

Learning Accelerator Research Paper

The Future of Workforce Readiness: Research, Policy, and Practice

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2017

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(DOI:10.1093/acprof:oso/9780199373222.001.0001)



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The Future of Workforce Readiness Research, Policy, and Practice

The Building Better Student Conference was held in Washington, D.C. from December 8-10, 2010, with the following explicit aim:

A focused dialogue among the nation's college and workforce readiness researchers, policymakers and educators with the specific goal of finding ways to create an educational system that “builds better students” (Building Better Students, 2010, see <http://www.ets.org/c/15481/index.html>).

As the conference and its various follow-up activities (including securing a book contract) unfolded, we began to realize this aim needed sharper focus. All too often this lofty ambition had drawn past researchers and policymakers to consider mainly the preparation of high school students for college. Two logic-based factors drove our focus towards preparation for the workforce, rather than higher education. First, there is a meager amount of books (or scientific articles for that matter) distilling research, theory, and practice on workforce readiness relative to college readiness. This book could thus serve as a catalyst for greater focus in this domain. Second, as former college educators, now working in industry, each of the editorial team was attuned to how a focus on academic readiness could be a slight even on the most talented professor, who all too often was enamored with the small minority of their undergraduate students who might go on to evangelize their professor’s chosen topic of academic interest. For even in college, the end goal should be workforce readiness (in addition to cultivating intellectual curiosity). And to salve our damaged conscience we wished to make workforce readiness the major focus of this book.

The journey to disseminate the results of all of these activities has been lengthy and circuitous, but as the organizers of this conference and the editors of the book, each of us has worked to sustain this conversation across many channels of communication. Whether through scientific conferences, policy summits, or business gatherings; we have cultivated and maintained the relationships forged in that conference in service of that overarching goal: a cross-disciplinary dialogue, based on a strong research foundation, to define a model of workforce readiness that builds better workers. By drawing from the expertise of the speakers and contributors to that conference, and over the course of 15 chapters and commentaries; this book has assembled a diverse array of experts in the fields of education, psychology, and economics to answer the burning question emanating from the conference and its aftermath: what builds workforce readiness?

In this concluding chapter, we synthesize the emerging themes across chapters to arrive at an operational framework for understanding, measuring, and impacting workforce readiness. Next, we look to the future of workforce readiness research by examining the global trends that will influence readiness over time – examining the impact on workforce *research* across academic disciplines, workforce *practice* in the field, and ways that both labor and educational *policy* might variously address these concerns. Finally, we integrate the themes and models presented throughout and propose a path forward by identifying areas where more research is needed or more public policy might be warranted.

Operational Framework of Workforce Readiness

Before reviewing the various definitions of workforce readiness proposed throughout this volume, it is useful to engage in an exercise to demonstrate the effect that specific terms -- meanings, uses, and adoption rates --- have across fields. Given that many of the authors and editors of this book come from the discipline of industrial and organizational psychology, a field

that is nominally dedicated to the study of the workforce, it might be useful to examine how “workforce readiness” as a term appears within this literature.

If you browse the APA Handbook of Industrial and Organizational Psychology, the premier reference source of the field, you will see in Volume 2 (Selecting and Developing Members for the Organization, which is mostly closely related to the focus of our book) chapters with titles such as “Individual Differences: Their Measurement and Validity,” “Personality and Its Assessment in Organizations: Theoretical and Empirical Developments,” “Training and Employee Development for Improved Performance,” and “Organizational Socialization: The Effective Onboarding of New Employees”. (For the interested reader, Table 1 provides a complete listing of chapter titles from this volume). What you will not see is a chapter or chapter heading referring to “Workforce Readiness,” a term that is frequently referenced in the fields of education and policy, and a term that is the central topic of the current book.

Is bemoaning the lack of “workforce readiness” in the I/O handbook just pedantic quibbling? Or is there something to the idea that the lack of common language and terminology between fields contributes to a gap, a lack of clarity in cross-disciplinary goals, and a loss of collaboration that draws from work that may have already been accomplished? Kyllonen (Chapter 5) identifies this “Tower of Babel” effect, where terminology shifts are said to inhibit the goals of progress. What can be done to get the disciplines of education, educational psychology, organizational psychology, public policy, and business to talk to one another? Our book is an attempt to bridge at least some of these gaps, where I/O psychologists can begin to think about how students learn, and educational researchers can begin to think about employer selection and high performers.

Each of the chapters in this book have grappled with the question of how to define workforce readiness in one way or another, whether through proposing specific models, focusing on specific aspects of a particular contributor, or summarizing existing definitions. The terms that are used vary: 21st century skills, workforce readiness KSAs (Knowledge, Skills and Abilities), noncognitive skills, interpersonal and intrapersonal skills, foundational workplace competencies, even non-academic skills as suggested by the recent Every Student Succeeds Act of the U.S. congress. But the themes that emerge point to a clear organizing framework and model.

Clark (Chapter 11) in particular reviews differing frameworks for organizing foundational academic and workplace competencies and defines work readiness narrowly as “the level of foundational skills an individual needs to be minimally qualified for a specific occupation/job as determined through an occupational profile or job analysis.” Her proposed model differentiates between competencies and skills, as well as college, career, and work readiness. Whether or not readers buy into such a complex model, with its plethora of constructs, is something already questioned by Murano and Roberts (Chapter 14). And yet for the sheer breadth of its reach, the point does need mentioning again.

Sackett and Walmsley (Chapter 2) are the most explicit in their attempt to review and synthesize definitions of workforce readiness into an arguably more manageable cluster. The authors review several prominent definitions of workforce readiness, including the ACT model described by Clark (Chapter 11) and numerous others. Sackett and Walmsley (Chapter 2) note the following differences across workforce readiness models, including the degree of emphasis on cognitive and noncognitive attributes, occupation specificity, individual vs. aggregate level distinctions, and the target outcome of preparedness. The conclusion from these findings is simple and obvious, almost to the point of tautology: differing approaches of examining

workforce readiness will yield differing definitions of workforce readiness, and thus, differing ways to evaluate success in building workforce readiness models and interventions. In this way, Sackett and Walmsley and Clark agree; the level of analysis (i.e., the individual worker or student vs. the aggregate school or workplace) can lead to differing conclusions about workforce readiness and the best way to improve it. The authors conclude their review by discussing a broad taxonomy first developed by an expert panel commissioned by the National Research Council (Pellegrino & Hilton, 2010) that categorizes the workforce readiness models into three overarching domains: interpersonal skills (e.g., communication, teamwork, cross-cultural competence), intrapersonal skills (e.g., time management, adaptability, conscientiousness), and cognitive skills (e.g., critical thinking, creativity, problem-solving). The five dimensions associated with readiness and success for middle-skills jobs identified by Golubovich et al. (Chapter 13) largely align with this model: (1) Critical Thinking and Complex Problem Solving, (2) Oral and Written Communication, (3) Intrapersonal and Interpersonal Skills, (4) Achievement and Innovation, and (5) Detail Orientation. Su and Nye (Chapter 8) introduce interests to the conversation as an important individual difference associated with good job performance, and Roberts and Hill (Chapter 9) drill down into conscientiousness as a “spectrum of constructs” that are key to workforce success. Clark, Double, and MacCann (Chapter 10) in the course of reviewing this series of key indicators of workforce readiness, hone in on the need to develop tools and training programs to foster both interests and skills. The conclusion across all chapters aligns with the insights provided by Schmitt (Chapter 12) on the need to expand the domain of workforce success to accommodate non-cognitive measures.

Given the thrust of the research presented and the commonality of the terms that appear throughout this book, we can conclude that the broad taxonomy presented by Sackett and Walmsley is clear and of use for the following reasons. As the authors note, it is a model derived from multiple methods, multiple disciplines, and multiple sources. In addition, it extends the attributes of workforce readiness beyond the knowledge and skills typically identified by schools, while also meeting the needs of employers who repeatedly say they seek a broader set of competencies. It is also a model that is flexible in addressing needs at both the individual and aggregate level. In this way, this taxonomy can serve as a unified model that can be of use to stakeholders in schools, the workplace, and the government – each of which may be tasked with solving discrete problems around issues of workforce readiness. The suggested taxonomy in this chapter of interpersonal skills, intrapersonal skills, and cognitive skills should speak to these multiple audiences in a way that clarifies our thinking in the field, and results in practical applications to address the issues involved. We believe, however, that a slight modification of the model would make it even more useful. We propose that cognitive skills be split into: 1) cognitive skills, which include the “traditional” cognitive skills of general mental ability and job-specific/subject-specific knowledge and, 2) cross-cutting cognitive skills, which consist of what might be considered general “thinking skills” such as creativity and critical thinking that are useful across multiple domains (“cut across” multiple domains), although we concede the fact that general mental ability is clearly also “cross-cutting” (in a theoretical, rather than a substantively meaningful manner. And this framework is not without precedent, sharing a number of similarities with a holistic framework of student success recently developed by ACT (Camara, O’Connor, Mattern, & Hanson, 2015).

Table 2 fits most of the skills discussed in this book’s chapters into the resulting four-part framework. Clark’s chapter is not included in the table because that thesis introduces several

frameworks that do not fit so easily. There are a few points to note from a closer examination of this Table.

- It is clear that some skills received more attention than others in this book. This may indicate that these skills may be worthy of emphasized research attention in the future. Cross-cultural competence and ethics appeared to be the two most mentioned skills.
- Many skills could be placed into multiple parts of our four-part framework. For example, cross-cultural competence has both interpersonal (e.g., perspective taking) and intrapersonal (e.g., stress management) aspects. For skills such as these, we placed the skill into the category we felt most appropriate.
- Many skills overlap. One of the most obvious examples of this has to do with the Big Five personality traits. For instance, agreeableness is listed as an interpersonal skill in the framework. However, teamwork is also listed as an interpersonal skill in the framework. Clearly, agreeableness is an important determining factor in how well one works in teams. This issue also applies to general mental ability and skills such as critical thinking/problem-solving. We thus created sub-categories to account for this overlap. This left us with a final framework that includes four higher order skills with eleven lower-order skills in total. These are:
 - Cognitive: Job knowledge/General Knowledge; General Mental Ability
 - Cross-Cutting Cognitive: Creativity/Innovation; Critical Thinking/Problem Solving; Judgment
 - Interpersonal: Cross-Cultural Competence/Multicultural Appreciation; Ethics/Integrity; Working with Others
 - Intrapersonal: General Motivation; Context-Specific Motivation; Stress Management/Adaptability
- Alternate models can be created by taking into account these lower-order skills. We present one such model in Figure 1, which represents workforce readiness as a function of general mental ability and personality. General mental ability is presented as the higher-order factor feeding into the cognitive and cross-cutting cognitive skills, and personality is presented as the higher-order factor feeding into the interpersonal and intrapersonal skills. Furthermore, we acknowledge that motivation is an important factor in creativity and the formation of knowledge, in that those who are more motivated will spend more time thinking of creative ideas and studying to create knowledge (a hypothesis that is entirely consistent with the principles of reciprocal determinism). This model is necessarily an oversimplification of reality, but it does represent one parsimonious, and possibly testable, way to model workforce readiness.

Figure 2 represents a theoretical model of the interplay between technological forces and the relative importance of cognitive, cross-cutting cognitive, interpersonal, and intrapersonal skills on workplace outcomes. Contributing to this model are the major forces outlined by Burrus et al. (Chapter 1) and Whorton et al. (Chapter 3), particularly forces of technology and international (globalization) issues. On the bottom half of the figure, technology is shown to act as a lever that elevates the importance of the different skills, while globalization similarly influences the salience of all three factors. In short, a four-factor model of interpersonal, intrapersonal, cognitive, and cross-cutting skills is broad and inclusive enough to incorporate the individual concepts and models of workforce readiness proposed in each of the chapters in this book. Having synthesized a scientific model of workforce readiness, given this model, as

researchers, where do we go from here? What does the future hold for workforce research? And how does this research in turn feed into issues of public policy? We aim to answer these questions in the next section.

Policy Implication of Future Global Megatrends

The organizational firm PWC, formerly known as PricewaterhouseCoopers, identified five global megatrends of paramount influence for the future of the global workforce: 1) Demographic and Social Change, 2) Shifts to Emerging Economies, 3) Urbanization, 4) Climate Change and Resource Scarcity and 5) Technological Breakthroughs. Similarly, Whorton et al. (Chapter 3) describe technology, customer service, and globalization as overarching economic forces that disrupt the 21st century workplace. Burrus et al. (Chapter 1) present a simple model outlining the factors leading to shifting skills of workforce readiness, describing how innovations in technology have led to shifts in work activities, the job market, and the skills required to survive this shifting job market. Other chapters in the book underscore the challenges and opportunities of diversity (Lester, Kravitz, & Klein, Chapter 6) cross cultural competence (Klafehn, Chapter 4), and the “boundaryless” (Chernyshenko, Chan, Hoon-Ho, Uy, & Loo, Chapter 7) 21st century workplace as factors that will influence the future.

How these commonly identified megatrends play out in the world of policy depends arguably on whether one sees the glass as half full or half empty. The pessimistic take on the need to improve workforce readiness is a prominent one. The reader can look back to 1983 to see one of the more seminal examples: *A Nation at Risk: The Imperative for Educational Reform* from the Gardner Commission appointed by the administration of President Ronald Reagan (National Commission on Excellence in Education, 1983). The thesis of the report was that earning a high school diploma did not translate to a certain level of proficiency as many high school graduates lacked the knowledge and skills necessary to perform college level work. The same themes reoccur in the more recent *America's Perfect Storm: Three Forces Changing Our Nation's Future*, a report produced in 2007 from the Educational Testing Service's Policy Information Center (Kirsch, Braun, Yamamoto, & Sum, 2007). The report stated that the lack of literacy and numeracy skills in the U.S. adult population, changes in the structure of the U.S. economy, and demographic shifts in the U.S. were three “forces” putting America's economic future at risk. The commonalities in both these cases is the use of alarmism, but is this kind of heightened tension, produced for decade after decade, really the best way to lead to change? Politicians and social psychologists might have much to say on the topic of pessimistic alarmism as a clarion call to action, but we propose that there is an opportunity to define a program of research and action around workforce readiness framed in a positive way. Technological breakthroughs and the “boundaryless” global workplace need not be seen as job-killing agents of economic destruction; rather, that the possibility exists to frame workforce readiness as an opportunity for change, improvement, and adaptability. The proposed integrative model of workforce readiness can lead to such change by identifying the areas that can be targeted for improvement, whether cognitive, cross-cutting cognitive, interpersonal, or intrapersonal, across individuals or at the aggregate level. The future of workforce research will revolve around implementing programs of change around these areas, and it is along these lines that we can now examine the challenges associated with this kind of implementation in a particular illustrative use case.

The Future of Workforce Readiness in Policy and Practice

One particular implementation of workforce research in practice involves the recent popularity of an intrapersonal skill called “grit,” which refers to a “perseverance or passion for

long term goals” (Duckworth, 2007). In an editorial for the New York Times (Duckworth, 2016, see <http://www.nytimes.com/2016/03/27/opinion/sunday/dont-grade-schools-on-grit.html>), Angela Duckworth, the psychologist most famous for popularizing this concept, argues against the assessment of this skill at schools despite the ability of this intrapersonal skill to predict success after school and in the workplace. The catalyst for this argument comes from the decision of nine California school districts to make use of assessments of grit as part of school accountability metrics. Duckworth argues that even though intrapersonal skills like grit matter for workforce readiness and are able to be developed, these skills should nevertheless never be considered a part of student or school performance metrics.

If punitive accountability measures are an albatross preventing the full adoption of workforce readiness skills into school curricula, Duckworth’s reticence is a key example of the challenges faced in applying workforce readiness research into practice. In a rejoinder to Duckworth’s editorial, Martin and Burrus (2016, see <http://gettingsmart.com/2016/04/schools-really-can-and-should-measure-noncognitive-skills/>) argue that although the specific methods of measuring grit discussed by the California districts have limitations, there are other methods of capturing intrapersonal skills, including multi-method measures with acceptable reliability and compelling validity evidence, that can address these limitations. The exchange illustrates the difficulties of translating the undeniable value of workforce readiness research into practice, gaining buy-in from schools, and ultimately the workforce. Questions in this area remain. Is the reluctance for implementation simply an issue with schools as opposed to employers? Is there a way to make use of measures in a non-punitive manner that still meets the goal of preparing graduating students for the workforce? Can the conversation be reframed toward this kind of development? The future of workforce readiness research in the field lies in grappling with these issues. And while hard issues, these seem not to have stopped cognitive assessment from playing a prominent role in global educational policy and practice.

Another research stream that must undoubtedly receive attention in the future is the effectiveness and development of interventions. Given that the title of the book refers to “building” better students, research presented throughout the volume has sought to extend the conversation on how to best develop workforce readiness skills. Klafehn (Chapter 4) notes the ineffectiveness of many current cross cultural training interventions in the workplace (cf. however, Morris, Savani, & Roberts, 2014), while Whorton et al. (Chapter 3) note the ineffectiveness of current interventions for critical thinking. Lester et al. (Chapter 6) note principles for interventions that effectively reduce prejudice and prepare students for diverse workplaces. Elsewhere, Kyllonen et al. (2008) review a body of literature that has focused on training interventions to change or improve the five factors of personality, from openness, (whether critical thinking or cross cultural competence), to conscientiousness (see Roberts and Hill, Chapter 9) to extraversion or leadership, to agreeableness or teamwork, to emotional stability or anxiety. The four-part model of workforce readiness we present can serve as an organizational framework for future intervention research that targets the key skills that will prepare students and workers for the 21st century workplace.

The Future of Workforce Readiness in Research

A key challenge that all workforce readiness researchers inevitably face comes down to issues around the measurement of workforce readiness skills and competencies. Interpersonal and intrapersonal skills are most frequently measured through simple self-reports that often make use of Likert-type scales. Although relatively cheap and easy to implement, this type of skill measurement is unfortunately the most susceptible to faking. There are numerous strategies to

deal with faking (see Ziegler, MacCann, & Roberts, 2011), but workforce readiness researchers will nevertheless need to be prepared to propose reliable assessment solutions that demonstrate face validity for any given audience, at reasonable costs.

Table 3, taken from Naemi (2012) presents several options for both self- and other-reported assessments (i.e., from peers, parents, teachers, and supervisors) that can be used for varying types of interpersonal and intrapersonal skill assessment (either as a rating measure or as a performance measure). Although there are bodies of literature associated with each of these categories of assessment, future workforce readiness researchers will need to contend with each of these forms as the demand for cross-cutting cognitive, interpersonal, and intrapersonal skill assessment grows. Of particular interest is the intersection of each of these forms of assessment with new technologies. Perhaps a revolution in video delivery will lead to inexpensive and immersive forms of assessment that more accurately capture interpersonal skills of interest to employers. Disruptive technology that streamlines internet or mobile communication methods may influence the ways in which noncognitive assessments are structured, shifting our understanding of the length of time or time chunks that are necessary for valid and reliable assessment. From the impact of Big Data and Deep Learning Artificial Intelligence processes to gather and structure information, the possibilities are exciting and varied, and engaged researchers should be poised to take advantage of opportunities for innovation in workforce readiness assessment.

Finally, researchers must continue to advance the measurement models that underpin workforce readiness research. The model we present in this chapter integrates key concepts and dimensions that reoccur across research streams in chapters throughout this book, but work remains to be done to examine the compensatory or non-compensatory nature of these dimensions and factors. Sackett and Walmsley (Chapter 2) and Clark (Chapter 11) agree that pinning down the level of analysis is also a crucial issue, whether across all occupations or only in certain categories of interest (e.g., middle skills workers). Should we as researchers focus on the individual worker, or aggregate across schools and workplaces? Are there places where differing disciplines and fields can best attack the issues in differing ways, or can we unify and collaborate in a way that captures information that can meaningfully be relayed to both students and employers?

Conclusions and the Path Forward

The goal of this chapter was straightforward yet complex: to arrive at a taxonomy of workforce readiness that integrates the many models presented in this book and streamlines the definition of workforce readiness for researchers, educators, and employers alike. In addition, we examined trends in workforce readiness research and practice that will influence the work being done in the near future and beyond. So, where do we go from here?

One path is to use the four-part integrated model of cognitive, cross-cutting cognitive, interpersonal, and intrapersonal skills of workforce readiness as a basis to streamline future research, policy, and practice across the many fields represented throughout this book. If funding agencies are explicit about making use of this model of workforce readiness in a cross-disciplinary fashion, researchers can hopefully work together to address problems in a way that is grounded in science, applied practice, and public policy.

How else can the work accomplished in forming this book be best used to serve the public need for workforce readiness research and practice? One thing that is clear is that older models of dissemination are outdated; academic jargon in cloistered segregated outposts is not going to lead to advances in workforce readiness for all. As thoughtful 21st Century thought

leaders, it is important for us to search for new avenues of dissemination with wider access that will activate the imaginations of the constituencies in the workforce we purport to serve. Conferences such as Building Better Students that formed the foundation of this book should be a starting point that leads to a greater effort to bring scientists, educators, government officials and business leaders together, drawing from the resources each field has to offer in order to tackle the seemingly intractable problem of building and improving workforce readiness. It is likely major international entities such as the Organisation for Economic Co-operation and Development (OECD) will play a role in such endeavors, especially as they continue to give greater credibility to noncognitive factors in large-scale group score assessments such as the Programme for International Student Assessment and the Programme for the International Assessment of Adult Competencies (PIAAC; see Naemi, Gonzalez, Bertling, et al., 2013).

With international meetings a mere Skype call away, improving internet service, and even the prevalence of English as a lingua franca, the barriers to global collaboration have never been lower. Our book has made the case that technology has revolutionized the workforce and issues around the workforce, and how academics engage with and disseminate scientific research should be no exception. Researchers must find ways to embrace technology –not only to promote global collaboration, but also to accelerate the advancement of scientific knowledge. Technology, in this case, refers not only to computer processing speed or advances in device tech, but also academic movements that embrace open global communication. We have seen the beginnings of this kind of work through efforts to promote free source software, publically available data sets, and open access journals and repositories (see the Department of Open Access Journals, DOAJ.org). Our hope is that by demonstrating a cross-disciplinary framework for workforce readiness, we have informed not only future theory and research in this area, but also future collaborative practice, policy, and application.

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Table 1. Titles of Handbook of I/O Psychology Chapters, Volume 2
Volume 2: Selecting and Developing Members for the Organization

1. Work Analysis: From Technique to Theory
Frederick P. Morgeson and Erich C. Dierdorff
2. Recruitment: A Review of Research and Emerging Directions
Brian R. Dineen and Scott M. Soltis
3. Career Issues
Yehuda Baruch and Nikos Bozionelos
4. Individual Differences: Their Measurement and Validity
Oleksandr S. Chernyshenko, Stephen Stark, and Fritz Drasgow
5. Personality and Its Assessment in Organizations: Theoretical and Empirical Developments
Frederick L. Oswald and Leaetta M. Hough
6. Interviews
Allen I. Huffcutt and Satoris S. Culbertson
7. Assessment Centers
Winfred Arthur Jr. and Eric Anthony Day
8. Situational Judgment Tests: A Critical Review and Agenda for the Future
Robert E. Ployhart and William I. MacKenzie Jr.
9. The Appraisal and Management of Performance at Work
Angelo S. DeNisi and Shirley Sonesh
10. Expanding the Criterion Domain to Include Organizational Citizenship Behavior: Implications for Employee Selection
Dennis W. Organ, Philip M. Podsakoff, and Nathan P. Podsakoff
11. Organizational Exit
Peter W. Hom
12. Applicant Reactions to Organizations and Selection Systems
Donald M. Truxillo and Talya N. Bauer
13. Validation Support for Selection Procedures
Neal Schmitt and Ruchi Sinha
14. Utility of Selection Systems: Supply-Chain Analysis Applied to Staffing Decisions
Wayne F. Cascio and John W. Boudreau
15. The Unique Origins of Advancements in Selection and Personnel Psychology
James L. Outtz
16. Training and Employee Development for Improved Performance
Kenneth G. Brown and Traci Sitzmann
17. Mentoring
Lillian T. Eby
18. Executive Coaching: A Critical Review and Recommendations for Advancing the Practice
David B. Peterson
19. Proactive Work Behavior: Forward-Thinking and Change-Oriented Action in Organizations
Uta K. Bindl and Sharon K. Parker

Table 2. Working Framework of Workforce Readiness

Cognitive	<u>General Mental Ability</u>		<u>Personality</u>	
		Cross-Cutting Cognitive	Interpersonal	Intrapersonal
Job Knowledge/ General Knowledge (Ch. 2, 12)		Creativity/ Innovation (Ch. 3, 11)	Cross-Cultural Competence/ Multicultural Appreciation (Ch. 3, 4, 6, 12)	<i>General Motivation</i> Conscientiousness (Ch. 2, 9)
General Mental Ability (Ch. 2)		Critical Thinking/ Problem Solving (Ch. 3, 11)	<i>Ethics/Integrity</i> Ethics/Integrity (Ch. 2, 3, 12) Social Responsibility (Ch. 12)	Interests (Ch. 2, 8) Achievement (Ch. 11) Detail Orientation (Ch. 11) Perseverance (Ch. 12) Openness (Ch. 2) Continuous Learning (Ch. 12)
		<i>Judgment</i> Metacognition (Ch. 3) Situational Judgment (Ch. 12)	<i>Working with Others</i> Leadership (Ch. 3, 12) Agreeableness (Ch. 2) Communication (Ch. 11) Customer Service (Ch. 3) Extraversion (Ch. 2) Interpersonal Skills (Ch. 11) Safety (Ch. 3) Teamwork (Ch. 3)	<i>Context-Specific Motivation</i> Career Aspirations (Ch. 7) Career Orientation (Ch. 12) Leadership Motivation (Ch. 7) Person-Environment Fit (Ch. 8) Professional Motivation (Ch. 7) Entrepreneurial Motivation (Ch. 7) Artistic Appreciation (Ch. 12) <i>Stress</i> <i>Management/Adaptability</i> Adaptability (Ch. 12)

Boundaryless Mindset (Ch.
7)

Career Adaptability (Ch. 7)

Emotional Stability (Ch. 2)

Health (Ch. 12)

Intrapersonal Skills (Ch. 11)

Table 3. Sources and Types of Non-cognitive Interpersonal or Intrapersonal Skill Assessment

Self		Others	
Ratings	Performance	Ratings	Performance
Self-Assessments (Likert Type)	Situational Judgment Tests	Others' Ratings (Likert Type)	Transcripts
Self-Assessments (Forced-Choice)		Letters of Recommendation	Observations
Biodata			
Day Reconstruction Method			

Figure 1. Working Model of Workforce Readiness

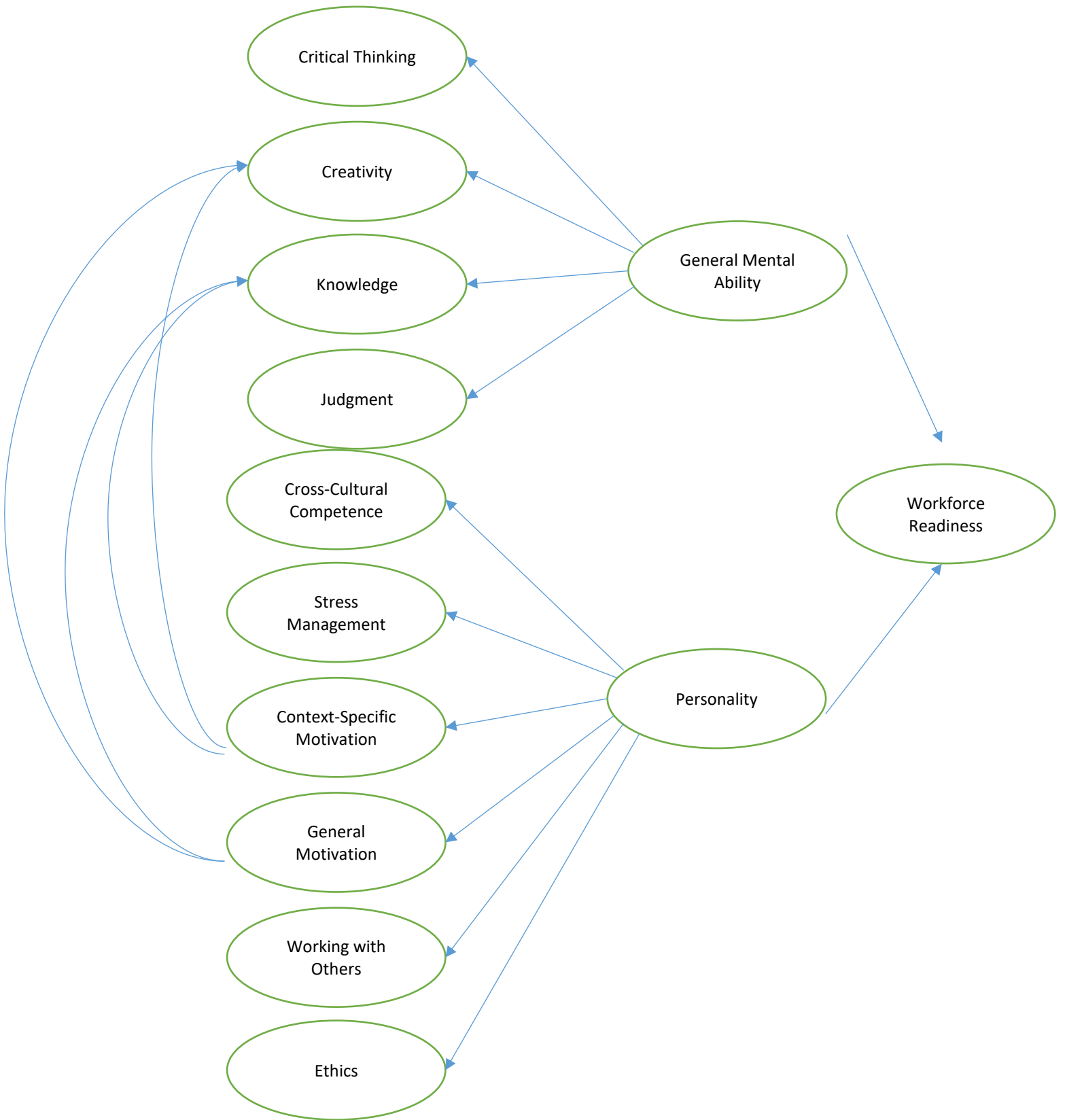


Figure 2. Technology as a Lever of Workforce Readiness Models

