Barriers to Employment Participation of Individuals With Disabilities: Addressing the Impact of Employer (Mis)Perception and Policy

Paul M. A. Baker[1], Maureen A. Linden[1], Salimah S. LaForce[1], Jennifer Rutledge[2], and Kenneth P. Goughnour[1]

Abstract

Although progress has been made toward the objective of increased employment for people with disabilities, the 17.2% employment rate of people with disabilities stands in distressing contrast to the 65% rate of those without disabilities. This article summarizes the results of a comparative survey of representative academic literature and industry publications related to employer policies and practices that can affect workforce participation of individuals with disabilities. Emergent themes include variance in employer perspectives on hiring of individuals with disabilities, impact of perceived versus actual cost as a hiring barrier, and the perceived mismatch of education and/or skills to job qualifications among applicants with disabilities. These themes represent key areas to probe in subsequent research. The research objective is to identify focal points in the industry literature, representative of employer and industry (demand side) points of view that differ from those generally portrayed in the academic literature (more generally, supply side). Findings from a thematic analysis of industry publications can provide (1) evidenced based background to assist in crafting targeted policy to address employer awareness, (2) informed development of industry guidance on topics that may assist employers to achieve a more inclusive workplace, and (3) insights applicable to addressing barriers to broadening participation by technical, scientific, and engineering trained individuals with disabilities.

[1]Georgia institute of Technology, Atlanta, GA, USA
[2]Centers for Disease Control and Prevention, Atlanta, GA, USA

Corresponding Author:
Paul M. A. Baker, Center for Advanced Communications Policy, Georgia institute of Technology, 500 10th Street, Atlanta, GA 30332, USA.
Email: paul.baker@gatech.edu

Although progress has been made toward the objective of increased employment for people with disabilities, the 17.2% employment rate of people with disabilities stands in distressing contrast to the 65% rate of those without disabilities (U.S. Bureau of Labor Statistics, 2017). A comparative review of industry and academic literature suggests that a disconnect still exists between the perceptions employers have of individuals with disabilities and the reality of employees with disabilities, a key factor in employment differences. This apparent gap between the assumed abilities and the actual capacities of people with disabilities can affect the hiring and postemployment experiences of people with disabilities (Ameri et al., 2015). One concern, not infrequently expressed, was that employees with disabilities would not be able to perform as well as employees without disabilities along the dimensions of efficiency, accuracy, and participation in the workplace environment (Ju, Roberts, & Zhang, 2013).

Until relatively recently, employers have had the misperception that workers with disabilities tended to be undereducated or unqualified, unproductive, and expensive to hire (U.S. Department of Labor, 2014b). Strikingly, 43% of employees with disabilities report experiencing discrimination within the workforce (United States Department of Labor, 2014a). Overall, there is a sense in academic literature and industry publications that these employer attitudes are a significant impediment to increasing positive employment outcomes for people with disabilities (Bendick & Nunes, 2012; Davaki, Marzo, Narminio, & Arvanitidou, 2013; U.S. Department of Labor, 2014a). Evidence of the presence of these attitudes were to an extent supported by the results of a field experiment where identical resumes from well-qualified applicants for accounting positions were submitted. One third of the cover letters disclosed that the applicant had spinal cord injury, one third disclosed Asperger's syndrome, and the remaining third did not mention disability. Applicants with disabilities received 26% fewer expressions of interest than those without disabilities.

Data and Method

In an effort toward identifying potential factors that relate to the apparent disconnect between employer perceptions and generally accepted conditions as described by specialists in the field, an environmental scan was conducted of (1) printed and online industry publications either aimed at, or commonly read by, business and nonprofit professionals (i.e., "industry") and (2) the research literature primary produced and used by academics and researchers ("academic"). Publication sources were generated from Google searches of online materials, searches of LexisNexis and Pew Research Center sources, and from standard academic indices including EBSCO and ProQuest to find pertinent publications between 2010 and 2016. In general, the geographic

domain focused on articles with relevance to the United States, with the exception of those related to the United Kingdom. This exception was made due to similarity between U.S. and U.K. laws.

To find relevant publication matches in data sources, a master list of potential search terms was developed. Search terms were combined with the word "disability" and included employment, perspective, hiring, legislation/policy, accommodations, cost, mental illness, race–class–gender–minorities, discrimination, vocational rehab services, vision disability, telework, and aging. For the initial survey, 587 articles were identified that focused broadly on the target concepts, using the key words listed above. Of these, the 200 most relevant articles were further reviewed for content, fit-to-research objectives, and utility in the subsequent analysis. Further review of each article was completed to make sure the topic of disability in employment and/or the workforce was directly addressed.

The search term list was generated based on a preliminary review of the literature conducted prior to the current survey. The set of key topics were categorized into two broad categories and the most-addressed topics, as well as topics that were least addressed, that is, topics which did *not* regularly appear to be addressed in the articles. This categorization is of interest in that the latter (under-referenced) topics are generally accepted in the disability research field as being of significant impact in terms of employment and disability, yet not frequently discussed in the identified academic literature. Researchers further collapsed the keyword variables by coding similar keywords to be grouped and counted together (e.g., telework, telecommuting, and home-based work were all coded as telework), the list was still too unwieldy for the least frequently occurring keywords. The list was pared down to only include topics that could, if further researched, yield new information and data that would better inform employer strategies and policies to not only hire but also retain and promote people with disabilities. As a side observation, the absence of literature on employer awareness of specific disability types (other than those with mental illness and impaired vison) suggests that employers may not have sufficient guidance on how to include certain populations in their workforces.

In general, the industry literature surveyed did not reference the academic literature and vice versa. This finding suggests a gap in the knowledge translation from the findings of academic literature to utilization in business and industry. This suggests that it may be productive to expand engagement with policy makers, employers, and universities to share knowledge and collaboratively work toward more inclusive workplaces. We recommend that policy makers and employers adopt a more holistic view of disability that recognizes the mutual benefits and joint impacts of employing people with disabilities.

To better understand some of the barriers that persist and how policy makers and employers might remediate them, this article identifies key approaches for addressing these issues and proposes feasible policy options. Despite policy making to support the provision of workplace accommodations, challenges persist to full participation and inclusion of individuals with disabilities within the workforce.

Employer Perspectives

Research has shown that up to 96% of people with disabilities have an "invisible disability," meaning one that employers and colleagues may not readily see (RespectAbility, 2016). As a result, it is possible that employers have already met, hired, and promoted people with disabilities without knowing it. Some studies suggest the use of disability awareness and sensitivity programs to educate all employees on how to reduce negative attitudes toward employees with disabilities (Martinez, 2013; Novak, Feyes, & Christensen, 2011). Collapsing the range of characteristics, capabilities and limitations of people with disabilities into a single category may perpetuate stereotypes and hinder the increased hiring and advancement of people with disabilities. The academic literature suggests that employers have expressed "greater concerns" related to hiring an applicant with a mental or emotional disability as opposed to one with a physical disability (Khalema & Shankar, 2014). However, industry literature shows that employers are making efforts to address negative stereotypes by offering mental health services through employee assistance programs, increasing awareness by incorporating mental health and behavioral health services into newsletters, and training supervisors about mental health (Andors, 2010; Miller, 2015). Employer strategies and interventions should include discussion on the different types of disabilities, as opposed to referring to disability in a uniform sense.

One method for addressing negative stereotypes is to enhance participation, and hence visibility, of people with disabilities in mainstream activities and standard business practices. As a consequence of the adoption of new assistive technologies, the options have increased to include, among others, information technology (IT) and programming work, software development, and specialized services such as interpretation and consulting. Changing these perceptions could lead to an expansion of employment opportunities for people with disabilities. Along these lines, Section 508 of the Rehabilitation Act of 1973 stipulates that federal agencies develop, maintain, procure, and use information and communication technology (ICT) that is accessible to people with disabilities, including their own employees (U.S. Bureau of Statistics, 2004). While Section 508 only applies to federal agencies, and federal contractors, such agencies serve as important implementation examples and may help private businesses understand the benefit of implementing a comparable electronic information and technology policy requiring accessibility. Accessible digital environments enable employees to produce high-quality deliverables more efficiently. Additionally, online resources, such as TalentWorks, a tool developed by the U.S. Department of Labor's Office of Disability Employment Policy's PEATWorks' initiative, provides employers with tools to increase accessibility of their online application process (Partnership on Employment & Accessible Technology, 2016). In parallel, the policies and partnerships mentioned above may positively affect employer perspectives of people with disabilities by enabling a barrier-free environment where employees with disabilities can seamlessly integrate with the workplace culture.

In addition to policy, ICT also has application as an accommodation for the work environment. For instance, ICT-enabled telework can facilitate employment by

minimizing the impact of architectural and transportation barriers for workers with disabilities while allowing them to work without being tied to an employer's physical locale (Linden & Milchus, 2014). Telework may allow employees to accommodate fatigue and pain-related barriers to traditional work and give individuals access to personal care services often not paid for by insurance in environments other than the home (Baker, Moon, & Ward, 2006; Linden, 2014). Unfortunately, employer perspectives and policies on telework can create barriers to use of telework as an accommodation. Almost half (45%) of employers surveyed have policies requiring a probationary period during which telework was not allowed, and 25% require workers to establish an office schedule while teleworking (U.S. Department of Labor, 2013). Furthermore, some employers view in-person interaction with coworkers as an essential function and thus do not grant requests for telework as an accommodation (Piper, 2015).

In addition to creating an accessible and inclusive workplace via digital access, another available policy-related tool is the use of quotas to advance employment of individuals with disabilities, thereby increasing opportunities for meaningful, productive stereotype-defying interactions. Although somewhat controversial, adoption of quotas, as referenced in the industry literature, may benefit the integration of employees with disabilities into the workforce (Davaki et al., 2013). According to the U.S. Office of Personnel Management's Report on the Employment of Individuals with Disabilities in the Federal Executive Branch (2013), the agencies with the highest hiring rates for all disabilities included the Equal Employment Opportunity Commission (18.32%), the Department of Veterans Affairs (14.05%), and the Railroad Retirement Board (13.55%; U.S. Office of Personnel Management, 2014). The fact that all three agencies have missions to serve populations that have proportionally higher incidences of disability provides some indication that policy objectives to encourage greater awareness and exposure to people with disabilities as a way of reducing negative stereotypes results in improved employment rates for people with disabilities.

Additionally, workplace culture may contribute to an increase in the hiring and retention of employees with disabilities. Some suggest that a culture of inclusion is most effectively initiated and propagated by the leadership within an organization (Dunst, Shrogren, & Wehmeyer, 2015; Hernandez & Watt, 2014; Linkow, Barrington, Bruyère, Figueroa, & Wright, 2013; Waxman, 2015). According to Deloitte Canada (2013), senior employees can set an example by setting a high standard of respect and inclusion of employees with disabilities. To achieve a culture of inclusion, the Department of Labor's Office of Disability Employment Policy (ODEP) and University of Pennsylvania's Wharton School of Business (Wharton) recommend developing a marketing plan or inclusive brand for employees with disabilities to alter many employers' negative behavioral and psychological responses (U.S. Department of Labor, 2014a). This brand should highlight similarities between employees with disabilities and those without, emphasizing relevant capabilities and qualifications as well as showing employees with disabilities engaged in jobs not normally perceived by employers as those people with disabilities would do (U.S. Department of Labor, 2014b).

As discussed, misperceptions about the hiring of people with disabilities can stem from a lack of awareness that is perpetuated by limited opportunities to interact with

people with disabilities. Smedema, Ebener, and Grist-Gordon (2012) observed that an outcome of the anxiety felt by some people when thinking about and/or interacting with people with disabilities was social avoidance. Social avoidance restricts interactions and contributes to the maintenance of negative associations. To circumvent social avoidance and address this lack of personal connection, ethnographic narratives can present stories that personalize individuals with disabilities. Such narratives have been shown to help move policy change forward (Hansen, Holmes, & Lindemann, 2013). Narratives describing the economic contributions of prominent people with disabilities may shift perceptions among those making hiring and advancement decisions. Potential example profiles could include Dr. Temple Grandin, an engineer with autism who revolutionized the food industry, or Ralph Braun, an inventor with muscular dystrophy who created the first wheelchair-accessible van (Gold, 2014; Kintzinger, 2016). Additionally, the Advisory Committee on Increasing Competitive Integrated Employment for Individuals with Disabilities has recommended the dissemination of success stories told from businesses that have included people with disabilities in their workforce (U.S. Department of Labor, 2015).

Actual Versus Perceived Costs and Benefits

Employers are often uncertain about the cost and benefits associated with employing people with disabilities. Some employers believe the benefits of hiring applicants with disabilities include the addition of quality workers, increased profits, reduced potential cost of onboarding new workers, and enhanced employers' cultural reputation (Ju et al., 2013; Owen, 2012; Yin, Shaewitz, & Megra, 2014). Conversely, issues of absenteeism and conditions that potentially disturb the workplace (e.g., posttraumatic stress disorder) have been cited as a high-cost concern (Fuerstenberg, Fleury, & Connolly, 2011; Rudstam, Strobel-Gower, & Cook, 2012). Another cost-related misperception expressed by industry is that people with disabilities are more likely to have high and unpredictable medical expenses (Guant & Lengnick-Hall, 2014). These issues, as noted in the academic literature, however, are at odds with observations made in the industry literature, which indicates that hiring employees with disabilities may actually save money (Linkow et al., 2013; Inclusion NL, 2015).

Policy implementation can help change and address employer concerns to more closely align perceived costs with current realities. First, creating and strengthening existing educational and training programs that address economic factors are needed (Yoshino & Smith, 2013). Employers appear to be unaware that the majority of employees with disabilities require no workplace accommodations; and *if* required, the average cost associated with providing accommodations is relatively low, which parallels findings reported in the academic literature (DePaul University, 2007; Rosenthal et al., 2012). A study completed by the U.S. Department of Labor–funded Job Accommodation Network reveals that 58% of workplace accommodations require zero cost, and the remaining require $500 or less (Loy, 2015). Typical workplace accommodations include flexible work hours, provision of auxiliary aids or physical changes in the workplace (Davaki et al., 2013). Employer-targeted education about the

actual cost of accommodations will reduce misperceptions that create barriers to hiring and retaining employees with disabilities.

Demand-side economic incentives can also be used to increase the hiring and retention of employees with disabilities. The provision of tax credits, for instance, has been purported to stimulate the hiring of employees with disabilities. While an evaluation of Internal Revenue Service data suggests inconclusive efficacy based on the observation that a very small proportion of corporate and individual taxpayers with a business affiliation used the two tax credits available to encourage the hiring, retention and accommodation of workers with disabilities, a U.S. General Accounting Office study (2002) noted the evaluations focused on *disadvantaged workers* as opposed to *workers with disabilities*, due to data limitations. Subsequent studies (Heaton, 2012; Houtenville & Kalargyrou, 2015; Simonsen, Fabian, Buchanan, & Luecking, 2011) suggest that tax credits *can* have an impact on employer decision making related to hiring people with disabilities (Heaton, 2012; Houtenville & Kalargyrou, 2015; Simonsen et al., 2011).

A meta-analysis of existing literature determined that employers are interested in receiving information about tax benefits and that it would affect their decision making (Houtenville & Kalargyrou, 2015; Simonsen et al., 2011). A cross-industry survey by Houtenville and Kalargyrou (2015) found that small- and medium-sized companies saw tax credits as a potential offset to the costs of workplace accommodations. A quantitative comparative analysis of changes in employment rates over time showed that tax credits caused a small, but statistically significant (2%) increase in employment among veterans with disabilities (Heaton, 2012). This increase resulted in 32,000 additional jobs per year for veterans with disabilities, particularly for those older than 40 years (Heaton, 2012). These studies indicate that employer tax credits can be an effective means of enhancing employment outcomes among people with disabilities. Recurring employer training and education regarding the tax credits could result in increased utilization.

Mismatch Between Education/Skills and Employment Opportunities

A survey of industry literature showed that many opportunities are missed when recruiting and hiring college students with disabilities. Employers need to overcome stereotypes associated with employees with disabilities to facilitate an environment that best matches the skills of employees with disabilities with job requirements (Dunst et al., 2015). For instance, in collaborating with college and university offices of career services, employers typically fail to build additional relationships with the universities' office of disability services, perhaps not realizing that the two divisions often have minimal relationships with each other (National Organization on Disability, 2014). This misunderstanding may contribute to the fact that three-in-five graduates (some 1.4 million) with disabilities are not working; not developing this relationship is a missed opportunity to help students with disabilities when universities pursue job opportunities with employers (National Organization on Disability, 2014).

Community, corporate, and university/college partnerships could positively affect employment opportunities for recent graduates with disabilities. Such partnerships have been shown to be beneficial. The City University of New York (CUNY) Office of Disability Services has a career services partnership called *CUNY leads* (Linking Employment, Academics, & Disability Services) and the University of Minnesota's Disability Resource Center, part of the Office for Equity and Diversity, has successfully partnered with campus career services' efforts in placing students with disabilities with internships and full-time employment (CUNY, 2016; University of Minnesota, 2012). Designating an employer liaison with university career services' offices and with the offices of disability services is another way to address the mismatch between education, skills, and employment opportunities (National Organization on Disability, 2014). Additionally, companies should cultivate partnerships within the community to help meet their hiring goals (Deloitte Canada, 2013). Such partnerships may include collaborative activities with local, state, national, and international government offices and agencies; community organizations; private clubs and associations; and/or academic organizations (Community Partners Public Health Partners, 2016).

Federal and state government initiatives could facilitate businesses in attracting and retaining employees with disabilities. A report by the National Governors Association (2012) suggested that state governments and businesses can help improve employment outcomes by supporting businesses in their efforts to employ people with disabilities and by preparing youth with disabilities for careers that use their full potential, thereby providing employers with a pipeline of skilled workers. Private companies' implementation of federal policies into their operations could increase hiring outcomes for people with disabilities, as well. One such example is the integration of supported employment as an option to bridge the divide between applicants with disabilities and hiring managers. Supported employment, a service provision created by the Federal Government, "provides people with severe disabilities the appropriate, ongoing support that is necessary for success in a competitive work environment" (American Foundation for the Blind, 2016). And employers should take more advantage of supported employment as it has proven to be a helpful tool in meeting the demands that constitute employers' daily needs, yielding security, ownership of work product, and establishment of collegiate relationships (Gustafsson, Peralta, & Danermark, 2013).

Another underutilized approach, the use of "workforce analytics" and "job testing," may help employers avoid the missed opportunities mentioned above. Workforce analytics refers to insights by software that uses statistical data to measure workforce performance (IBM, 2009). To address the potential of a mismatch between skills and job opportunities, and in an effort to focus on applicants' abilities to provide quality work, employers are increasingly using workforce analytics and "job testing" in their hiring process to help hire applicants with disabilities (Hoffman, Kahn, & Li, 2015). While this may work as an assurance for employers' decision making, it is critical that the testing software be accessible. If not, it could introduce bias and reinforce negative perceptions, as noted in the industry literature (Lazar, Olalere, & Wentz, 2012).

Table 1 presents themes identified in both academic and industry literature. The table highlights topics the academic literature focused on, in comparison to those

Table 1. Comparative Themes from Academic and Industry Literature.

Themes	Academic	Industry	Commentary	Reference
College career services office	No	Yes	Articles identified in the industry literature surveys point out that many opportunities to hire employees with disabilities from college campuses are missed.	CUNY (2016); University of Minnesota (2012)
Cost–benefit	Yes	Yes	Articles identified in the academic literature surveys identified, for instance, absenteeism and posttraumatic stress disorder as a high-cost concern for employers. Conversely, industry literature highlights data that dispels employer concerns mentioned by academic literature, such as higher retention rates and lower absenteeism among employees with disabilities.	Owen (2012)
Disability awareness/ sensitivity training programs	Yes	Yes	Articles from both academic and industry literature suggest that disability awareness and sensitivity programs help reduce negative attitudes toward employees with disabilities.	Rudstam, Strober, and Cook (2012); U.S. Office of Personnel Management (2014); Waxman (2015)
Discrimination	Yes	Yes	Both academic and industry literature report that qualified applicants with disabilities continue to receive significantly less interest from potential employers than those without disabilities.	Ameri, Shur, Adya, Bentley, McKay, & Kruse (2015); Andors (2010); Davaki, Marzo, Narminio, and Arvanitidou (2013)
Employer perspective	Yes	Yes	Articles in both academic and industry literature recognize that employer attitudes, awareness, and perspectives continue to act as a barrier to the hiring of employees with disabilities.	Grist-Gordon (2012); Gustafsson, Peralta, and Danermark (2013); Houtenville and Kalagyrou (2015); Ju, Roberts, and Zhang (2013); Smedema, Ebener and (2014)
Leadership	No	Yes	Some findings from the industry literature survey suggest that commitment to inclusion begins with leadership and trickles down to lower level employees.	Hernandez and Watt (2014); Kalargyrou (2014); Novak, Feyes, and Christensen (2011)

(continued)

Table 1. (continued)

Themes	Academic	Industry	Commentary	Reference
Marketing plan/ inclusive brand	No	Yes	ODEP and the Wharton School of Business recommend development of a marketing plan or inclusive brand for employees with disabilities, in an attempt to alter negative attitudes and perceptions held by employers.	Office of Disability Employment Policy (2013); U.S. Department of Labor (2014a, 2014b, 2015)
Mental illness	Yes	Yes	Both academic and industry literature indicate that applicants and/or employees with mental illness have reportedly experienced discrimination in employment.	Andors (2010); Khalema and Shankar (2014); Miller (2015)
Open dialogue/ advocacy	Yes	Yes	Articles from both academic and industry literature reference open dialogue, and industry literature suggests that campus career services' offices encourage open dialogue that advocates hiring students with disabilities.	National Organization on Disability (2014); University of Minnesota (2012)
Quota systems	No	Yes	One article within the industry literature suggests that quota systems may benefit the integration of employees with disabilities into the workforce. However, more data are needed to gauge their actual effectiveness. Implementation of revised Section 503 regulations should provide additional data.	U.S. Department of Labor (2004)
Reentry to workforce: medical professional recommendation/ facilitators	No	Yes	Industry literature recommends that employers rely on facilitators, such as medical professionals, when meeting with employees who would like to return from illness.	Andors (2010); Khalema and Shankar (2014); Rosenthal et al. (2012)

(continued)

Table 1. (continued)

Themes	Academic	Industry	Commentary	Reference
Self-employment	Yes	Yes	Self-employment for the entrepreneurial inclined offers another option. Self-employment allows people to customize their work experiences specifically to their needs and to design a work environment that optimizes flexibility and accommodation.	Office of Disability Employment Policy (2013); Piper (2015)
Tax credits	No	Yes	Industry literature suggests that tax credits may stimulate the hiring of employees with disabilities.	Heaton (2012); U.S. General Accounting Office (2002)
Telework	Yes	Yes	Both academic and industry literature mention telework as a workplace accommodation that may be offered to employees with disabilities. However, there have been some concerns expressed about social capital loss in the workplace as a consequence.	Baker, Moon, and Ward (2006); Linden (2014); Piper (2015)
Undergraduate coursework/ technology programs	No	Yes	Recommendations from industry literature include requiring coursework in accessibility compliance and technology in undergraduate technology programs.	University of Minnesota (2012); National Organization on Disability (2014)
Workplace accommodations	Yes	Yes	Evidence from both academic and industry literature suggests that the majority of employees with disabilities require no workplace accommodations, and if requested, the average cost associated with providing accommodations is relatively low. However, some industry literature suggests this is still not widely known among employers.	Baker et al. (2006); Linden (2014); Loy (2015); Moon and Baker (2012)

Table 1. (continued)

Themes	Academic	Industry	Commentary	Reference
Workforce analytics/job testing	No	Yes	Industry literature suggests that employers, in an effort to focus on applicants' ability to provide quality work, are using "workforce analytics" and "job testing" in their hiring process. The absence of literature applying this to hiring and advancement of people with disabilities is a noticeable gap.	IBM (2009); Owen (2012)
Workplace and community/community partnerships	Yes	Yes	Articles identified in industry literature surveys suggest that companies should identify "community partnerships" to help meet their goals. Academic literature points to the importance of social capital and workplace community engagement as a means of enhancing employee awareness, a mode to support retention, and transmission of knowledge necessary for advancement.	Partnership on Employment & Accessible Technology (2016); Public Health Partners (2016)

Note. ODEP = Office of Disability Employment Policy.

appearing in the industry literature, with an explanation of where both sectors converged and diverged. Both reveal opportunities for more in-depth, and employer-centric academic research, and for the creation of content-specific outreach resources for employer needs.

General Observations

Several points solely addressed in articles in the industry literature are ones which not only merit conveying to employers but are also applicable to developing policy approaches to broadening participation of individuals with disabilities in critical areas such as STEM-related employment. First, the industry literature points out that many opportunities to hire students with disabilities from college campuses are missed. Therefore, employers should be aware of literature that reports on the utility of encouraging them to align with offices of disability services on college and university campuses. Employers could perhaps develop or amend their recruitment policies to include such relationship development, focusing on schools with academic areas relevant to their industry. In addition, employers could increase recruitment of people with disabilities by creating partnerships with community stakeholders, such as organizations that work with and on behalf of people with disabilities. Next, employers should be mindful of literature focusing on the important role corporate leaders play in showing all of their employees how to treat employees with disabilities. Finally, the potential benefits of taking a wider view of effective workplace practices and approaches (e.g., virtual collaboration, telework, the use of consultants such as vocational professionals to devise plans for employees with disabilities to reenter employment) are ideas that should reach employers as well.

Another possibility, currently underutilized is expansion of the use of descriptive (ethnographic) narratives tailored for employers—or as is not infrequently noted in business "stories sell." These narratives should highlight people with disabilities doing jobs that most employers do not perceive them as doing, or in areas requiring high specialized scientific, or technical expertise. The narratives can also focus on the positive impact made by employees with disabilities on firms' overall productivity, turnover or absenteeism (Inclusion NL, 2015; Kalargyrou, 2014). As noted earlier, exposure to such narratives may positively affect perception of people with disabilities and diminish discriminatory actions, thereby increasing the employment of individuals with disabilities.

Finally, targeted messaging about the prevalence of employment of individuals with invisible disabilities will help employers realize that they likely already employ people with disabilities but are unaware of it. Similarly, encouraging employers to engage with organizations that conduct advocacy for people with disabilities will dispel misperceptions about the capabilities of people with disabilities. These activities could increase the employment rate for people with all disabilities, affecting employer perceptions during recruitment, hiring, and promotion processes.

Policy Recommendations

One of the most thought-provoking conclusions generated by our comparative analysis is that the industry literature surveyed did not generally reference the academic literature and vice versa. This finding suggests a gap in the knowledge translation from the findings of academic literature to utilization in business and industry. Conversely, researchers in the academic arena may not be fully drawing on practical experience or conditions that are reported by companies and employers. Furthermore, an absence of discussion on employment facilitators, in both the industry and academic literature, appears to suggest that both are focused more on barriers to hiring rather than on using success stories and best practices to enhance employment inclusion, expand networking opportunities, and broaden workplace capacity by expanding participation by engineers and scientists with disabilities.

Based on these observations, the following is a set of tools and activities that could be developed to bridge both the perceptual and industry–academic gaps: (1) create a venue or platform that increases the flow of information between the different bodies of knowledge (theoretical and applied); (2) develop and disseminate short, targeted documents to inform and enhance employer awareness of actual costs and benefits of hiring people with disabilities; (3) create a collection of best practices and practical narratives (stories talking about "what works") to alter misperceptions; and (4) create organizational policy templates (covering process and requirements) and explanatory briefs explaining tax credits, supported employment, diversity management strategies, and other efforts to raise awareness amongst employers on methods to realize an inclusive workplace; and (5) investigate the role of social, professional, and technical networks, bidirectionally, in enhancing awareness both of the wide range underfilled work opportunities, and conversely, of the tremendous pool of underemployed STEM trained individuals with disabilities. The proposed policy approaches could be undertaken by either/or a combination of a governmental agency or NGOs, foundation and/or advocacy groups, or coalitions of industry partners.

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Author Biographies

Paul Manuel Aviles Baker, PhD, is senior director of Research and Strategic Innovation and a principal research scientist at Georgia Tech's Center for Advanced Communications Policy (CACP). His research includes work in the areas of information technology, accessibility and disability policy; digital media regulation and policy, social aspects of wearable computing; virtual work environments, the operation of online and in-person communities, higher education and workforce development policy.

Maureen Linden, MSBME, is a senior research engineer at the Center for Advanced Communications Policy. Her current research interests include job accommodation use and related employment barriers, seating support surface development and characterization, mobility device use characterization, and facilitators for post-secondary education in science, technology, engineering and math (STEM) for students with disabilities. Maureen has been active in SAE, ANSI/RESNA, and ISO standards development for over 15 years.

Salimah LaForce is a senior research analyst with the Center for Advanced Communications Policy. She conducts policy and industry research and analysis for a variety of CACP's research initiatives. Additionally, Salimah is the project director for the Wireless RERC's research project, Policy Approaches to Promote Access to Wireless Technologies.

Jennifer Rutledge Pettie, JD, MPH, is a fellow with the Centers for Disease Control and Prevention. Her work focuses on the intersection of law and policy and its impact on public health. She is passionate about using legal epidemiology to inform policy solutions.

Kenneth Goughnour is completing a Masters of Public Health at the Rollins School of Public Health, Emory University. He serves as a graduate research assistant with the Center for Advanced Communications Policy at Georgia Tech, working in the areas of accessible wearable technology, maternal health, and information policy.