data were executed using the *VOSviewer* software (van Eck & Waltman, 2010). The analyses begin with the elimination of noun phrases and the computation of term relevance scores. Next, the program calculates the co-occurrence of related terms. The strength of association between terms becomes the input for the visual map. The resulting maps are visual representations of the strength of association between scientific terms (Rip & Courtial, 1984). Terms are presented in varying sizes representing the frequency with which terms are observed in the data such that larger terms appear more often than smaller ones. The distance between terms represents their relatedness. Relatedness can be assessed at two levels: first, terms appearing close to one another co-occur more often than those far apart; second, terms occupying central positions in the map co-occur with more terms in the map than those on the peripheral. The color of terms denote "clusters" such that those terms most similar share a common color and are more similar to one another than those terms of another color (van Eck & Waltman, 2010). For a detailed explanation, please see van Eck and Waltman (2010, 2014).

Visualization Parameters

The *VosViewer* software package allows for the adjustment of visualization parameters. Unlike previous reviews using science mapping (e.g., Lee et al. 2014) who sought to visualize a content area of scientific inquiry, we were specifically interested in performance terms. As such, we needed to adjust some of the default settings to extract the information most pertinent to our review. We outline these decisions below.

Term thesaurus file. In addition to a file containing the articles (titles and abstracts), the development of a term thesaurus file is critical in fleshing out the science

[8] Although not all articles were originally published with abstracts, recent work undertaken by ProQuest and others has resulted in the vast majority of articles now having abstracts, although some have been written retrospectively.

map. The thesaurus file is designed to help merge similar terms together (e.g., performance rating, performance ratings) as well as except irrelevant or uninformative terms (e.g., copyright, bottom, chapter, many). The thesaurus is developed through multiple iterations of science maps. The final thesaurus file contained 2,508 lines of code and is readily available from the first author upon request. All science maps used the same base thesaurus for consistency. In some cases, low frequency terms of interest (e.g., whistleblowing) were coded into their higher-order construct (e.g., voice) based on the synthesis presented in this article.

Scientific map parameters. For each of the 10-year maps, we used the default threshold count of 10 percent and a 100 percent mapping rule instead of the default 60 percent due to the relatively low number of terms. For the global map containing the full dataset, we adopted a 15-count threshold and subsequently mapped 100 percent of the terms. Increasing the threshold meant that only those terms that are counted most frequently are included in the map and is proportionate to the number of terms in the global map relative to the number of terms in any of the 10-year maps.

APPENDIX B: JOURNALS INCLUDED IN SCIENCE MAPS

Academy of Management Annals
Academy of Management Executive
Academy of Management Journal
Academy of Management Perspectives
Academy of Management Review
Administrative Science Quarterly
Applied Psychology—Health and Well Being
Applied Psychology—An International Review
Asia Pacific Journal of Management
British Journal of Management
California Management Review
Decision Sciences
European Journal of Work and Organizational Psychology
European Review of Applied Psychology
Group and Organization Management
Harvard Business Review
Human Performance
Human Relations
Human Resource Management
Human Resource Management Journal
Human Resource Management Review
International Journal of Management Reviews
Journal of Applied Psychology
Journal of Behavioral Decision Making
Journal of Business and Psychology
Journal of Career Assessment
Journal of Career Development
Journal of Experimental Psychology—Applied
Journal of International Business Studies
Journal of Management
Journal of Management Studies
Journal of Managerial Psychology
Journal of Occupational and Organizational Psychology
Journal of Occupational Health Psychology
Journal of Organizational Behavior
Journal of Organizational Behavior Management
Journal of Vocational Behavior
Leadership Quarterly
Management and Organization Review
Management Science
Motivation and Emotion
Ω-International Journal of Management Science
Organization
Organization Science
Organization Studies
Organizational Behavior and Human Decision Processes
Organizational Dynamics
Organizational Research Methods
Personnel Psychology
Psychological Bulletin
Research in Organizational Behavior
Sloan Management Review
Work and Stress