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# On the treatment of persons with disabilities in organizations: A review and research agenda

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Human resource practitioners play a crucial role in promoting equitable treatment of persons with disabilities, and practitioner's decisions should be guided by solid evidence-based research. We offer a systematic review of the empirical research on the treatment of persons with disabilities in organizations, using Stone and Colella's seminal theoretical model of the factors influencing the treatment of persons with disabilities in work organizations, to ask: What does the available research reveal about workplace treatment of persons with disabilities, and what remains understudied? Our review of 88 empirical studies from management, rehabilitation, psychology, and sociology research highlights seven gaps and limitations in extant research: (a) implicit definitions of workplace treatment; (b) neglect of national context variation; (c) missing differentiation between disability populations; (d) overreliance on available data sets; (e) predominance of single-source, cross-sectional data; (f) neglect of individual differences and identities in the presence of disability; and (g) lack of specificity on underlying stigma processes. To support the development of more inclusive workplaces, we recommend increased research collaborations between human resource researchers and practitioners on the study of specific disabilities and contexts, and efforts to define and expand notions of treatment to capture more nuanced outcomes.

#### **KEYWORDS**

barriers, disability, diversity, ethical treatment, stereotyping, stigma

#### 1 | INTRODUCTION

Globally, disability awareness is increasing as interest in diversity issues grows (Boehm & Dwertmann, 2015) and as legislative frameworks addressing this population expand. This trend is likely to continue because aging workforces are more likely to experience disabling conditions (United Nations, 2006). The United Nations Convention on the Rights of Persons with Disabilities (2006) has increased global awareness of disability rights and empowered persons with disabilities by restating and clarifying human rights, including the right to work (Harpur, 2012). The growing recognition of disability as a diversity dimension and the advent of a disability rights paradigm are helpful, yet barriers to full inclusion remain. For example, employment rates average 40% of the overall employment level, and

unemployment rates are typically twice the overall average (World Health Organization, 2011). In the United States, disability is linked to lower average pay, lower job security, less formal and informal training, less participation in decisions, and less inclusion (Schur, Kruse, Blasi, & Blanck, 2009). These labor statistics apply to a large number of people: approximately 12.6% of the U.S. population (Kraus, 2017) and approximately one sixth (1.1 billion people) of the global population (Schur, Kruse, & Blanck, 2013; World Health Organization, 2011) have disabilities.

Mirroring the increase in disability awareness, research interest has also been increasing; however, it still lags behind that of other diversity dimensions, such as gender, race, and ethnicity (Colella, Hebl, & King, 2017). Understandably, disability research is complex because of the large number, multiplicity, and range of disabling conditions. Human resource (HR) practitioners need solid evidence-based

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research to guide their policies and decision-making because they play a critical role in breaking barriers to inclusion and in promoting diversity and equitable treatment for all employees. They can, therefore, benefit from a systematic review of empirical research addressing issues related to staffing, development, performance appraisal, rewards, inclusion, and other HR management topics for employees with disabilities. We suggest taking stock of evidence-based findings is an important step in recognizing what is known, identifying critical gaps in this knowledge, and recommending future research directions.

Thus, the objective of this article is to offer a rigorous and systematic review of empirical findings from studies published between 1996 and 2016 regarding the workplace treatment of persons with disabilities, using the concepts and relationships outlined in Stone and Colella's (1996) seminal model as an organizing framework. We chose this 20-year time frame to coincide with publication of the Stone and Colella's (1996) model and also because this period saw a significant increase in disability studies in the management literature. Furthermore, few articles in this area were published prior to 1996, and it appears that all or most of them were included in the Stone and Colella (1996) review. Our guiding research question is as follows: What does the available research tell us about workplace treatment of persons with a disability, and what remains understudied? Evidence drawn from 88 studies published in top-quartile journals is analyzed to consider contextual and personal antecedents of workplace treatment, types of treatment, and the responses of persons with disabilities to the treatment they receive. We build upon other important reviews of disability research that have investigated segments of the Stone and Colella (1996) model. Specifically, Colella and Bruyère (2011) reviewed studies on the influence of industrial and organizational psychology concepts on disability employment issues, including accommodation and selection; Colella, DeNisi, and Varma (1998) reviewed the effects of disability on performance appraisals through stereotyping and performance expectations. Other reviews have also explicitly linked their findings to the Stone and Colella (1996) model. For example, a review by Vornholt, Uitdewilligen, and Nijhuis (2013) applied the theory of reasoned action to investigate how employers' and coworkers' attitudes lead to acceptance of persons with disabilities, and Ren, Paetzold, and Colella (2008) conducted a metaanalytical review of experimental studies on the personal and situational factors that influence HR judgments toward persons with disabilities, explicitly mentioning the Stone and Colella (1996) model as it applies to their hypotheses and moderating variables (specifically, the type of disability, observer characteristics, performance evaluations and expectations, and hiring decisions).

While each of these reviews is helpful in furthering research on this important diversity topic, none takes a comprehensive view of all elements of the Stone and Colella (1996) framework. We, therefore, build upon and extend these prior literature reviews of disability research, casting a wider net to incorporate both quantitative and qualitative studies, as well as the full set of variables identified in the Stone and Colella (1996) model. Our focus on quantitative and qualitative empirical studies from multiple fields of research is consistent with the interdisciplinary focus of the Stone and Colella (1996) model and offers a holistic review for HR practitioners that includes both positive (e.g., supportive behavior from supervisors and colleagues)

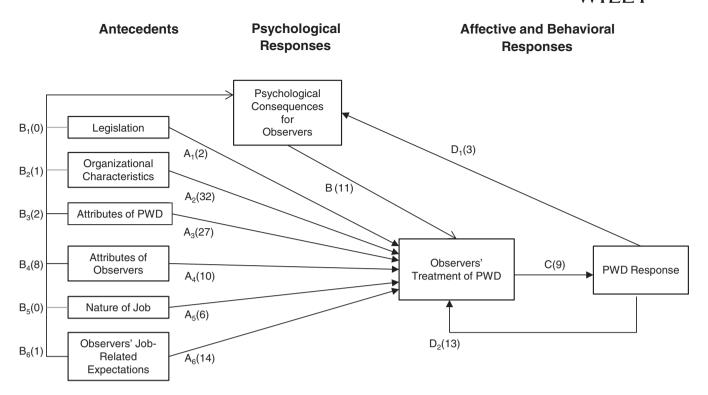
and negative (e.g., discrimination) findings on workplace treatment. Disability research covers a broad spectrum of conditions, and the phenomenon of disability as a lived experience is often captured in qualitative studies through conversations in interviews and focus groups. Although qualitative studies are not amenable to traditional meta-analyses, we include them in this review because they offer important contributions to fully understand workplace treatment. Our aim is to highlight which relationships in the model have been supported, identify relationships that have not yet been tested, and synthesize findings from studies to encourage and guide future research.

# 2 | OVERVIEW OF THE ORGANIZING FRAMEWORK

More than 20 years ago, Stone and Colella (1996) integrated the literature from the fields of management, social psychology, sociology, and rehabilitation psychology to predict factors affecting the treatment of persons with disabilities in work organizations. We use this framework as the basis for organizing the workplace disability literature because this seminal work used an interdisciplinary approach, underscoring the complex nature of disability to draw specific workplace implications. Its combination of propositions, categories of variables, and relationships represented remains the most comprehensive framework focusing on the factors affecting the treatment of persons with disabilities in the workplace. For instance, although the specific technology or norms and values in work organizations have changed over the past two decades, these characteristics can still be expected to have an impact on outcomes such as the nature of the job or observers' treatment of persons with disabilities. Furthermore, as noted here, this model has been used in prior published reviews, suggesting it is a well-known touchstone for the disability domain.

The Stone and Colella (1996) framework includes nine broad variables, mentioned later in italics (see Figure 1). The primary dependent variable is observers' treatment of persons with disabilities (i.e., job suitability ratings, job assignments, pay increases, training opportunities, mentoring, treatment as tokens, exclusion in work groups, information sharing, helping behavior, and exclusion in social activities). Six antecedent variables are posited to influence observers' treatment of persons with disabilities: legislation, organizational characteristics, attributes of persons with disabilities, attributes of observers, the nature of the job, and observers' job-related expectations. Psychological consequences for observers (i.e., observers' categorization of, stereotyping about, expectations for, and affective response toward persons with disabilities) mediate the relationship between the antecedents and treatment. Then, observers' treatment of persons with disabilities influences responses of persons with disabilities (i.e., affective and behavioral responses). Finally, feedback loops are proposed that highlight the fact that the responses of persons with disabilities in turn influence antecedents.

Figure 1 shows a streamlined model that retains the nine variables in four main sets of relationships to show direct relationships between the antecedent variables (legislation, organizational characteristics, attributes of persons with disabilities, attributes of observers, nature of job, and observers' job-related expectations) and the main dependent variable, observers' treatment of persons with disabilities. We include



**FIGURE 1** Revised model of the factors affecting the treatment of people with disabilities in organizations (based on Stone & Colella, 1996). The numbers in parentheses on each arrow indicate the number of studies that tested that particular relationship. Many of the studies tested several relationships and are, therefore, included in multiple counts. PWD: persons with disabilities

psychological consequences for observers as a mediator between the antecedents and observers' treatment of persons with disabilities. Two feedback loops are included from responses of persons with disabilities to both (a) observers' treatment of persons with disabilities and (b) psychological consequences for observers. Our simplified framework more clearly conveys the major conceptual relationships from the original framework, which we will explain in our results later.

#### 3 | METHODS

Systematic reviews, considered a foundation of evidence-based management, are useful for reporting what is known and not known about a focal area. They aim to synthesize evidence by following an explicitly stated, systematic, and replicable method of review. We focused on quantitative and qualitative empirical studies regarding the treatment of persons with disabilities in work organizations from the fields of management, rehabilitation, psychology, and sociology. Journals with scope statements focusing outside these domains (such as law, economics, education, and information technology) did not meet the criteria for inclusion. Keyword searches focused on scholarly articles in the following databases: Business Source Premier, ABI/INFORM, PsycINFO, PsycARTICLES, and PubMed. The sample time period was the 20 years from 1996 through 2016, which was the most recent full year available at the time of the study. The search terms for keywords were disability AND employment OR work OR workplace. We removed articles focused on supported employment as such programs are likely to have different approaches to inclusivity and treatment; furthermore, the number of studies in this area is large enough to merit a separate review.

We then retained articles published in journals ranking in the top quartile in their discipline, according to the Scientific Journal Ranking (SJR) system (available at http://www.scimagojr.com), along with two second-quartile journals with significant sets of articles focused on disability (*Employee Responsibilities and Rights Journal, Journal of Applied Social Psychology*). The SJR is based on a weighted impact factor. Some researchers suggest that the SJR indicator is superior to the Thomson Reuters Impact Factor because it includes not only the number of citations received by a journal, but also the importance or quality of the journals where the citations occur (Falagas, Kouranos, Arencibia-Jorge, & Karageorgopoulos, 2008). The SJR indicator is open-access, lists considerably more journal titles than the Thomson Reuters report does, and accounts for self-citations. This ranking system thus served as a proxy criterion for study quality.

Members of the research team reviewed the abstracts of all retained articles to identify empirical articles focusing specifically on treatment of persons with disabilities in and by work organizations. Consistent with Stone and Colella (1996), we define treatment broadly to include a range of behaviors (e.g., hiring, training, and inclusion). The criteria for the final selection of the 88 articles were as follows: (a) the article appears in a first-quartile peer-reviewed journal in the domains of management, rehabilitation, and psychology and sociology; (b) the article reports a qualitative or quantitative empirical study; and (c) the focus of the article is on the treatment of persons with disabilities in work organizations (review studies are labeled with an asterisk in the reference list). The disciplines represented in the set are management (53%), rehabilitation (35%), and psychology and

sociology (35%). Qualitative data from interviews and focus groups are used in 24% of the studies.

Four authors coded full-text versions of the articles, and then all five authors reviewed the coding and resolved any differences. The coding results are summarized in Table 1, which displays the primary relationships tested from the Stone and Colella (1996) model, indicated by letters displayed in Figure 1. Table 1 also displays the disability type(s) included in each study, indicating "unspecified" if specific disability types are not given; the national context(s) for the study data; and study methodology items including sample size(s), data source(s), and research and analysis methods. Studies using Delphi panels, interviews, and focus groups are considered qualitative studies.

### 4 | REVIEW OF EMPIRICALLY INVESTIGATED RELATIONSHIPS

Our analysis follows the model in Figure 1, with primary relationships identified with the letters A through D, and the numbers in parentheses on each arrow indicating the total number of studies addressing the relationship (frequency data are also presented in column 2 of Table 1).

# 4.1 | Direct effects of antecedents on observers' treatment of persons with disabilities

We found a clear majority (70%) of the studies in our sample tested direct relationships of the antecedent factors on the treatment of persons with disabilities, without articulating how the factors are related to or mediated by psychological consequences for observers. These relationships are depicted as  $A_1$  through  $A_6$  in Figure 1. Operationalizations varied significantly across studies. For example, studies examined hiring as both actual (e.g., Huang & Chen, 2015) and hypothetical (e.g., Reilly et al., 2006), and presented inclusion as both instrumental inclusion (e.g., not having opinions heard) and social inclusion (e.g., exclusion from social groups) (e.g., Fevre et al., 2013). Studies generally supported Stone and Colella's (1996) proposed relationships, but some variables received limited or no empirical attention. For example, technology (listed in the original model as an organizational characteristic) and some attributes of persons with disabilities, such as race, social status, and interpersonal style, were not empirically examined.

### 4.1.1 | Legislation and observers' treatment of persons with disabilities

The legislative context influences observers' treatment of persons with disabilities because it shapes the social and legal parameters of required behaviors. Two studies in our sample explored the effects of legislative context on treatment of persons with disabilities. Bruyère et al. (2004) compared the impact of nondiscrimination legislation in the United States and the United Kingdom with survey data from HR professionals in both countries (813 in the United States, 802 in the United Kingdom). They found employers in both countries were responding positively by making accommodations and adjustments, and that costs were not significant barriers to employment of persons with disabilities. They also noted that the U.S. companies offered

significantly more training than the UK companies, especially related to defining essential job functions and the accommodation process.

In a longitudinal comparison of a single country before and after the adoption of disability legislation, Woodhams and Corby (2007) found the passage of the UK Disability Discrimination Act in 1996 led to significant increases in the employment of persons with disabilities and disability management practices, and that specific practices were associated with increased employment of persons with disabilities (e.g., reviewing interview procedures, having written documentation and medical standards, and monitoring applicants and current employees for disability).

Overall, the limited number of empirical studies on the relationship between legislation and observers' treatment of persons with disabilities means that we currently know little about how treatment of persons with disabilities compares between different national and cultural contexts. Furthermore, the comparative data we have are from wealthier nations representing a small percentage of the world's populations, and this critique applies for our complete set of 88 articles as well. More specifically, we found 60% of the studies were based on the data collected solely in the United States. Additional countries with multiple studies are the United Kingdom (9%), Canada (5%), and India (5%). If we combine the totals for the United States, Canada, and the United Kingdom, the proportion of studies increases to 78%. These findings lead us to conclude that there has been limited systematic research examining and comparing how country-related factors shape the treatment of persons with disabilities.

The boundary conditions of these various contexts should be considered because national cultural factors and values shape the social, economic, religious, and legislative contexts, which in turn may influence the treatment of persons with disabilities. For example, in many countries, overt discrimination is still common, with the extent varying by the disability type (Rieser, 2018). However, in countries with more explicit legal protections, discrimination may take more subtle forms, which can be as damaging as overt discrimination (K. P. Jones, Peddie, Gilrane, King, & Gray, 2016). Of special interest are the effects of national healthcare and insurance frameworks, which shape employers' obligations and responsibilities with respect to accommodation and benefits. Future studies should also be conducted in less-affluent countries. To the extent that multinational corporations headquartered in the United States operate across diverse countries, HR practitioners can examine how many and which diversity policies are universal or region-specific (e.g., Kulkarni, Boehm, & Basu, 2016).

# 4.1.2 | Organizational characteristics and observers' treatment of persons with disabilities

The most frequently studied antecedent to observers' treatment of persons with disabilities was organizational characteristics, with 32 studies in our sample. Organizational characteristics can include HR policies and practices related to recruitment, hiring, socialization, performance evaluation, and accommodation of persons with disabilities. This category may also include organizational features such as culture and technology. This relationship received special focus in studies with non-U.S. data (used in 53% of the studies in the non-U.S. set). Primary data sources for 72% of these studies came from HR managers and employers. However, some of the largest-scale studies

 TABLE 1
 Published disability articles included in review

Study	Primary relationships	Disability type(s) studied	National context(s)	Sample size(s)	Subjects/data providers	Method/design	Analysis
Araten-Bergman (2016)	B, B <sub>2</sub> , B <sub>4</sub>	Unspecified	Israel	250; 146	Supervisors	Longitudinal survey	Multiple regression
Baldridge and Swift (2013)	$D_2$	Hearing	SN	279	PWD	Survey	Hierarchical regression
Baldridge and Swift (2016)	$D_2$	Hearing	SN	242	PWD	Survey	Hierarchical regression
Baldridge and Veiga (2006)	$D_2$	Hearing	NS	229	PWD	Survey	Logistical regression
Balser and Harris (2008)	C	Mobility	NS	333	PWD	Survey	Hierarchical regression
Baumgärtner, Dwertmann, Boehm, and Bruch (2015)	A <sub>2</sub> , C	Unspecified	Germany	4,141	PWD	Survey	Hierarchical regression
Bengisu and Balta (2011)	A <sub>3</sub> , A <sub>5</sub> , A <sub>6</sub>	Multiple types	Turkey	18/12/13	Experts	Delphi panel surveys	Frequencies
Bjelland et al. (2010)	A <sub>3</sub> , C	Unspecified	NS	2,147,017	EEOC discrimination claims	Database analysis	Frequencies
Brecher, Bragger, and Kutcher (2006)	A <sub>3</sub>	Physical	NS	194	Students	Experiment	MANOVA
Bruyère, Erickson, and van Looy (2004)	A <sub>1</sub> , A <sub>2</sub>	Unspecified	US/UK	813/802	HR professionals	Survey	Chi square, <i>t</i> -test
Bruyère, Erickson, and van Looy (2006)	$A_2$	Unspecified	NS	813/52	SHRM members, National Business Group on health members	Survey	Chi square
Campolieti (2004)	A <sub>2</sub> , A <sub>3</sub>	Injury/illness	Canada	10,063	PWD	Estimation model	Bivariate probit
Carpenter and Paetzold (2013)	B, B <sub>4</sub>	Dyslexia/depression/ migraine	NS	240	Students	Experiment	Hierarchical regression, ANOVA
Chan et al. (2010)	A <sub>2</sub> , A <sub>4</sub> , A <sub>6</sub>	Physical/sensory	NS	132	HR, line managers	Survey	Correlation, multiple regression
Chow and Cichocki (2016)	$A_3$ , $D_2$	Psychiatric	NS	1,042	PWD; clinical and employment records	Survey, interviews	Logistic regression
Colella et al. (1998)	A <sub>3</sub> , A <sub>5</sub>	Dyslexia	SN	87	Students	Experiment	ANOVA
Colella and Varma (2001)	$D_2$	Multiple types	SN	85/41	Students/supervisors	Experiment/survey	ANCOVA/regression
Dalgin and Bellini (2008)	A <sub>3</sub>	Physical/psychiatric	SN	09	Employers	Experiment	ANOVA
Diksa and Rogers (1996)	$A_3,A_6$	Psychiatric	NS	373	Employers	Survey	Factor analysis, t-tests
Dong, Oire, MacDonald-Wilson, and Fabian (2012)	$A_2$	Unspecified	ns	531	PWD, employers, service providers	Survey	Confidence interval tests, <i>t</i> -tests
Dong, Fabian, and Xu (2016)	A <sub>3</sub> , C, D <sub>2</sub>	Unspecified	NS	714	PWD	Survey	Structural equation modeling
Draper, Reid, and McMahon (2011)	A <sub>3</sub>	Unspecified	NS	377,580	EEOC discrimination claims	Database analysis	Proportion calculations
Dwertmann and Boehm (2016)	A <sub>2</sub> , A <sub>3</sub> , A <sub>4</sub>	Unspecified	Germany	1,253	PWD	Survey	Hierarchical linear modeling
Erickson, von Schrader, Bruyère, and van Looy (2014)	$A_2$	Unspecified	NS	675	SHRM members	Survey	Frequencies, chi-square
Feuerstein, Luff, Harrington, and Olsen (2007)	A <sub>3</sub>	Cancer	NS	59,981/184,354	EEOC discrimination claims	Database analysis	Chi-square, logistic regression
Fevre, Robinson, Lewis, and Jones (2013)	A <sub>3</sub>	Physical/psychological/ illness	ž	3,979	PWD	Survey	Logistic regression
Florey and Harrison (2000)	B <sub>3</sub> , B <sub>4</sub> , B <sub>6</sub>	Hearing	Sn	108/108	Managers	Experiment	MANCOVA, regression
Foster and Fosh (2010)	$D_2$	Unspecified	¥	20	PWD, unions, experts	Interviews	Theme coding of personal narratives

relationships Disability type(s) studied A <sub>2</sub> Unspecified Linsnerified
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50-50-6-
Multiple types US
Unspecified Canada
Unspecified Germany
Unspecified US
Unspecified New Zealand 227
Multiple types US
Unspecified US
Physical/psychiatric US
Obesity/wheelchair US
Unspecified US
Unspecified
Unspecified US
Unspecified US
Unspecified Taiwan
Unspecified UK
Epilepsy UK
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Study	Primary relationships	Disability type(s) studied	National context(s)	Sample size(s)	Subjects/data providers	Method/design	Analysis
Kulkarni and Rodrigues (2014)	$A_2$	Unspecified	India	91	Annual reports	Archival documents	Content analysis
Leasher, Miller, and Gooden (2009)	A <sub>4</sub> , B, B <sub>4</sub>	Unspecified	SN	205	Students	Experiment	MANOVA
Lee (1996)	$A_2$	Unspecified	SN	200	Employers	Survey	Proportion calculations
Lengnick-Hall, Gaunt, and Kulkarni (2008)	A <sub>o</sub>	Unspecified	Sn	38	Employers	Interviews	Theme coding
Loo (2004)	B, B <sub>4</sub>	Unspecified	Canada	231	Students	Experiment	ANOVA, chi-square
McGuire et al. (2015)	₽	Back-injured workers	US/Canada	796	Supervisors	Survey	ANOVA, linear regression
McLaughlin, Bell, and Stringer (2004)	A <sub>3</sub> , A <sub>4</sub> , B, B <sub>3</sub> , B <sub>4</sub>	AIDS/cerebral palsy/stroke	NS	643	Students	Experiment	ANOVA, regression
McLellan, Pransky, and Shaw (2001)	$A_2$	Work-related injuries	SN	108	Supervisors	Survey	t-tests
McQuade (2002)	A <sub>3</sub> , A <sub>6</sub>	Rheumatoid arthritis	SN	340	Students	Experiment	ANOVA
Miceli, Harvey, and Buckley (2002)	A <sub>3</sub>	Wheelchair/child care demands/ HIV-positive	Sn	630	Students	Experiment	Ordered logit estimation
Mik-Meyer (2016a)	B, C, D <sub>2</sub>	Cerebral palsy	Denmark	13/19/43	PWD, managers, coworkers	Interviews	Discourse analysis
Mik-Meyer (2016b)	В	Cerebral palsy	Denmark	62	Managers, coworkers	Interviews	Grounded theory
Miller and Werner (2007)	Ą	Physical/mental	SN	133	Students	Experiment	Regression
Morgan and Alexander (2005)	$A_2$	Developmental	SN	534	Employers	Survey	ANOVA, chi square
Nelissen, Hülsheger, van Ruitenbeek, and Zijlstra (2016)	В	Unspecified	Netherlands	313 dyads	PWD—colleague	Survey	Regression
Ozawa and Yaeda (2007)	A <sub>4</sub> , A <sub>6</sub>	Psychiatric	Japan	358	Employers	Survey	ANOVA
Pérez, Alcover, and Chambel (2015)	$D_2$	Unspecified	Spain	204	PWD	Survey	Structural equation modeling
Popovich, Scherbaum, Scherbaum, and Polinko (2003)	d B, B <sub>4</sub>	Unspecified	Sn	118/147	Students	Experiment	ANOVA, chi-square
Premeaux (2001)	A <sub>3</sub> , A <sub>5</sub>	Physical/mental	SN	75	Students	Experiment	Rank order testing
Reilly, Bocketti, Maser, and Wennet (2006)	A <sub>2</sub> , A <sub>3</sub>	Multiple types	Sn	166/133	Students	Experiment	ANOVA
Richards and Sang (2016)	$A_2$	Neurological	¥	44	PWD, neurodiversity champions, union organizers	Focus groups, interviews	Template analysis
Robert and Harlan (2006)	В	Unspecified	SN	50	PWD	Interviews	Grounded theory
Robinson (2000)	A <sub>3</sub>	Unspecified	¥	126/9	Employers, PWD	Survey, interviews	Frequencies, theme coding
Schur (2003)	$A_S$	Unspecified	ns	1,002/432	General population, PWD	Government surveys (CPS <sup>c</sup> , SIPP <sup>d</sup> )	Regression
Schur et al. (2009)	A <sub>3</sub> , C	Unspecified	ns	30,000/14/2	Employees, companies	Government survey (NBER <sup>e</sup> )	Regression
Schur et al. (2014)	$D_2$	Mobility/mental/hearing/ vision	ns	8/128	Employers, participants	Survey, interviews	Regressions, theme coding, t-tests
Shaw, Chan, and McMahon (2012)	A <sub>3</sub>	Behavioral/neurological/ physical/sensory	ns	211,736	EEOC claims	Archival documents	Chi-square

Univariate, chi-square Logistic regression Frequencies Regression Regression Analysis Government survey Method/design (PALS<sup>b</sup>) Survey Survey Survey Survey Subjects/data providers HR, supervisors HR, managers Employees PWD H Sample size(s) 526/339 38,839 46/255 1,880 98 South Africa context(s) Canada S S Disability type(s) studied Mental/physical Physical/mental Unspecified Unspecified Unspecified relationships 42, A3, A5 Primary  $A_1, A_2$  $\frac{7}{4}$  $A_2$ O Wiggett-Barnard and Swartz (2012) Cleveland, and Thornton (2010) Snyder, Carmichael, Blackwell, Woodhams and Corby (2007) Juger and Kregel (2003) Shuey and Jovic (2013) Study

(Continued)

**TABLE 1** 

Notes, EEOC: Equal Employment Opportunity Commission; HR: human resources; PWD: persons with disabilities; SHRM: Society for Human Resource Management. 2008 Office of Disability Employment Policy Survey of Employer Perspectives on the Employment of People with Disabilities (U.S.)

<sup>b</sup> 2006 Participation and Activity Limitation Survey (Canada).

C Curront Domitation Curron (LLC)

Current Population Survey (U.S.).
 Survey of Income and Program Participation (U.S.).

National Bureau of Economic Research Shared Capitalism Research Project (U.S.)

in the sample also collected data from employees and persons with disabilities themselves (e.g., Baumgärtner et al., 2015), allowing more differentiated conclusions regarding the state and impact of organizational characteristics on the treatment of employees with disabilities.

Studies generally found that organizational policies designed to specifically address the needs of persons with disabilities led to improved treatment. For example, seven studies mentioned the importance of HR, supervisor, and union training on disability laws and accommodation (Bruyère et al., 2004; Chan et al., 2010; Gröschl, 2013; Houtenville & Kalargyrou, 2012; Kulkarni, 2016; McLellan et al., 2001; Richards & Sang, 2016). In one U.S. study of 108 supervisors, McLellan et al. (2001) found disability management training for supervisors seemed to facilitate communication, accommodations, and the reporting of injury, with supervisors' positive self-assessments maintained a year after the training was conducted. Kulkarni (2016) reported that organizations' career development philosophies, which encompassed not only training but items like having a diversity and inclusion policy and using the right language, promoted higher employment of persons with disabilities.

Ten studies focused on organizational size and type (e.g., across sectors and industries) in relation to the treatment of persons with disabilities, which are variables not directly addressed by Stone and Colella (1996). These studies found larger, public-sector, unionized, and service organizations were associated with increased employment of persons with disabilities. These types of organizations were also associated with positive responses toward persons with disabilities, such as changing work systems, providing accommodations, and providing special training (Bruyère et al., 2006; Dong, Oire, MacDonald-Wilson, & Fabian, 2012; Goss et al., 2000; Harcourt et al., 2005; Hernandez et al., 2012; Houtenville & Kalargyrou, 2015; Lee, 1996; Morgan & Alexander, 2005; Richards & Sang, 2016; Woodhams & Corby, 2007). Goss et al. (2000) suggested that the organizational size is a proxy for having specialized HR managers who can learn about best practices in disability management through professional associations, which can encourage them to develop better practices for disability employment. The favorable findings about public-sector and unionized organizations run counter to Stone and Colella's (1996) predictions that work organizations with an equity value system that emphasizes standardization and impersonalization will present more obstacles and treatment problems for employees with disabilities. Instead, the evidence suggests that these types of organizations aim to be more inclusive. A possible reason could be that in many countries, government policies support or require public-sector organizations to make a greater effort to hire employees with disabilities (Baldridge, Beatty, Boehm, Kulkarni, & Moore, 2018).

Additional organizational characteristics found in the studies that are not mentioned in the original Stone and Colella (1996) framework included workplace structure and design (Baumgärtner et al., 2015; Gröschl, 2013; Harcourt et al., 2005; Unger & Kregel, 2003) and diversity climate (Chan et al., 2010; Dwertmann & Boehm, 2016; Gilbride et al., 2003; Jakobsen & Svendsen, 2013). Baumgärtner et al. (2015) found employees with disabilities were less satisfied than employees without disabilities in work organizations with highly centralized structures. They suggested that a more pronounced hierarchy of authority in an organization may make it harder for managers to

respond to the needs of employees with disabilities. In another U.S. study of HR and line managers, Chan et al. (2010) found supervisor knowledge of the Americans with Disabilities Act (ADA) and inclusion of disability in the company's diversity plan were the strongest predictors of managers' commitment to hire persons with disabilities.

# 4.1.3 | Attributes of persons with disabilities and observers' treatment of persons with disabilities

Direct effects of the attributes of persons with disabilities on observers' treatment of persons with disabilities were explored in 27 studies. The most common approach was to compare treatment of persons with disabilities among broad categories of disability, such as physical, sensory, and mental disabilities. Another set of studies focused on the treatment of persons with a single, specific disability, or illness, such as rheumatoid arthritis (McQuade, 2002) or cancer (Feuerstein et al., 2007).

Various studies have investigated the influence of disability type on selection and hiring decisions and found applicants with a mental or psychological disability were judged more negatively than persons with physical, sensory, or cognitive disabilities (Dalgin & Bellini, 2008; Gouvier et al., 2003; Huang & Chen, 2015; Premeaux, 2001). In some studies, stigma dimensions such as origin (Reilly et al., 2006), course (Gouvier et al., 2003; Robinson, 2000), and aesthetic qualities (Hayes & Macan, 1997) were examined. For example, in experiments involving students, Reilly et al. (2006) tested whether a structured interview format could improve perceived employability of persons with disabilities. They found candidates with a history of depression or substance abuse were rated less favorably than those with cancer, and suggested that the difference could be due to internal attributions associated with the first two disabilities. These studies collectively underscore the important role that the disability type, onset controllability, and associated stigma play in shaping treatment of persons with disabilities.

Shuey and Jovic (2013) investigated relationships between reasonable accommodation and the occupational and demographic characteristics of employees with disabilities, including age, gender, immigrant status, occupation, and education level. Working with a large Canadian government data set (2006 Participation and Activity Limitation Survey [PALS]), they found low-wage workers, lesseducated workers, and workers in specific occupations such as manufacturing were more likely to have unmet accommodation needs; they found no effect for gender or immigrant status.

Persons with disabilities are often stereotyped as incompetent, helpless, and dependent (Colella & Bruyère, 2011). However, some evidence suggests that high work performance may contradict such stereotypes. Studies including the performance level of the employee found high performance levels were associated with more positive treatment of persons with disabilities (e.g., positive beliefs about productivity) (Bengisu & Balta, 2011).

Finally, Dwertmann and Boehm (2016) investigated the role of disability status for establishing high-quality leader-member exchange (LMX) relationships. They found heterogeneous dyads in which either the supervisor or the subordinate has a disability are associated with lower LMX quality and lower job performance ratings compared to homogeneous dyads in which both or none of the members have a disability. Interestingly, these relationships were more pronounced

when the supervisor (i.e., a high-status person) had the disability. Climate for inclusion was identified as a partial buffer for these negative relationships.

This area received relatively more research focus in the United States: 38% of the studies using U.S. data included attributes of persons with disabilities, compared with 21% of the studies using non-U.S. data. We found 16% of the 88 studies identified and compared specific disability categories, assessing the relationship between attributes of persons with disabilities and observers' treatment of persons with disabilities. However, 50% of the studies did not identify a specific type of disability, focusing instead on disability in general. Despite the large number and diversity of disability conditions, many studies use the term persons with disabilities in ways that imply homogeneity and understate differences. Such amalgamation across disabilities and disability categories may be attributable to the types of data that are readily available, such as government databases, which may offer limited information about disability conditions because they have often been designed for more general purposes. Studies that do investigate the impact of disability type or attributes show that experiences and treatment vary significantly depending on the type of disability (e.g., Gouvier et al., 2003; Premeaux, 2001: Ren et al., 2008). Some studies clearly indicated a focus on a single disability category, such as physical, 9%; cognitive or mental, 8%; mobility, 8%; and sensory, 4%.

Additionally, we noticed that disability research tends to present disability as a master status, without considering the impact of other individual differences and identities. Persons with disabilities are also young or old, have varying gender identities, and are from a full spectrum of ethnic and socioeconomic backgrounds. The simultaneous inclusion of all attributes of persons with disabilities is relatively understudied in the empirical research.

## 4.1.4 | Attributes of observers and observers' treatment of persons with disabilities

The original model outlined three categories of observer attributes that can influence observers' predispositions toward persons with disabilities: demographic characteristics, personality characteristics, and the level of previous contact with persons with disabilities. Ten studies in our sample included relationships linking the attributes of observers directly to observers' treatment of persons with disabilities.

In one example, McLaughlin et al. (2004) tested the effect of observers' race and gender on the acceptance of persons with disabilities as coworkers and found female students made fewer discriminatory employment judgments than male students made, and minority students judged accommodations (i.e., flexible work hours) as more fair than Caucasian students did. No differences were found regarding attitudes toward persons with disabilities as coworkers.

Observers' personality characteristics were investigated in three studies. First, in a vignette-based experiment, Carpenter and Paetzold (2013) showed feeling empathy toward a person with a disability increased the intention to provide job accommodations (extra time for completing a task), while neither feeling liking nor sadness toward the requestor significantly predicted this outcome. Second, an experiment by Leasher et al. (2009) found openness to new experiences was positively related to recommendations to hire an applicant with a disability. Finally, an experiment by Miller and Werner (2007) found workers

who were more benevolent on equity preference were more willing to show helping behavior toward persons with disabilities.

Attitudes toward persons with disabilities were investigated in a survey study of personnel directors and managers by Jackson et al. (2000), who found attitudes toward persons with disabilities and knowledge of the UK Disability Discrimination Act predicted willingness to make a range of selection process adjustments. The level of previous contact was investigated in a U.S. study by Chan et al. (2010), who found HR managers' and line managers' previous contact with persons with disabilities was a significant predictor of their commitment to hire them; however, this association was mediated by knowledge of the ADA legislation, job accommodations, and the inclusion of disability in the organization's diversity statement.

In sum, these mediators match other variables presented in the Stone and Colella (1996) model and underscore the complexity of treatment as including individual and organizational factors. To the extent possible, employers should be aware of the individual demographic and attitudinal characteristics of their employees—including those with disabilities and those without. Developing explicit and proactive organizational policies regarding supervisor training and diversity statements can establish ground rules for interactions between these groups. As suggested by the mediated relationship found in the work of Chan et al. (2010), research could be conducted to understand the complexities and interrelationships among elements of observers' attributes. More research on other demographic characteristics, personality dimensions, and levels and types of previous contact is also needed, as is research looking at interactions among these observer attributes and differences and similarities between observers and persons with disabilities.

### 4.1.5 | Nature of job and observers' treatment of persons with disabilities

The Stone and Colella (1996) model proposes that ability requirements, interdependence, and reward systems influence observers' treatment of persons with disabilities. Observers are thought to assess the fit between persons with disabilities and job requirements, which involves assessment of the nature of a job, the nature of a disability, and other attributes of persons with disabilities.

Six articles in our sample investigated the nature of jobs. Ability requirements were examined in two studies (Bengisu & Balta, 2011; Gouvier et al., 2003). Using a sample of undergraduates, Gouvier et al. (2003) studied the effects of disability type, job complexity, and extent of the job's public contact on hiring decisions. This experimental study found the applicant with a back injury (i.e., physical disability) was rated significantly more favorably (particularly for high-complexity tasks) than applicants with a developmental disability or brain injury, or the candidate with a mental illness (who was least likely to be hired under all conditions, including for low-complexity tasks). No effects of public contact were found.

Two studies investigated the aspects of interdependence among several of the study variables. Interdependence of rewards was explored in a lab study by Colella et al. (1998). They asked students to rate three confederates with varied disability types for their suitability for different types of jobs, and found negative ratings were given in situations with poor fit between the disability and the job type and

higher interdependence of rewards. Similarly, Premeaux (2001) found applicants with a disability were recommended for hire less frequently when the open position was in close physical proximity to the evaluator, ostensibly because the close proximity implies higher interdependence for the evaluator.

One additional concept related to the nature of the job in our sample was the type of employment contract (for example, full-time versus part-time). Using Canadian PALS survey data, Shuey and Jovic (2013) found persons with disabilities in nonpermanent, part-time, nonunion, and low-wage jobs were more likely to have unmet accommodation needs

Overall, studies in this section suggest that task complexity (with associated ability requirements), task interdependence, and interdependence of rewards are relevant job factors shaping treatment of persons with disabilities in organizations. Studies also suggest that these job-related attributes may assume importance for certain disabilities more than for others, albeit in a simulated setting. Given the large numbers and diversity of disability conditions and job requirements, existing research has only begun to investigate fit assessments for various combinations of disabilities, job requirements, and other individual differences.

### 4.1.6 | Observers' job-related expectations and observers' treatment of persons with disabilities

Observers' job-related expectations refer to the expected outcomes of interactions between persons with disabilities and observers (e.g., observers' expectations about increased workload when working with persons with disabilities). The Stone and Colella (1996) model focuses on how expected contact and expected outcomes can influence overall expectations. It is important to note that this factor refers to future contact (as opposed to prior contact, which was included in attributes of observers). Fourteen studies in our sample addressed observers' job-related expectations, with most studies broadly addressing how observers' attitudes and beliefs about persons with disabilinfluence the treatment of persons with disabilities. Approximately half of the articles in this section provided information on the disability types studied, which seems essential given that observers' job-related expectations are likely to differ between conditions. Yet only two studies (Bengisu & Balta, 2011; Gouvier et al., 2003) explicitly compared more than one disability type, which would be particularly insightful for understanding observers' expectations and for designing potential intervention strategies (such as information campaigns) to combat stereotypes about job performance of persons with disabilities. Furthermore, studies in this section might be influenced by social desirability bias because most of these analyses were based on the interview or survey data from actual employers. Two experimental studies (Gouvier et al., 2003; McQuade, 2002) can complement the studies using employer data; however, both were conducted with student samples, which may limit their generalizability to actual HR managers.

Many studies examined barriers to employment. For example, Lengnick-Hall et al. (2008) interviewed U.S. corporate executives in a study that aimed to explain why employers do not hire persons with disabilities. They found employers had concerns about the job qualifications and performance potential of persons with disabilities, the

costs associated with such hiring, and possible reactions of other stakeholders. Some employers were concerned about "headaches" (Lengnick-Hall et al., 2008) such as more frequent absences or higher government scrutiny associated with hiring persons with disabilities, which increased their fear of discrimination litigation (Jasper & Waldhart, 2013; Kaye et al., 2011). A qualitative study of Taiwanese employers by Huang and Chen (2015) found the perceived need for accommodations and extra training and supervision also decreased managers' perceptions of promotability for employees with disabilities.

In contrast to studies of barriers related to inclusion, some studies reported positive expectations of working with persons with disabilities, such as higher loyalty and reliability, and lower turnover (Gröschl, 2013; Huang & Chen, 2015). However, Huang and Chen (2015) note that employers hire persons with disabilities to address persistent labor shortages for lower-level jobs that college-educated applicants will not take—a positive attitude that points to other persistent problems such as the underemployment of persons with disabilities. It would be helpful to have investigations of a full range of expected future contact and expected outcomes. For example, emerging trends such as flexible work arrangements may influence coworkers' job-related expectations for persons with disabilities and other individual differences.

# 4.2 | Psychological consequences for observers as a mediator

Psychological consequences for observers play a central role in the Stone and Colella (1996) model. This relationship focuses on the ways that observers' categorization and stereotyping of persons with disabilities may influence the observers' cognitive processes and resulting treatment of persons with disabilities. We identified 12 studies in which psychological mechanisms were investigated in greater depth. These relationships are depicted as  $B_1$  through  $B_6$  in Figure 1.

Observers' perceptions were related to the fairness of accommodations (Carpenter & Paetzold, 2013; Florey & Harrison, 2000), observers' acceptance of and inclusive behavior toward persons with disabilities (McLaughlin et al., 2004; Nelissen et al., 2016), and hiring intentions (Araten-Bergman, 2016). Two studies using field data from workers and coworkers adopted explicit models to explain the psychological mechanisms in play. In the first study, Araten-Bergman (2016) applied the theory of planned behavior to longitudinally explore the relations among Israeli managers' attitudes, intentions, and actual hiring behaviors. Results indicated that intentions to hire did not predict actual hiring of persons with disabilities as measured 6 months later; however, a company's written disability hiring policy and disability training was associated with actual hiring. The second study, by Nelissen et al. (2016), applied the theory of reasoned action to investigate how and when coworkers' stereotypes influence the amount of inclusive behavior they demonstrate for employees with disabilities-in other words, how stereotypes contribute to positive behavior. They found an indirect relationship between coworkers' stereotypes of liking and respect (e.g., "warmth and competence") toward employees with disabilities through attitudes toward the employment of persons with disabilities and inclusive behavior. They suggest that attitudes shape beliefs, which in turn shape the cognitive appraisals and subsequent behaviors toward employees with disabilities.

Florey and Harrison's (2000) multi-scenario experimental study found perceived fairness and performance instrumentality (defined as the effect of the disability on the employee's work performance) had a strong positive effect on managers' intentions to comply with a request for accommodation. However, they also found obligation to comply (an organizational characteristic) and managers' attitudes about persons with disabilities (i.e., coworkers' attitudes) fully mediated the relationship.

Regarding notions of fairness, Popovich et al. (2003) conducted an experiment in the United States measuring observers' perceptions of the legitimacy of 42 disabilities, including some conditions that may not be widely seen as disabilities (e.g., headaches). Results showed discrepancies between what the participants believed were disabilities and the conditions that are recognized as disabilities under the ADA, with psychological conditions receiving the most notable discrepancies.

Three qualitative studies investigated the interpersonal and organizational mechanisms leading to workplace discrimination against employees with disabilities. Two Danish studies by Mik-Meyer (2016a, 2016b) illustrate how able-bodied employees engage in "othering" of employees with disabilities and tend to cast their relationships with these employees in a parent–child dependency framework.

While many of the studies implicitly rely on social categorization and stereotyping, few have actually measured these psychological processes and their relationship to treatment. Unless these underlying psychological processes are actually measured, studies finding associations between antecedents and treatment are essentially black boxes with key relationships assumed rather than rigorously tested. An illustration of the black-box issue can be seen in the previously mentioned study by Chan et al. (2010). They used survey questions to evaluate HR managers' perceptions of persons with disabilities and their companies' policies about hiring them. Similarly, McQuade's (2002) study found a number of negative social perceptions related to workers with rheumatoid arthritis. Both studies are useful in that they describe supervisor and coworker attitudes, but they do not specify the underlying cognitive processes that lead to stigma and discrimination. Building on such studies, further understanding of the underlying processes can shape more effective interventions. Lab studies have been more successful in measuring psychological processes, although their reliance on student samples or vignettes may pose problems of generalizability to a working adult population. Nonetheless, additional lab experiments may be the best way to isolate and understand the causal mechanisms underlying stigma and other psychological processes, which can then be examined in workplaces. Overall, our review shows that while we know that disability can influence treatment, the precise mechanisms through which this occurs would benefit from more explicit study.

# 4.3 | Observers' treatment of persons with disabilities and responses of persons with disabilities

Observers' treatment of persons with disabilities, and elicited responses to this treatment, take place in a dynamic and potentially self-reinforcing two-way relationship (shown as C in Figure 1). The nine studies in this section tended to focus on negative outcomes. For

example, Snyder et al. (2010) found employees with disabilities reported more overt and subtle discrimination and more procedural injustice than their counterparts without disabilities; perceived organizational and supervisory support helped reduce the effects of this perceived discrimination. In a qualitative study, Harlan and Robert (1998) found employers used a resistance strategy of not recognizing disabilities to discourage accommodation requests. The employees with disabilities responded to the lack of accommodation by working harder and for longer hours than their coworkers without disabilities. In an example of the effects of positive treatment, a large study of Canadian PALS data found that when persons with disabilities received requested accommodations, their life satisfaction improved, and their perceived disability-related discrimination decreased (Konrad et al., 2013).

The most frequently researched response of persons with disabilities, and the one highlighted in the Stone and Colella (1996) model, is requesting accommodation. Seven studies explored the linkage between the requesting and granting of accommodations. For example, Baldridge and Veiga (2006) investigated how persons with hearing disabilities decide to request accommodations based on their assessment of the likelihood of compliance, normative beliefs, and anticipated psychosocial consequences, with greater monetary costs and impositions on others negatively influencing these assessments. Baldridge and Swift (2013, 2016) extended this research by examining the interaction between employee attributes (age, gender, disability severity, and onset age), organizational/workplace characteristics (having coworkers with disabilities, for-profit organization context), and psychological assessments and behavioral responses of the employee with a disability. Similarly, Dong, Fabian, and Xu (2016) found individuals' self-efficacy, outcome expectancy, and positive affect increase the willingness of employees with disabilities to request accommodation.

While accommodation has received the greatest attention, other treatment variables such as ratings of job suitability, job assignments, promotions, training and mentoring opportunities, treatment as tokens, inclusion or exclusion in work groups and other social activities, sharing of information, and helping behavior remain understudied, as do response variables related to motivation and loyalty. Consistent with this body of research as a whole, most studies (67%) were conducted in a U.S. context, and all were conducted in a U.S. or European context. This is troublesome because of the potential for national laws, culture, and socioeconomic factors to impact both treatment and responses. As noted elsewhere, most studies in this section do not list the disability types studied, or, if listed, address only a single disability type. Given the importance of disability attributes in shaping treatment, further research investigating the impact of disability types and attributes is needed. Positively, the studies in this section do use large samples and generally sound interview and survey designs. Additional lab studies can help extend and clarify these existing studies. Moreover, existing research detailing how stereotyping occurs, focusing on exclusion, avoidance, stilted interaction, fictionalization, harassment, and staring (i.e., Robert & Harlan, 2006), can help guide future study on the responses of persons with disabilities to such treatment, as well as the role that HR practitioners can play in curbing marginalization and isolation.

# 4.4 | Responses of persons with disabilities to observers' treatment and the psychological consequences for observers

The last segment of the Stone and Colella (1996) model (relationships  $D_1$  and  $D_2$  in Figure 1, with 16 studies) focuses on the relationship between the responses of persons with disabilities and the psychological consequences for observers. These relationships underscore the dynamic nature of social interactions: the ways in which persons with disabilities respond to treatment in turn influence the ways in which observers respond to them.

Stone and Colella (1996) proposed that persons with disabilities could set up action groups to pressure work organizations to change, and they discussed the importance of self-esteem and cognitive strategies that persons with disabilities use to protect themselves, such as external attribution and the choice of referent. Kulkarni and Gopakumar (2014) found examples of such strategies (i.e., espousing a positive mindset, sensitizing people to ability instead of disability, engaging in disability advocacy, and building support and mentoring networks with other persons with disabilities) in their study of successful career management strategies used by persons with disabilities in India.

Stone and Colella (1996) also discuss strategies that persons with disabilities can use in efforts to change others' expectations and affective states. Following this line of argument, Colella and Varma (2001) conducted an organizational simulation and a field study to explore whether ingratiation behaviors by employees with disabilities influenced LMX relationships with managers without disabilities. They found that when subordinates did not ingratiate, they received significantly lower LMX ratings than those without disabilities, suggesting that persons with disabilities have the potential to alter their managers' behaviors by engaging in impression management behaviors.

Several studies also addressed changing others' expectations related to disclosure issues (Hebl & Kleck, 2002; Jans et al., 2012). A qualitative study by Jammaers et al. (2016) shows more active communication strategies to reshape the collective mindset about disability and productivity. It identified three discursive practices that employees with disabilities use: contesting the discourse of lower productivity, redefining productivity, and reaffirming the discourse of lower productivity.

Overall, this stream of research is useful because it highlights the ways that persons with disabilities can proactively influence others, underscoring their agency in social interactions and identifying specific strategies. However, the actual relationship between the responses of persons with disabilities, observers' treatment of persons with disabilities, and the psychological consequences for observers is less clear and requires further study. Disclosure is also typically treated as a one-time event about disability status, when in actuality it often involves an ongoing process in which specific disability-to-task limitations are disclosed to multiple stakeholders over time due to ever-changing work contexts. Thus, while these studies shed some light on the relationship between the responses of persons with disabilities, observers' treatment of persons with disabilities, and the psychological consequences for observers, more detailed research is needed to understand and test the relationships indicated by Stone and Colella (1996).

#### 5 | DISCUSSION

HR practitioners cannot make good decisions without solid evidencebased research. The aim of our review was to take stock of the empirical research on the treatment of persons with disabilities in work organizations, in particular with respect to staffing, development, performance appraisal, rewards, inclusion, and other HR management topics for employees with disabilities. Relatively few empirical articles have been published in top-quartile journals, even when the fields of management, rehabilitation, and psychology and sociology are combined. These few studies are important to review because publication in top-quartile journals potentially brings greater visibility and signals presumed higher standards of scientific rigor. We are confident that our search method has uncovered an important set of studies examining treatment of persons with disabilities in work organizations, and we also acknowledge that other important studies exist beyond the scope of the current review. For example, our focus on the treatment of employed persons with disabilities and those seeking employment overlooks the significant portion of persons with disabilities who are unemployed.

Overall, we find that the original Stone and Colella (1996) model, represented in Figure 1, is relevant and useful for conceptualizing the work in this field. We also find evidence that persons with disabilities continue to face discrimination, barriers to full inclusion, and unequal treatment. Engagement with this evidence can help HR practitioners understand what is currently known about the treatment of persons with disabilities, which blind spots remain, and which factors can and do lead to acceptance and full workplace integration of persons with disabilities. We also note that the categories of variables and relationships posed in the Stone and Colella (1996) model are still valuable to guide research and can be improved upon. Based on our review, we note seven related observations about the workplace treatment of persons with disabilities.

First, we observed that the definition and measurement of the key construct of workplace treatment varied across studies, and in many cases, it was not explicitly defined. While many researchers have published findings about the treatment of persons with disabilities, the actual phenomena studied vary widely. Consequently, we may overstate, understate, or altogether misunderstand the forms of treatment experienced by persons with disabilities. For example, inferences drawn from simulated and actual hiring cannot be combined or directly contrasted to understand treatment faced by job seekers, and discrimination against persons with disabilities may be more pronounced in some types of treatment than in others. For example, Ren et al. (2008) found discrimination was more apparent when employers were making judgments about future performance (e.g., promotability ratings) than when they were assessing actual performance. As another example, both employment and earning potential may differ according to the age group or gender of persons with disabilities (Acemoglu & Angrist, 2001; Boden & Galizzi, 2003; Charles, 2003). When explicit definitions or explanations are not stated, readers may infer what "treatment" might imply, and which types of employees are affected, on the basis of their own social and legal contexts or the presumed context of the country in which the data were collected.

Future research should specify what is meant by "treatment" and in which contexts the findings about such treatment apply. Treatment also differs by the disability type and is, therefore, a heterogeneous concept. Measurement issues in disability research should be further examined with greater delineation of types of disability (see Kruse & Schur, 2003, and M. K. Jones, 2008, for an extended discussion of measurement problems).

Second, we observed neglect of the importance of national context diversity. The majority of the research has been conducted in the United States with U.S. samples, limiting our understanding of disability treatment phenomena across the globe. We found very few cross-country comparison studies of treatment. The absence of context may lead to implicit (and possibly erroneous) assumptions about similarities in the disability experience across national contexts because the definitions and social understanding of disability vary across nations. Each country has legal definitions of disability, and some countries may be more inclusive than others in terms of establishing what constitutes a disability. Furthermore, countries differ internally with regard to legislation at the state level, which can influence labor market effects (e.g., labor force participation and earnings; Beegle & Stock, 2003). These features make cross-country comparisons particularly difficult.

Longitudinal research examining how legal definitions of disability have changed over time is needed to better understand how contextual variables can lead to changes in the scope of the population of persons with disabilities and subsequent workplace treatment. For example, evolving case law in the United States shows that conditions such as obesity, cancer in remission, anxiety conditions, and temporary, nonchronic conditions are included under the ADA Amendments Act of 2008, potentially expanding the range and issues of treatment for persons with disabilities.

Third, and relatedly, we observed the term *disability* is often used across studies in a way that suggests homogeneity across disabilities, possibly understating differences in this population and limiting our understanding of workplace treatment. The lack of consistent definitions of what a disability is and who the persons with disabilities are (and are not) remains a continuing challenge in efforts to create a systematic and coherent body of research. This situation is to be expected in an emerging field; however, without explicitly recognizing the underlying variability in the disability type, severity, chronicity, and onset age, researchers risk overstating conclusions about the treatment of persons with disabilities. That is, we may think we know more than we really do. When researchers investigate persons with disabilities as a relatively homogeneous group, it is important to recognize that the aggregate findings may not capture the experiences of groups with specific types of disabilities.

We encourage researchers to take advantage of research and literature reviews on the experiences of persons with disabilities from other domains, beyond the scope of treatment in work organizations, to guide future research on treatment in the workplace. For example, insights can be found regarding severity (e.g., Prince, 2017; Slatore, Harber, & Haggerty, 2013), chronicity (e.g., Crook, Milner, Schultz, & Stringer, 2002; Pincus, Burton, Vogel, & Field, 2002), and use of longitudinal data (e.g., Jahoda, Kemp, Riddell, & Banks, 2008; Scaratti et al., 2017). We also encourage researchers to explicitly acknowledge these complexities head-on by clearly stating definitions and

operationalization, and to note limits of the generalizability of their findings. We suggest that researchers should develop research designs to illuminate the effects of the full range and diversity of disabilities. We especially note a need for more studies addressing cognitive, mobility, and sensory disabilities.

Fourth, we observed available data sets, which often aggregate types of disabilities, may constrain the kinds of research questions prevalent in the literature. For example, Dwertmann (2016) noted that disability status may change over time, data sets may include variety that limits conclusions and generalizability, and concealable disabilities may require different types of data collection methods. We add the observation that important constructs and relationships of the original Stone and Colella (1996) model, such as technology, personality attributes of observers, and several attributes of persons with disabilities, remain understudied, perhaps because of difficulties with operationalization and data availability. As an illustration, consider how workplace treatment has been operationalized. Although many dimensions could be explored, existing research frequently examines government data sets on hiring and discrimination claims, leading to an overemphasis on discrimination charges. Many additional areas are also worthy of study, if researchers can identify and gather the necessary data. Otherwise, the risk is an overly narrow focus on the aspects of treatment that are more easily quantified in available data sets, resulting in the under-representation of more nuanced concepts.

Topics such as mentoring, job assignments, promotion, and inclusion are a few examples of areas where data sources and empirical measures need further development. Concepts of treatment could expand beyond mere workforce participation of persons with disabilities to encompass job quality, full utilization, equal access, career success, and quality of life. To expand the framework for responses of persons with disabilities beyond the direct economic consequences of treatment, studies could investigate the distal impact of associated stress, fatigue, burnout, and longer-term mental and physical health consequences.

Fifth, our review revealed several important insights regarding methodology. To start, 19 of 88 studies used a qualitative research design including analysis of interviews, focus groups, clinical records, and observations. In contrast, 66 studies employed quantitative methods such as the analysis of surveys, existing databases, and experiments. Moreover, only three studies used a combination of qualitative and quantitative methods. Taking a closer look at individual studies reveals two potential shortcomings. The vast majority of non-experimental, quantitative studies used single-source and cross-sectional data, and many do not go beyond correlation analyses, thus limiting their explanatory power and contribution to the field. Of the 18 experimental studies, 14 used student samples, which might reduce the external validity of their findings. More experimental and field studies are needed using HR practitioners, persons with disabilities, coworkers, and leaders as subjects.

Because of these observations, we believe that disability research could be strengthened using additional methodological approaches. For instance, vignette studies (see Aguinis & Bradley, 2014 for a review) conducted with actual firm personnel (e.g., persons with disabilities, recruiters, HR practitioners, supervisors, coworkers, and top management teams) might be particularly suitable for disability research because this approach limits social desirability bias and

allows for variation among disability types (e.g., which disability types are regarded as more/less employable). Longitudinal analyses using population-representative panel data might be promising in addressing many of the challenges of disability research noted by Dwertmann (2016). At the same time, such data sets could (a) be large enough to contain sufficient numbers of persons with disabilities actually employed in work organizations; (b) facilitate the investigation of factors such as occupation, industry, and individual demographics (e.g., age, gender, education); and (c) allow for analysis of the effects of disability on individuals' performance over time. Moreover, management scholars could borrow from economists and use approaches such as instrumental variables' estimation or regression discontinuity designs (Antonakis, Bendahan, Jacquart, & Lalive, 2010) to explore the causal effects of having a disability. As randomization into treatment groups (having a disability/not having a disability) is impossible, naturally occurring thresholds such as disability severity above and below a certain value could be used instead.

Sixth, we observed that disability is frequently presented as a master status, in that other characteristics of the person are ignored. Such merging of identity can prove problematic in making inferences. For example, in a review of labor market effects of disability, M. K. Jones (2008) pointed out that considerations of duration of the disability and age at onset may allow for a more nuanced understanding of labor market outcomes. Similarly, we argue that other individual differences (e.g., race, gender) can influence workplace treatment alongside disability attributes (e.g., type, severity, onset age, and chronicity). If we are interested in the treatment of persons with disabilities after controlling for other personal characteristics, it is important to measure other identity variables.

Identities and images are often multifaceted. A person with a disability may self-identify as a middle-aged Latina intellectual first, for example, with only a peripheral disability identity. Furthermore, there may be a bias toward observable characteristics such as gender and race, while ambiguous or hidden identities prevalent in some disabilities are overlooked. Additional studies on the interactions of such variables can help us understand how disability is similar to, and different from, other identities. We, therefore, recommend that researchers consider designs that incorporate the intersection of identities. In particular, as workforces continue to age, there is a need for more research on treatment issues related to disabilities that arise later in life. Taken together, we urge more research looking at both the impact of disability after controlling for other personal characteristics, and exploring the interaction between personal characteristics and the impact of disability.

Seventh, and finally, we observed research is relatively silent on the specific mechanisms that link disability with workplace treatment. For example, we do not know if or under which conditions assumptions about inability or fear of legal consequences are factors in the minds of decision makers when a job is not offered to a person with a disability. Most research assumes cognitive processes, such as stereotyping, are responsible for disability effects. Yet research shows it is not clear when someone will be categorized as having a disability (Popovich et al., 2003), or whether people apply the same stereotypes to those with different disabilities. As another example, research does not always provide a conclusive answer about how much of the wage difference of persons with and without disabilities can be explained

by health limitations versus discrimination (see DeLeire, 2001). We also cannot yet state whether the strategies and tactics of employees with disabilities have any discernible impact on diverse organizational stakeholders (Kulkarni & Gopakumar, 2014). The same can be said about the understudied role of trade unions, which have the potential to affect workplace outcomes (Richards & Sang, 2016).

While much work has been done in this field, we suggest further research is needed to assess the interactions and feedback loops outlined in the Stone and Colella (1996) model by employing longitudinal designs, such as repeated surveys or observational research. For example, it might be illuminating to observe the socialization of persons with disabilities, starting from their first contact with the employer, to investigate how the behaviors of employees with disabilities, coworkers, and supervisors shape and affect each other longitudinally. We also need more detailed research on interactions within each of the constructs, and their relationship to treatment. For example, examination of attributes of persons with disabilities (such as performance level, gender, race, status, and the stigma characteristics of the disability) and attributes of observers (such as demographic and personality characteristics) may reveal interactive effects.

It is important for HR practitioners to be aware of the issues and limitations listed here, and to partner with researchers to advance both theory and practice. Such synergy between practice and research is particularly useful because well-meaning employers may inadvertently misapply research and/or elicit information from candidates or employees that could be perceived as discriminatory (see S. Harcourt & Harcourt, 2002). In the following section, we offer practical implications to support HR practitioners in applying the evidence-based findings to develop inclusive policies.

#### 5.1 | Implications for human resource practice

Because one of our central arguments is that further investigation of the experience of disability and disability-specific treatment in varied workplaces is needed, our tone is only partially normative toward HR practice. Indeed, we invite HR practitioners to join hands with researchers to collectively advance our understanding of evidence-based best practices in the field.

To begin, HR practitioners should examine the specific operationalizations of their diversity philosophies, acknowledging the fuzzy definitions and measurements of the key construct of workplace treatment. For example, career success is often traditionally operationalized in terms of promotions across an employee's tenure. HR practitioners can inform researchers about circumstances in which other measures of success are used. Some employees, for instance, may actively choose to plateau their careers to achieve a certain lifestyle that accommodates their disability (Mathis, Jackson, Valentine, & Meglich, 2017), and HR practitioners may facilitate such career preferences to retain talented employees. In such a case, while some stakeholders may perceive career plateaus as indicating only partial career success and, therefore, implying organizational unsupportiveness, in fact the opposite could be true. HR practitioners should thus not only examine operationalizations of their diversity philosophies but also inform stakeholders (internal as well as external ones, such as researchers) what treatment actually means in various work contexts.

Next, recognizing that national or within-country contexts differ with regard to how persons with a disability are included or assimilated, HR practitioners should examine if variations exist among their globally spread workplaces (some of which are more acceptable, given cross-country differences) or if any organizational best practices can be shared across all locations. As an example, inclusion may be understood as access to organizational positions or as organizational entry. The motivation and methods for including persons with disabilities may differ across countries (e.g., employment based on a reservation or quota system versus employment based on a human rights philosophy; Baldridge et al., 2018). HR practitioners must be alert to such differences because they may affect employees' experiences after joining the organization. Furthermore, to help craft stronger research programs, HR practitioners can help researchers design country-specific measures on what constitutes a disability and what is construed as discrimination in a particular context. For example, not having access to certain assistive technology may be construed as discrimination within one country, but that may not be the case in another country simply because of the lack of availability of such technology.

Furthermore, disability is a broad term, and HR practitioners need to consider how treatment may differ across disability types; persons with disabilities are not a homogenous group (Baldridge et al., 2018). When HR practitioners focus on observable characteristics such as gender or race, the effects of ambiguous or hidden disabilities can go undermanaged, while more visible disabilities may receive undue attention. It can also lead to inclusion policies that are misaligned with the needs of employees with disabilities. An example is seen in Robinson's (2000) study, which found employers tended to focus their accommodation efforts and concerns on barrier-free physical access, even though it is only relevant for a small segment of persons with mobility-related disabilities.

Disability is also not a master status, and HR practitioners must recognize the influence of other individual differences. For instance, is the cause of reported discrimination during promotion decisions in work organizations due to the onset of Parkinson's disease, or because the employee is an older, minority woman? Indeed, while various disability types may be a direct cause of unfair treatment, it is not always clear which other individual-level differences come into play (see Schur et al., 2009). HR practitioners should be especially attentive to the effects of perceiving disability as a master status, as it could lead them to overlook the development of human capital. Practitioners can help design context-specific research instruments to understand how identity factors interact and influence such treatment, and can assess whether assumptions of homogeneity in their policies lead to suboptimal investment in and inclusion of employees with a disability.

HR practitioners should examine the specific mechanisms that undergird workplace treatment of those with a disability. For example, if employees with a disability sense partial inclusion, HR practitioners can examine exactly why this occurs. Is it because social stigma and stereotyping in the workplace pose roadblocks to social integration, or is it because of physical accessibility issues? Research shows inclusion (or exclusion) is based on various mechanisms. Someone who tries to be kind to, or actively excludes, or expresses ambivalence toward persons with a disability may all end up negatively influencing inclusion efforts

among their colleagues (Colella et al., 1998; Colella & Bruyère, 2011). Uncovering such nuances in work organizations can also help researchers design better programs of research that aid fuller inclusion of all employees in the workplace. Indeed, workplaces that are responsive to the needs of all employees are particularly helpful for employees with disabilities (Schur et al., 2009). Overall, HR practitioners can play a critical role in future research to develop evidence-based knowledge to guide practices by identifying their most pressing policy questions and helping researchers gain access to a wider range of research that is directly relevant to their organizational needs and context. There is also an opportunity for other institutional stakeholders, such as unions, government organizations, and advocacy groups to play a role in collective efforts to support employees with disabilities.

In conclusion, HR practitioners are in a position to help their organizations understand and respond to the diversity and complexity of disabling conditions, including those that are invisible or poorly understood. They can help their organizations focus on abilities, not disabilities, and to see disability as a natural part of human diversity. Such roles, however, are complex and require evidence-based contextualized best practices that consider the inherent diversity of both persons with disabilities and organizational contexts. Researchers and practitioners should collaborate to design research programs that can most effectively increase our knowledge of the range of treatment experiences of employees with disabilities in work organizations.

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