Improving Career Development Opportunities Through Rigorous Career Pathways Research

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Abstract

Organizational life has become less predictable in today's rapidly changing workplace. Workers must make career decisions within an increasingly uncertain organizational, societal, and global environment. Businesses face the same evolving landscape, making it difficult for them to anticipate their employees' needs, desires, and likely career directions. Career pathways systems can provide the structure that is vital for career progression, helping people develop competencies designed to increase employability while helping organizations develop employees strategically, build engagement, and improve retention. In our focus on the workplace, we underscore the need for more holistic, data-driven individual and organizational perspectives on career growth and success; we describe how a career pathways framework can contribute to these goals. We offer directions for future research to promote career growth and success for individuals, and to help employers create or strengthen career pathways systems that will reduce bias and enhance organizational performance by supporting the advancement of their employees.

Introduction

Major changes have been seen in the workplace during the last several decades that have transformed the nature of work in many organizations. In recent years, we have seen the globalization of numerous companies and industries, organizational downsizing and restructuring, greater use of information technology at work, changes in work contracts, and the use of various alternative work strategies and schedules. As a result, career pathways have also become more dynamic and variable. People must make career decisions within an increasingly uncertain organizational, societal, and global environment. The specific job and career movements of individuals have also become more difficult for the organization to anticipate, let alone control. In combination, these forces have changed the traditional career model, reducing its value as a universal standard for career growth. A dramatically different career landscape has emerged; the reality of today's organizational life is characterized by more dynamic and interactive models of career development.

Some (e.g., Briscoe, Hall, & DeMuth, 2006; Hall, 1996) have argued that the traditional career model is being replaced by a "protean" model in which people must take charge of their own career development. In the new model, employees must continually build new competencies that will enable them to adapt to the changing demands of the workplace across multiple types of work and organizations (Lawler & Finegold, 2000).

In a similar vein, Arthur & Rousseau (1996) introduced the notion of a "boundaryless career" to suggest that career opportunities extend beyond the boundary of a single employer (see also Arthur, Khapova, & Wilderom, 2005). It is now conventional for people to have multiple "careers," pursuing their career paths across many companies over their lifetimes. The new paradigm emphasizes transferrable skills and individual or shared responsibility for career management. Although an organization can provide resources and tools to support employees in developing their skills and abilities, depending on only one organization is no longer the sole option for employees. The trend is now to have a "career portfolio" (Dargham, 2010), whereby employees take greater responsibility for their professional growth to increase their marketability. This new organizational landscape warrants a closer examination of some of the individual and organizational factors that might support or hinder career development, career pathway growth, and career success.

For example, employees are increasingly required to manage multiple life roles—balancing work and nonwork responsibilities—yet researchers have rarely incorporated nonwork considerations systematically into the study of careers (see, for example, Darcy, McCarthy, Hill, & Grady, 2012; Greenhaus & Kossek, 2014; and Keeney, Boyd, Sinha, Westring, & Ryan, 2013). Because most employees are invested in a variety of nonwork domains, a new perspective is needed to consider how employees' work experiences affect—and are affected by—their lives outside of work.

Careers comprise patterns of work experiences that evolve over time; people typically advance through each successive career stop along this evolutionary path. For an employee, this often means knowing what skills and experiences will be needed to advance. Unfortunately, in many organizations, transparency is not always a hallmark of career progression models—many workers simply do not have information on what types of experiences will best prepare them for the next step or the multiple sets of steps needed to reach an ultimate career goal. This often disadvantages employees who may lack access to the informal networking opportunities needed to advance, including women, racial minorities, and other underrepresented groups (Catalyst, 2008).

Employees are increasingly deviating from the traditional career path that was characterized by long-term, full-time employment with one company. However, research is only beginning to address the types of alternative career paths that are now emerging, and which characteristics are related to the pursuit of traditional versus nontraditional paths. The focus of this research is to introduce a career pathways perspective as a framework for understanding and supporting career development, growth, and success.

Career Pathways

The concept of career pathways has existed for many years, historically referring to workplace career progression managed by the organization (Walker, 1980). During the last several years, career pathways have become increasingly popular in the discussion of the broader context of workforce and economic development (Sheely, 2014). This recent popularity is a result of the government's advocacy and funding in response to the US economic downturn a decade ago. For example, the American Recovery and Reinvestment Act (ARRA) of 2009 funded a series of initiatives, including a number of US Department of Labor ventures. Many of these initiatives were directed at investing in community college efforts to design career pathways frameworks requiring collaboration between the colleges, local employers, and publicly supported systems such as Workforce Development Boards to create tailored education and training programs (Jenkins, 2006; US Department of Labor, 2016).

In 2014, the federal government implemented the Workforce Innovation and Opportunity Act (WIOA), which pushes an integrated, job-driven, public workforce system that requires states and localities to collaborate with adult education, postsecondary education, and other partners. Additional related funding activities followed. For example, the White House's American Apprenticeship Initiative (White House, 2016), offers grant support to expand apprenticeship programs into high-growth occupations and industries; create career pathways that encompass apprenticeships and align with other postsecondary educational offerings; and increase apprenticeship opportunities for job seekers and workers—particularly for women and other underrepresented populations in apprenticeship, including young men and women of color, people with disabilities, low-skilled populations, and veterans.

More recently, 14 federal agencies released a joint "Dear Colleagues" letter underscoring widespread federal support and commitment to promoting a career pathways approach to assist youth and adults in acquiring marketable skills and credentials (Dear Colleagues, 2016). Within this broader workforce and economic development context, the strong push at the federal level helped to refocus attention on the concept of career pathways and, with the support of federal funding, promoted collaboration among employers, adult basic education, support service providers, occupational training, and postsecondary education programs.

Career Pathways in the Workplace

Historically, organizations envisioned career pathways as company-defined vertical career progression or career ladder systems—that is, a structured hierarchy of jobs consisting of a series of increasingly complex duties and responsibilities within a general occupational area, often with some accompanying "benchmarked timing" (i.e., a well-developed career stage and duration at each position) tied to each rung on the ladder. This career progression within an organization would continue until the individual left the company for another opportunity, reached a level at which no further promotional opportunities existed, or chose to decline subsequent promotional opportunities, and then retired or was terminated (Society for Human Resource Management, 2015). Today, career paths encompass varied forms of career movement, including the traditional vertical career ladders, dual career ladders (e.g., technical and managerial), horizontal career lattices, career progression outside the organization, and encore careers. Although the career pathways framework has had a diminished role in organizations over the last decade, a career pathways program makes sense for organizations as a way to support activities like succession planning for specific positions or a group of positions, talent acquisition and retention, and skills attainment and maintenance for employees.

Relatedly, historical approaches to career success were driven by similar beliefs that success was rationally and predictably determined, but this perspective has changed as well. A more current definition of career success suggests that it can be viewed in terms of the accomplishment of desired work-related outcomes by individuals at any point over the span of their lifetime (see, for example, Arthur et al., 2005; Ballout, 2007). People have varying career aspirations, and place different values on such factors as career

advancement, work roles, employment security, work location, and work–life balance—and the relative importance of these factors may change during the course of a career. Thus, workers are continually reinterpreting how they perceive the work experience and the career success they have had.

A person's career path can be defined as the sequence of work positions or roles that they hold over their lifetime (Walker, 1980). Consequently, career paths can take many different forms, and employees might pursue any number of available career pathways emanating from their current positions, depending on how well those paths align with individual career goals and the needs of the organization. Also, an individual's career path can and does change over the course of a career, and therefore, the defining characteristic of career paths and their use in organizations is the career movement of individuals over time (Cao & Thomas, 2013; Carter, Cook, & Dorsey, 2009). In this respect, then, an important emphasis within a career pathways framework is on career growth.

Career growth measures the degree to which a person perceives that their organization supports them in meeting their career-related needs, and if the organization reinforces their accomplishments through promotions and compensation (Weng, McElroy, Morrow, & Liu, 2010). Research has shown that employees who report more career growth opportunities are more committed to their employers and are less likely to leave and search for work elsewhere (Weng & McElroy, 2012). Critically, both the employee and the employer benefit when an organization offers tangible opportunities for career progression. Organizations can demonstrate support for employee development by providing programs and opportunities that help employees develop their functional skills and managerial capabilities, but this translates into lower attrition and improved performance only when employees perceive that the organization offers jobs or positions that match their career goals and interests. In fact, organizational support for development has been shown to relate to increased turnover intentions when perceived career opportunity in the organization is low (Kraimer, Seibert, Wayne, Liden, & Bravo, 2011). In other

words, if employees are provided with training and development opportunities and can envision a path to advancement within their organization, they will stay. Conversely, if they obtain new skills and abilities but perceive little chance to move ahead within their organization, they may look elsewhere.

From a talent management perspective, the goal is not necessarily to keep employees working for the same employer throughout their entire careers; the changing context of work has already shifted away from this model. However, if employees perceive formal, clearly defined opportunities for advancement, they will be motivated to work harder for the duration of their tenure, and will be more likely to stay with one organization longer. Organizational advantages include lower turnover rates—and, with a continually developing pipeline of talent, organizational performance will improve and companies will be better prepared to move well-trained employees into the positions of resigning employees.

According to a recent employment survey, lack of career opportunity is the primary reason employees say they leave an organization, whereas 5 years ago, unsatisfactory pay was the leading reason people quit (CEB, 2015). In fact, about 70 percent of those surveyed said they were dissatisfied with growth opportunities at their companies. In addition, a new survey from Korn Ferry Hay Group (2016), which examined forms of compensation beyond base salary, benefits, and bonuses, found that career development and training topped the list of human resources (HR) strategies that employers say they plan to emphasize this year.

A strong career development and progression system will recognize that careers are neither static nor developed in a vacuum. Workers' decisions about their career moves are determined by current skills and interests, as well as previous work histories and long-term plans for the future. Changes in organizations affect how individuals' careers unfold, and changes in employees' expectations may influence how organizations design and implement career development programs. A career pathways model provides a bridge or collaborative framework for the organization and the individual. Adopting

a career pathways framework can help guide the development of a person's competencies to increase their employability while helping organizations build talent strategically, maintain engagement, and improve retention. When organizations approach the use of employee career paths as a joint venture with the employees, employees receive the experience they seek to grow their careers while organizations build the capabilities needed for their businesses to thrive.

Where Do We Go from Here?

Although the career pathways framework has existed for decades, surprisingly little empirical literature is available that sheds light on its effectiveness as a structure and function for supporting career progression and talent management activities within organizations. Most career pathway models currently in use are either theoretical (e.g., Fein, 2012) or descriptive (e.g., National Association of Electrical Distributors, 2013; US Department of Labor, 2016). Both are useful, but neither provide a data-based perspective that can advance research and practice. Moreover, although considerable research continues and adds to our knowledge base on career development, few research studies have linked the interplay of these career-relevant variables in the workplace with career pathways progression and career success.

Our objective is to describe an empirically grounded framework that identifies the factors that facilitate and inhibit career development, growth, and success, within a career pathways system; and that describes the relationships that exist among factors. From both a research and operational perspective, it will be beneficial to understand how individual and organizational factors interact and influence career progression and talent management within a career pathways framework. In this work, we propose two complementary career pathways research streams, one that examines the pathway from the employee's perspective and one that examines the pathway from the employer's perspective.

First, to understand the employee perspective, we need to explore the attitudes and behaviors of employees related to factors such as career performance, career management, organizational

support, work–life balance, career growth and satisfaction, and views about career pathways. Focus should be placed on how these views differ across industries, which we believe will enable us to better understand and study differences in career paths and career path perspectives.

To understand the employer perspective, research should also gather data from HR managers about views on the usefulness of career pathways systems, and their organization's approaches to using career pathways systems to guide career development and talent management. Although we speculate that a career pathways framework is used by some organizations in a variety of industries, little data exists to confirm this general belief. Consequently, it will be important to identify similarities and differences across industries regarding their adoption of career pathways systems, to gain insight into how these systems are used and to understand additional perspectives on their usefulness as a framework for a variety of HR management functions.

To move the field forward, we hope to stimulate a new and heightened focus on career pathways to support and guide career development. Our objective is to focus attention on how individuals and organizations rely on career pathways in the workplace to guide and support career development and career progression. In so doing, the paper underscores the importance of using a career pathways perspective to support people's progression through their career lives, recognizing that career pathways frameworks are as important for incumbent workers as for workers just entering the workforce, and are still relevant near the end of a person's formal career and beyond, when employees make decisions about their lives in retirement (Wang, Zhan, Liu, & Shultz, 2008). Creating a more holistic, data-driven perspective on career progression—for individuals, organizations, and the workforce development community—increases the likelihood that sound, equitable, and beneficial decisions will be made by both employee and employer at all levels of the career pathways framework.

A Comprehensive Employee-Focused Model of Career Development

As mentioned earlier, a great deal of research has been done on the factors that affect the individual's career development, but this work has been fragmented, and often focused more narrowly on special topics. For example, Weng and McElroy (2012) tested a model of career growth, examining the relationships between career growth, occupational commitment, and turnover intentions. De Vos, De Hauw, and Van der Heijden (2011) examined the relationship between employability, competency development, and career success. Zikic and Klehe (2006) tested a model of job loss, examining variables such as adaptability, career planning, social support, career exploration, and job loss. Day and Allen (2004) tested a mentorship model, examining the relationship between career motivation and self-efficacy with protégé career success. However, few known studies have combined the broad set of factors that the literature suggests are related to career growth and success. In addition, no

model incorporating a career pathways component has been proposed and tested.

Here, we provide the foundation for developing and testing a model that captures the links between key career constructs. Figure 1 depicts a working model of our proposed employee-centered career development and pathways framework, which illustrates how individual career-related factors, organizational factors, work–life factors, and career pathways factors interact to impact both career growth and career success. In particular, employees' ability to manage their careers is influenced not only by perceptions and behaviors associated with career performance, but also by organizational factors, such as whether they perceive the organization supports their career development, and the interplay of work and nonwork factors in their lives. These factors, in combination with the characteristics of the organization's career pathways system, influence career growth and success. Below, we list key aspects of career pathways programs that we expect to

Figure 1. An employee-focused career pathways model
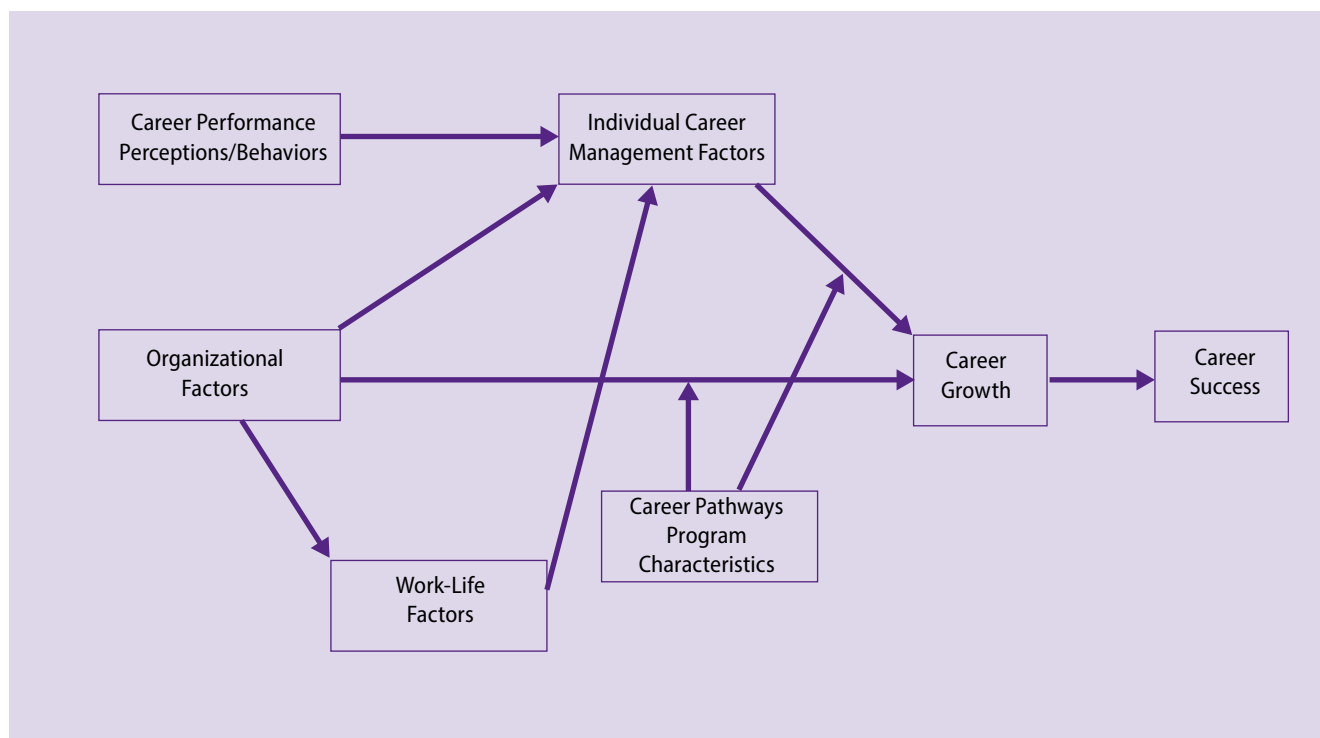
have the greatest influence on employees' career development. Such programs should:

- Require that clear criteria for advancement are developed and communicated to employees
- Inform training and development offerings
- Emphasize a collaborative employee–employer approach
- Undergo continual evaluation
- Take into account the employee's nonwork demands

We anticipate that these career pathways program characteristics will play a critical role in translating positive organizational characteristics and individual career management factors into tangible career growth experiences. Specifically, we expect the key aspects of career pathways programs noted above to moderate the relationship between positive organizational characteristics and career growth, as well as the relationship between individual career management factors and career growth. In other words, when an effective career pathways structure is in place to guide the career growth process, positive organizational factors, such as supervisor support, and individual career management strategies, such as career planning, will improve career growth for workers.

Testing the Proposed Employee-Focused Model

To test the individual-level model, data collection efforts should focus on gathering quantitative survey data on the attitudes and experiences of employees. The first step is to develop and validate a scale to measure employees' experiences of, and perspectives on, career pathways programs within their organizations. This will help determine how career pathways fit into a broader, comprehensive framework of career development in the workplace. In Appendix A, we present a number of constructs associated with the factors depicted in Figure 1 that would be useful to measure to test our proposed model. This is not an exhaustive list; however, these constructs provide a good starting point because research has demonstrated their impact on people's careers.

For example, one construct included within the *Career performance perceptions/behaviors* category is perceived employability, which refers to one's perception of their ability to function successfully in a role and be able to move between occupations, thus remaining employable throughout a lifetime. De Vos et al. (2011) describe employability as the "continuous fulfilling, acquiring or creating of work through the optimal use of competencies" (p. 439). These competencies include not only the individual's set of knowledge, skills, and abilities needed to adequately perform job tasks and successfully execute job-related responsibilities, but also those required for adapting to changes in the internal and external labor market. An individual's employability is achieved and strengthened by acquiring the competencies valued by current and future employers, and thus embodies an individual's career potential. In the current career environment, researchers suggest that employability is a critical condition for career success (Fugate, Kinicki, & Ashforth, 2004; Hall, 2004; van der Heijde & van der Heijden, 2006); hence, employability should be measured in our comprehensive career development model.

Appendix A also lists organizational factors that have been shown to affect career development, such as person–organization fit, which plays a role in determining who joins particular organizations, as well as who decides to stay. Meta-analytic research has shown that job applicants' perceptions of person–organization fit predict their attraction to organizations as well as their job pursuit intentions. Perceived person–organization fit is also related to hiring intentions on the part of employers. Employees' fit perceptions are also related to organizational commitment, intentions to quit, and actual turnover (Kristof-Brown, Zimmerman, Johnson, 2005).

Work-life factors are also defined in Appendix A. These factors include work–life balance, work–life conflict, and work–life enrichment. Research has shown that both work and nonwork factors impact employees' career decisions. Individual career management strategies (e.g., career insight, career planning) and constructs related to career growth and career satisfaction (e.g., career goal progress, career

advancement satisfaction) are also included. Future studies will need to collect data from employees in a wide variety of industries, job types, and job levels to understand which aspects of career development are more universal and which are more specific to a given context. Moreover, focus on a demographically diverse employee population will be essential to help understand the reasons for divergent experiences of employees based on age, gender, and other demographic characteristics.

A Comprehensive Employer-Focused Model of Career Development

We view successful career pathways in the workplace as a joint venture between employees and their employers. Therefore, it is important to measure organization-level policies and practices that affect workers' career trajectories. Our employer career pathways model, shown in Figure 2, broadly depicts the potential interplay between a number of talent

management systems and a career pathways system in the workplace. In particular, the model suggests that job analyses and competency modeling activities help define the job requirement parameters for both the recruiting/selection function and the delineation of career paths, while the presence of a career pathways system in an organization may, in turn, influence recruitment success. Once career paths have been identified, they provide structure for detailing the education, training, and experience components that drive success at each career path position. Together, these factors influence employee attitudes about their jobs and their organizational commitment, as well as subsequent individual and organizational performance.

The model also depicts feedback loops to support evaluation, revision, and improvement at both the individual and organizational levels. Evaluation must focus not only on the training and development

Figure 2. An employer-focused career pathways model
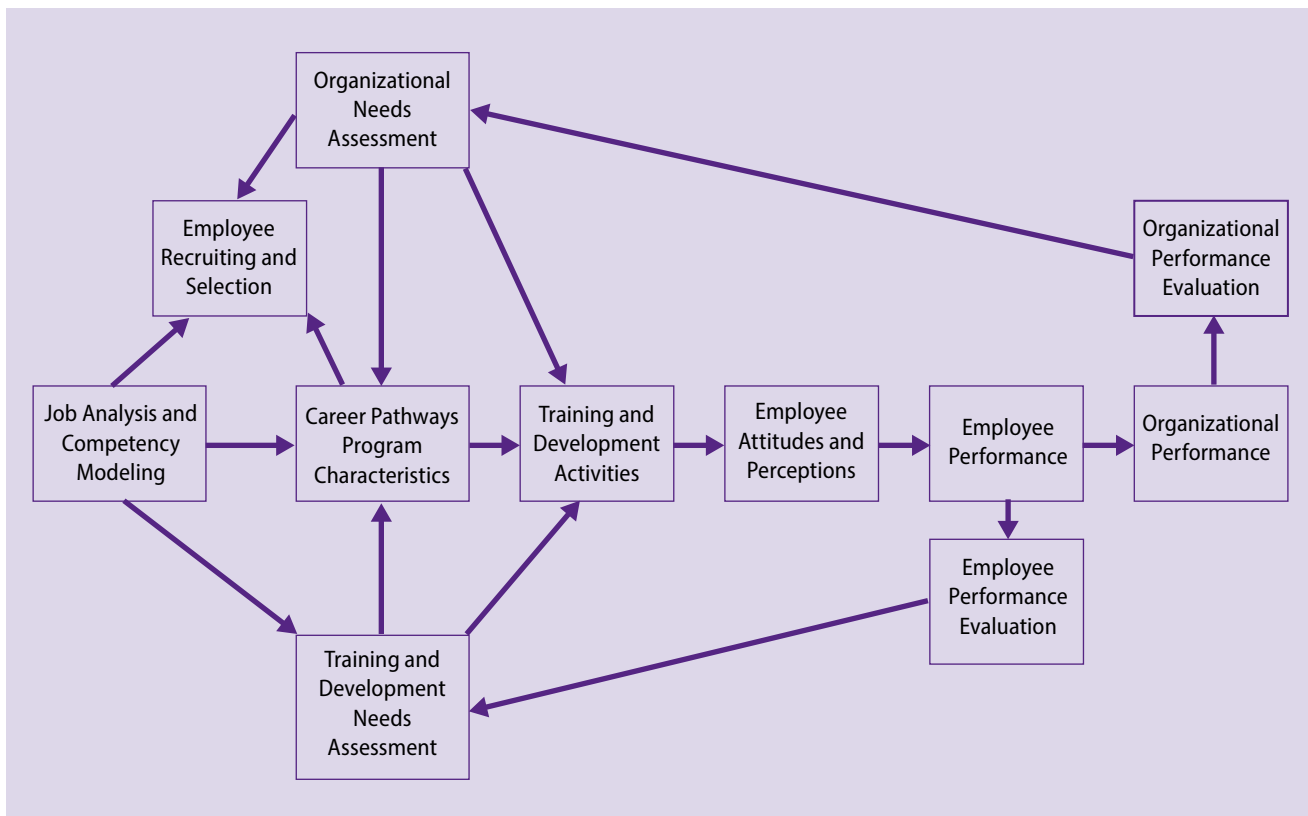
and needs assessment processes, but also on the characteristics of the career pathways system. In the employer-focused model, the aspects of career pathways programs expected to affect employee and organizational development and performance are the same as in the individual-level model: clear criteria for advancement; the use of career pathways for informing training and development; collaboration between employee and employer; program evaluation; and consideration of nonwork demands.

Testing the Proposed Employer-Focused Model

Testing the employer-focused model will require gathering data from the employer's perspective—specifically, from the manager and/or HR staff. Quantitative data should be collected to gain insight into employers' use of formal career pathways systems and their views on the system's links to talent acquisition, development, and retention. Barriers to career pathways program implementation and evaluation should also be measured, including the level of knowledge about how to implement an effective career pathways program in the workplace. Understanding the challenges faced by employers with regard to implementing a structured, transparent career pathways program will help inform the development of training materials and tools to address these needs.

Appendix B presents a listing of constructs and HR functions that will be important to examine to understand how organizational policies and practices influence one another as well as individual and organizational performance. We propose that the most effective career pathways programs will be informed by job analysis and competency modeling, as well as needs assessments at both the individual and organizational level that result from employee performance appraisals and organizational performance evaluations. In our proposed model, we show that these HR activities will inform, and be informed by, employee attitudes and perceptions, as well as employee performance. As detailed in Appendix B, attitudes and perceptions that will be important to measure include job satisfaction, organizational commitment, and turnover intentions.

We also recommend measuring multiple dimensions of performance, including task performance—the technical aspects of a person's job—as well as contextual performance, which contributes to the social and psychological core of the organization. As with the employee-focused model, data should be collected from employers representing a variety of industries to gain insight into how career pathways programs can best be implemented and developed in a wide variety of settings.

Practical Implications

Scientific Impact

Linear talent "pipelines" no longer reflect reality for most employees and employers today. Rather, a career pathways approach is needed—one that acknowledges the diversity of employees' educational and employment trajectories as well as the changing needs of employers. Yet, empirical research has not kept pace with this changing context of work—it has not adequately examined the effectiveness of career pathways systems in supporting career progression and talent management activities. Research is needed to better understand the current role of formal career pathways programs in organizations, as well as how successful programs are executed and evaluated. Studies to empirically test our two proposed models will form the building blocks for a data-driven approach to improving career development practices by establishing and improving career pathways systems.

The field needs an empirically based, comprehensive model of career pathways that accounts for the diversity of factors affecting career trajectories. By testing our proposed models, researchers can better understand how individual-level and organization-level career-relevant variables are related to one another and to career growth and career success. Further, this work will serve to synthesize the existing career development literature by showing not only how various career-related attitudes and behaviors interrelate, but also which are most predictive of the key career-related outcomes that demonstrate individual and organizational success.

Employee-focused career pathways research will demonstrate which factors facilitate and inhibit employees' career development. For example, data may show that certain career-related behaviors (for example, career exploration or career planning) are more strongly related to career growth and satisfaction than others. This information will not only inform future research, but also identify steps employees can take to maximize their career growth opportunities. In employer-focused research, data can show how career pathways systems relate to important HR functions as well as outcomes such as employee job satisfaction and turnover intentions.

Societal Impact

The overarching goal of the proposed research is to increase the transparency of career pathways processes, with a focus on the factors that allow employees to reach their career goals and enable employers to attract, develop, and retain the best talent. Understanding how to prepare people for job success throughout the lifespan will not only lead to better outcomes for them, but will also increase the capacity of organizations that know how to harness and develop that talent to improve organizational performance. This work supports a more globally competitive business landscape, especially in today's dynamic and rapidly changing marketplace.

This research is also intended to generate knowledge that can be used to increase the proportion of women and underrepresented minorities in fields in which they are currently underrepresented, such as STEM (Science, Technology, Engineering, and Mathematics) fields, as well as in leadership roles across industry sectors. It has long been thought that the gender and racial gaps in business success are attributable to differences in qualifications and goals. According to this tenet, if women and minorities had the right education, training, work experience, and aspirations, they would be able to advance at the same rates as others. However, research has shown that this reasoning is flawed. For example, a study by Catalyst (2010) showed that even with equivalent education, training, work experience, and aspirations, women start their postgraduate careers at lower levels than men and advance at slower rates. This holds true even when examining only men and women who aspire

to the chief executive officer/senior executive level, and only men and women who do not have children, countering the popular misconception that women's progress is thwarted only because of their focus on family rather than career.

Because of the lack of diversity at the top of many organizations, women and other underrepresented groups often lack access to the informal networks that provide important information about what is required to get ahead (Catalyst, 2004; Catalyst, 2006). Older workers also face challenges related to advancement; they can be overlooked in hiring and promotion. Interestingly, research has shown that perceived age discrimination is related to lower levels of employee engagement among workers of all ages (James, McKechnie, Swanberg, & Besen, 2013). Formalized career pathways programs leave less room for discrimination (as well as unconscious biases) in performance management decisions, potentially improving both individual employee outcomes and aggregate employee attitudes that can lead to enhanced organizational performance.

Increasing the transparency of the processes involved in determining one's career trajectory can help level the playing field for employees all across the demographic spectrum. We anticipate that testing our proposed models will support a line of research that will increase access to opportunities and promote career growth and success. Testing is also expected to enhance the employers' knowledge about how to implement career pathways systems that will reduce bias and enhance organizational performance by supporting the growth and development of all employees.

Conclusions

The workplace has changed dramatically during the last several decades, and changes continue today. These transformations have reduced the universality of the traditional career model; instead, a very different career landscape has evolved. Career pathways can provide some much-needed structure for career development and progression for the individual and organization and, if done effectively, can reflect the needs of both employers and

employees. Career development enables companies and employees to determine the appropriate career pathways and navigate them together. When organizations approach employee career paths as joint ventures with their employees, both parties benefit: Employees receive the support they seek to grow their careers, and organizations build the capabilities needed for business success. Our objective with this research paper has been to encourage new perspectives on workplace career pathways—one that links a career pathways framework to an improved understanding of the factors that facilitate and inhibit career development, and one that includes individual, organizational, and workforce development perspectives.

Our goal is to provide both a foundation and stimulus for additional research on career pathways. Increasing the transparency of the processes involved in determining one's career trajectory can increase access to opportunities for all employees, regardless of age, race, gender, and other demographic variables. We believe that advances in research and development in this field will strengthen access to opportunities and promote career growth and success for workers. At the same time, it will help employers implement or strengthen career pathways systems that will simultaneously reduce bias and enhance organizational performance by supporting the growth and development of their employees.

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Appendix A. Proposed Constructs for Testing the Employee-Level Career Development Model

Construct Category	Construct	Brief Definition
Career performance perceptions/ behaviors	Career self-efficacy	Beliefs about one's ability to carry out the activities and engage in the behaviors necessary to succeed in one's career
	Perceived employability	A person's perception of having the ability to function successfully in a role and move between occupations during their lifetime
	Proactive personality	A person's proclivity to engage in active role orientations, such as initiating change and influencing their environment
	Career adaptability	A person's ability to construct their career, including a readiness to cope with both predictable and unpredictable work conditions
Organizational factors	Supervisor support	Degree to which supervisors are perceived as supportive and helpful in job-related matters
	Perceived organizational support	Employees' general belief that their work organization values their contributions and cares about their well-being
	Person/organization fit	Similarity between the individual and the organization on aspects such as work climate, values, and goals
	Age diversity climate	Employees' collective impression that their organization favors an age-diverse workforce
Work–life factors	Work–life balance	Employees' perception that multiple domains of personal time, family care, and work are maintained and integrated well
	Work–life conflict	A form of inter-role conflict that results from incompatible demands between work and nonwork roles
	Work–life enrichment	Extent to which the experiences in one role improve the quality of life in another role
Individual career management strategies	Career insight	Extent to which employees hold realistic perceptions of themselves and their organizations
	Career commitment	A person's attitude toward their profession or vocation
	Career planning	A person's effort to outline future career development, and to set and pursue career goals
	Career exploration	Engagement in career development behaviors related to both career self-exploration and environmental exploration
Career growth	Career goal progress	Extent to which one's current job allows an employee to realize career goals
	Professional ability development	Extent to which one's current job allows for the development of new knowledge and skills
	Promotion speed	The perceived speed with which one can advance in one's current company, versus previous jobs and in comparison to peers
	Remuneration growth	Speed of compensation increase in current company
Career success	Subjective career success (career satisfaction)	General satisfaction with career status; satisfaction with present job
	Objective career success	Career progress measured with observable indicators such as salary or number of promotions

Appendix B. Proposed Constructs for Testing the Employer-Level Career Development Model

Construct/HR Function Category	Construct	Brief Definition
Job analysis and competency modeling	Job analysis	A purposeful, systematic process for collecting information on the important work-related aspects of a job
	Competency modeling	Identifying core competencies required for performance across some or all jobs in an organization
Employee recruiting and selection	Recruiting	Actions organizations take to generate applicant pools, maintain viable applicants, and encourage desired candidates to join those organizations
	Selection	Process of evaluating candidates for a specific job and selecting individuals for employment based on certain criteria
Organizational needs assessment	Needs assessment methods	Procedures for collecting needs assessment information, including focus groups, surveys, observations, organizational records, public information
Training needs assessment	Training needs assessment components	Include organizational analysis (e.g., training climate, available resources), requirements analysis, task and knowledge, skills, and abilities (KSA) analysis, person analysis, instructional objectives
Performance appraisals	Performance appraisal purposes, characteristics	Systematic description of job-relevant strengths and weaknesses within and between employees or groups
Organizational performance	Financial indicators	Margins, growth, market share
	Workforce attitudes/behaviors	Turnover intentions, turnover, employee satisfaction
Organizational performance evaluation	Organizational performance evaluation purposes, characteristics	Systematic evaluation of organizational strengths and weaknesses
Training and development activities	Formal training	Planned and systematic activities designed to promote the acquisition of knowledge, skills, and attitudes
	On-the-job training	Training that takes place in the normal work situation rather than in a formal learning environment
	Continuing education	Education provided for adults after they have left the formal education system, consisting typically of short or part-time courses
	Mentorship & sponsorship	Relationship in which a more experienced or more knowledgeable person helps to guide a less experienced or less knowledgeable person; a relationship in which a (usually higher-level) person advocates for and increases the visibility of another employee
	Succession planning	Process for identifying and developing new leaders who can fill the positions of outgoing leaders

Appendix B. Proposed Constructs for Testing the Employer-Level Career Development Model (continued)

Construct/HR Function Category	Construct	Brief Definition
Employee attitudes and perceptions	Perceived organizational support	Employees' general belief that their work organization values their contributions and cares about their well-being
	Turnover intentions	Employees' attitudes and/or behavioral intentions about leaving their current positions
Employee performance	Task performance	Effectiveness with which job incumbents perform activities that contribute to the organization's technical core
	Contextual performance/organizational citizenship behaviors (OCBs)	Activities that contribute to the social and psychological core of the organization; behavior that (1) goes beyond the basic requirements of the job, (2) is to a large extent discretionary, and (3) is of benefit to the organization