2023

Stigma Associated with Invisible Disabilities and Its Effect on Intended Disclosure in the Workplace

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Walden University
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Abstract

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MA, Walden University, 2016

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Dissertation Submitted in Partial Fulfillment

of the Requirements for the Degree of

Doctor of Philosophy

Psychology

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May 2023

Abstract

Disability discrimination is a long-standing issue that, despite protections, continues to result in unemployment, underemployment, and lack of advancement for disabled persons. Visible stigma is researched substantially; however, less is known about the impact of stigma associated with identities that can be concealed. Although researchers have investigated this issue, currently there is no tool to measure this phenomenon. The purpose of this quantitative study was to create and validate a new tool to measure stigma associated with invisible disabilities. The study is grounded by Roberts' conceptual model of professional image construction integrating social identity, impression management, and organizational behavior; Meisenbach's stigma management communication theory addressing the vulnerabilities and resilience to stigma communication by focusing on how individuals encounter and react to perceived stigmas; and Kelley and Michela's causal attribution theory. Participants included 1,412 adults in the United States 18 years or older currently employed or who have been employed within the last 5 years. Confirmatory factor analysis of the new Workplace Invisible Disabilities Experience scale showed excellent fit of the factor structure to the data, X^2/df = 1.855, CFI = .955, RMSEA = .045, p = .0001. The scale has three subscales, Ableism, Advocacy, and Acceptance, with excellent internal consistency reliability. Total score, Advocacy, and Acceptance were associated with intention to disclose. Implications for positive social change include helping organizations to understand the extent of invisible disability stigma that can help improve workplace performance and satisfaction.

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Dedication

To my children, significant other, family, and friends who put up with the late nights and encouraged me to complete this work. To all my fellow neurodivergent individuals who have struggled to fit in, let your uniqueness shine. The ability to see and do things differently from others is not a weakness, keep your head up and be proud. Rome was not built in a day and in time we will build our kingdom.

Acknowledgments

To my chair and committee members for continued patience, understanding, guidance, and encouragement. To my family, friends, and online community who listened to my ideas, kept me on track, and provided the fuel to succeed. Thank you for helping me pursue this passion and reach this point in my academic career.

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Chapter 1: Introduction to the Study

Introduction

Despite protections, disability discrimination persists in the workplace. According to Berkley et al. (2019), there is substantial research on visible stigmas; however, less is known about the impact of stigma associated with identities that can be concealed. Those with nonvisible disabilities have the choice to conceal their identity to avoid these stigmas and stereotypes, often at a cost to their own well-being (Fevre et al., 2016; Jones & King, 2014; Santuzzi et al., 2019). Currently there are no tools to measure stigma associated with invisible disabilities in the workplace, and the aim of this research is to design a tool that can be used to assess climate regarding invisible disabilities and to use it to quantify the relationship between intention to disclose and stigma. Bringing awareness and knowledge about the relationship between intention to disclosure and stigma in the workplace related to invisible disabilities is important for positive social change.

This chapter serves as an introduction to the study. First, the background of the problem is introduced summarizing research literature. Next, the statement of the problem and the purpose of the study are reviewed. The research questions and hypothesis are stated, followed by a short description of the theoretical framework guiding the study. Following this, the nature of the study, definition of terms used, assumptions scope/delimitations and limitations of this study are described. The chapter ends with the significance of this study and potential for positive social change.

Background of the Problem

A change in workforce demographics is evident through research highlighting an aging population, increasing number of veterans with disabilities, and increasing numbers of youth with disabilities; all expect to use their talents in the workforce (Bruyere et al., 2016; Prince, 2017). Disability stigma adds complexity to the decision to disclose a condition within the workplace. Individuals with invisible disabilities experience increased stress and expend energy with every new social interaction at work without disclosing their disability (Clair et al., 2005). However, disclosing a disability within the workplace provides individuals the opportunity to receive accommodations, experience improved well-being, and increase their level of trust in others (Chaudoir & Quinn, 2010; Clair et al., 2005). Identifying invisible disabilities in research is a challenge due to their concealable nature (Draper et al., 2012). Measures currently do not directly report invisible disabilities; there is agreement among researchers that the prevalence of these disabilities is underestimated in the workplace yet are well represented among U.S. Equal Employment Opportunity Commission (EEOC) claims filed under the Americans with Disabilities Act (ADA; Norstedt, 2019).

Statement of the Problem

Despite the lack of confident estimates, there is a lack of empirical research on workers with invisible disabilities. Norstedt (2019) highlighted differences that lead to dilemmas for individual with invisible disabilities in practices, experiences, and understandings regarding disclosure between individuals with invisible disabilities and persons working as employers, human resources (HR) managers, medical doctors or

psychologists in occupational healthcare who interact with individuals with invisible disabilities. Employers do not have to provide accommodations unless a disability is disclosed; however, disclosure decisions are impacted by stigma that creates perceptions about disabled individuals, posing a no-win situation (Claire et al., 2005; Santuzzi et al., 2014). As a result of semistructured interviews of individuals with invisible disabilities intended to capture workers' perceptions of internal and social experiences that contribute to their identity management decisions, Santuzzi et al. (2019) stated that future research should explore the positive aspects of disability and how individuals preserve well-being despite negative stereotypes and attitudes.

Purpose of the Study

The purpose of this quantitative research study was to develop a tool to measure the perceived stigma of individuals with invisible disabilities in the workplace and to understand how experience of stigma affects intention to disclose those disabilities in the workplace. The tool can help managers understand the extent of invisible disability stigma across departments and organizations. The knowledge gained from such surveys will aid in creating an understanding environment for employees with invisible disabilities, one in which they feel more confident to disclose their status and improve workplace productivity.

Research Questions and Hypothesis

The research question involves understanding how perceived stigma is related to disclosure intention of invisible disabilities in the workplace. One hypothesis was tested.

H_O: There is no correlation between perceived stigma of people with invisible disabilities, as measured by a new researcher-developed tool, and intention to disclose, as assessed by a single item modeled from the transtheoretical model of the stages of change construct that will be included as part of the instrument development, when controlling for key demographic factors shown by the data to be associated with intention to disclose.

H_A: There is a negative correlation between perceived stigma of people with invisible disabilities, as measured by a new researcher-developed tool, and intention to disclose, as assessed by a single item modeled from the transtheoretical model of the stages of change construct that will be included as part of the instrument development, when controlling for key demographic factors shown by the data to be associated with intention to disclose.

Framework of the Study

The theories and/or concepts that ground this study include the conceptual model of professional image construction (Roberts, 2005), stigma management communication theory (Meisenbach, 2010), and causal attribution theory (Kelley & Michela, 1980). The logical connections between the framework presented and the nature of the present study include Roberts' professional image construction, which weaves together multiple streams of research in social identity, impression management, and organizational behavior. Professional image construction further expands upon social identity theory by relating it to the workforce and bringing light to the many tensions that arise between professional images and social identities. Meisenbach's stigma management communication theory addresses the vulnerabilities and resilience to stigma

communication by focusing on how individuals encounter and react to perceived stigmas. Kelley and Michela's causal attribution theory addresses the assignment of causes, justified or not, to observed behavior. Causal attribution theory further expands that willingness to interact with an individual is dependent on a disorder being perceived as controllable (i.e., psychosocial cause) or uncontrollable (i.e., biological cause). Application of Roberts' proposed model, Meisenbach's theory, and Kelley and Michela's theory offer guidance on the interaction between stigma of invisible disabilities and disclosure decisions in the workplace. A more detailed explanation of this framework is presented in Chapter 2.

Nature of the Study

To address the research questions in this quantitative study, the approach included developing an instrument to measure stigma associated with invisible disabilities; the tool was used to assess the relationship between stigma and workplace disclosure intentions. Data collected during the development and validation stages were used to conduct a correlation analysis to test the relationship between perceived stigma and intention to disclose. This analysis helped identify how stigma and stereotypes affect disclosure decisions in the workplace. The instrument was developed and validated based on concepts from the professional image construction model and stigma management communication theory as well as from the limited existing instruments that examine stigma associated with disabilities. Important questions were identified and tested using a 6-point Likert scale survey. The data gathered during the development and validation

stages were then analyzed using correlation regression, exploratory factor analysis (EFA), and confirmatory factor analysis (CFA), and used to test the hypothesis.

Definitions of Terms

Disclosure: For this study, disclosure is defined as the ability of an individual to choose when to indicate to others information about their invisible disability. Invisible disabilities give the individual the discretion of identifying to others due to the nature that invisible disabilities have no physical or visible disability marker (Follmer et al., 2020). *Disclosure* is used interchangeably with *revealing*.

Invisible disability: For this study, invisible disability is defined as a permanent and non-curable condition significantly impairs normal activities of daily living and is not immediately apparent to others. Invisible disabilities are physical, mental, or neurological conditions that are not obvious to the eyes of others but can impact the movements, senses, or activities of those with invisible disabilities (Matthews & Harrington, 2000). The nature of invisible disabilities makes it difficult for others to recognize. However, the illness or condition creates challenges in how affected individuals perform in the world of work, education, and social environments. Examples of invisible disabilities include those associated with neurodiversity, such as autism, brain injuries, attention deficit hyperactivity disorder (ADHD), bipolar disorder, depression, schizophrenia, dissociative identity disorder, epilepsy, dyslexia, dyspraxia, and dysgraphia. Those associated with physical conditions include Chron's disease, chronic fatigue syndrome, Ehlers's Danlos Syndrome, chronic pain, cystic fibrosis, diabetes, fibromyalgia, insomnia, lupus, and

rheumatoid arthritis, and those with sensory conditions include visual and auditory disabilities.

Masking: Masking is defined as a technique used by individuals with invisible disabilities to hide any identifiers or information to their disability or avoid situations that may make the condition apparent (Vickers, 2017). Masking is used interchangeably with passing, concealment, and nondisclosure.

Neurodiversity: Neurodiversity is defined as the differences in the brain and cognitive functioning. Neurodiversity is a shortened term for neurological diversity and is an umbrella term to cover several lifelong neurodevelopmental conditions such as ADHD, autism spectrum disorder (ASD), dyslexia, dyspraxia, and bipolar disorder (Doyle, 2020; Jurecic, 2007; Ortega, 2009).

Physical invisible disability: Physical invisible disabilities are defined as a disability that interferes with an individual's physical makeup such as bones, muscle, nerves, connective tissue, immune system, etc.; however, these differences are not apparent. Physical invisible disabilities encompass conditions such as chronic illness, multiple sclerosis, fibromyalgia, chronic pain, Ehlers-Danlos Syndrome, asthma, chronic fatigue, chronic dizziness, celiac disease, brain injuries, endometriosis, ulcerative colitis, allergies, hypoglycemia, etc. (Barton, 2009; Squair & Groeneveld, 2003).

Sensory invisible disability: For this study, sensory invisible disabilities are defined as a disability that interferes with an individual's auditory and visual senses. These are considered invisible disabilities as with the improvement of technology these

disabilities are not apparent when individuals can use discreet hearing aids and contacts or glasses to cope with their condition (Squair & Groeneveld, 2003).

Assumptions

This quantitative research study is anchored on the assumption that all workplaces in the United States have employees with invisible disabilities that experience the complexity of disclosure decisions. Additionally, this research assumes that volunteer participants would respond to survey questions honest and truthfully. To encourage truthful answers, this research involved taking steps to preserve anonymity and confidentiality. It was assumed that the sample was representative of adult workers in the United States; qualifying questions were used to screen participants, and social media was used to reach individuals across the United States.

Scope and Delimitations

For this study, I developed an instrument to quantitatively measure stigma of invisible disabilities in the workplace. The specific focus of this research was a broad cross-section of employees with and without invisible disabilities. The scope of this study was limited to adults who are currently employed or employed in the last 5 years within the United States. Although the hypothesis focused on the subsample of individuals with invisible disabilities, the scope did not include those with physical disabilities, but they were not excluded from the study. Personal experience and concern for future generations created the drive to improve standards in the workplace by exploring avenues to close the gap in current knowledge. Furthering knowledge and acceptance of a minority population requires the voice of that population; however, early in the research process it was

decided it is important to obtain the perception of all working individuals within an organization. The samples included many conditions that fall under invisible disabilities; however, this research concentrates on lifelong conditions and excludes invisible disabilities from which individuals may recover, such as cancer.

Limitations

A potential barrier when developing an instrument is the need of a large sample size to validate the tool. According to DeVellis (2017), large samples are more stable than small, and he suggested a ratio of about five to 10 subjects per item up to 300 subjects. This barrier was countered through access to several social networks as well as outreach through the Walden University participant pool. Potential biases that could influence this study were my own invisible disability diagnosis and negative experiences in the workplace with stigma and stereotypes. Existing data through literature reviews were used to address this limitation and check possible biases.

Significance

This study is significant in that it provides one of the only tools designed to measure stigma associated with invisible disabilities in the workplace. Social change implications include better organizational understanding of the extent of invisible disability stigma that can help create more understanding environments in which people with invisible disabilities feel more confident in disclosure decisions. Employment brings meaning and purpose to individuals, especially those dealing with additional stresses needing social interactions to fulfill a purpose.

Summary

Invisible disabilities are a complex subject within the workplace; the lack of research and quantitative measures to assess stigma associated with invisible disabilities leaves a gap in knowledge. The purpose of this research study was to close this gap through developing this instrument for studying stigma of individuals with invisible disabilities in the workplace. Chapter 2 provides an extensive literature review that supports the need for tools such as this to assess stigma associated with invisible disabilities and to facilitate organizational climate assessment.

Chapter 2: Literature Review

Introduction

Despite protections for individuals with disabilities, disability discrimination persists in the workplace. There is substantial research on stigma associated with visible identities (Acemoglu & Angrist, 2001; Bound & Burkhauser, 1999; Burchardt, 2003; Burkhauser & Wittenberg, 1996; DeLeire, 2000). However, less is known about the impact of stigma associated with identities that can be concealed (Berkley et al., 2019). Those with nonvisible disabilities have the choice to conceal their identity to avoid stigma, often at a cost to their own well-being (Fevre et al., 2016; Jones & King, 2014; Kulkarni, 2021; Santuzzi & Keating, 2020). There is a lack of valid instruments to measure stigma associated with invisible disabilities. Such tools can be used to assess workplace climate and to create environments in which those with invisible disabilities can disclose. The few tools that are available, such as the Perceived Stigma Scale and the Concealment of Epilepsy Scale for the Turkish population, are limited to specific disorders and populations (Aydemir et al., 2018). Additionally, there is very little literature showing empirical evidence of the extent of impact and effect of stigma on intent to disclose in the workplace. The lack of empirical evidence leaves a gap in knowledge and limited understanding within organizations about invisible disabilities that inhibits creating an inclusive environment.

Organization of the Chapter

This chapter includes a review of the literature concerning stigma affecting individuals with invisible disabilities in the workplace. First, the theoretical framework to

support this research is discussed. Next, I discuss literature related to general disabilities, to include historical context, the ADA, and struggles that exist despite protections. Third, visible and invisible disabilities are compared, including what makes each distinct and how each are differently affected by stigma. Fourth, discrimination towards invisible disabilities is covered. Fifth, stigma of invisible disabilities including current research are reviewed. Sixth, disclosure and concealment unique to invisible disabilities are discussed, including the impacts to health and well-being. Seventh, the attitudes and behaviors in the workplace toward individuals with invisible disabilities are covered. Finally, current measures and tools of invisible disability stigma are presented.

Literature Search Strategy

Literature for this review was found using the libraries of Walden University and the University of Nevada, Reno, as well as Google Scholar. In order to establish a literature base, I conducted database searches through Academic Search Complete, APA PsycArticles (formerly PsycArticles), EBSCO ebooks, SAGE Journals, ScholarWorks, and World Health Organization using the terms *disability stigma workplace, physical disability workplace, invisible disabilities, invisible disabilities workplace, invisible disability, invisible disability workplace stigma, stigma scale invisible disabilities, stigma invisible disabilities, invisible disabilities at work, workplace stigma scale, disability stigma scale, stigma scale mental health, disability concealment, invisible disability accommodations, stigma scale workplace,* and *stigma scale chronic illness*. The collected literature was then reviewed to determine alternative and additional search terms. Additionally, I reviewed reference lists from collected literature to determine sources of

information. Due to onsite access issues resulting from the pandemic, searches were limited to online.

Theoretical Framework

The theories and/or concepts that ground this study include the conceptual model of professional image construction (Roberts, 2005), stigma management communication theory (Meisenbach, 2010), and causal attribution theory (Kelley & Michela, 1980). Professional image construction weaves together multiple streams of research in social identity, impression management, and organizational behavior. The theory further expands upon social identity theory by relating it to the workforce and bringing light to the many tensions that arise between professional images and social identities. Stigma management communication theory addresses the vulnerabilities and resilience to social interaction of individuals with stigmatized identities by focusing on how individuals encounter and react to perceived stigmas. Causal attribution theory addresses the assignment of causes, justified or not, to observed behavior and willingness to interact with an individual. Application of the professional image construction model, stigma management communication theory, and causal attribution theory offers guidance on the interaction between stigma of invisible disabilities and intended disclosure decisions in the workplace.

Professional Image Construction

Professional image construction weaves together social identity, impression management, and organizational behavior theories to explain how and why individuals aim to achieve a desired professional image to function within the workplace and the

consequences of actions in attempting to achieve the desired professional image. The complexity of social identity plays into the professional image in how one desires to be seen and how one perceives they are seen, shaped by the affiliation with or distance from stereotypical characteristics of certain social identity groups (Roberts, 2005). The integration of these constructs gives a greater understanding of the motivations and emotional context behind complex decisions of individuals in the workplace. This should provide greater understanding of the complex subject of invisible disabilities.

Social Identity

The first aspect of professional image construction is social identity theory, which states that individuals categorize others into social groups to cognitively separate and order the social environment; this separation and ordering helps to define others and locate or define themselves according to the surrounding social environment (Ashforth & Mael, 1989). Social identity has two main aspects: self-categorization and social comparison. Self-categorization is the perception of similarities between self and other in-group members as well as the differences between self and out-group members (Stets & Burke, 2000). Social comparison takes advantage of selecting aspects that make the in-group positive and the out-group negative to enhance self-esteem (Stets & Burke, 2000).

Organizations have become more diverse which, in turn, increases the interactions of diverse social identities. Encounters with diverse social groups creates a need in individuals to consider how personal characteristics and social identities influence how their competence and character are perceived by others (Roberts, 2005). Identifying and categorizing individuals solely by diversity group is not necessarily correct and can

further stereotypes and stigma within the social context. The perception of needing to belong or feel welcome by a certain group that is held in high regard is then compounded as individuals retain positive feelings for groups with whom they identify and relate to as well as negative feelings towards those they reject. Observations from qualitative research point to complex interdependencies between the deployment of social identity and reaching an understanding on an emotional level with potential allies within the workplace (Creed & Scully, 2011). Berkley et al. (2019) concluded that the social identity process is an emotional aspect influenced by emotional culture and emotional display rules that impact disclosure decisions and emotional expression. Bry et al. (2017) concluded that social identity is managed through a dynamic process requiring new evaluations with each unique social environment. The reoccurring theme is that social identities in the workplace are complex and those with stigmatized identities even more complicated.

Impression Management

The second aspect of professional image construction is impression management, the attempt to influence impressions of oneself by others (Tedeschi, 1981). Influencing these impressions is an ongoing dynamic process during interpersonal interactions involving monitoring, motivation, and construction. Individuals monitor when they attend to the perceived impressions of them by others. This continuous monitoring leaves individuals searching for cues and clues as to how they may be evaluated by their personal and social identities (Roberts, 2005). Motivation is fueled by any discrepancies or inconsistencies between the desired image and the perceived image. There are both

devaluation and legitimacy threats to impression management. Devaluation occurs when the attributes of an individual's identity are belittled and may result in image discrepancy if the negative aspects attributed are inconsistent with the ideal image (Roberts, 2005). Legitimacy threats are those that question the validity of an individual belonging to a group but can also come into question when a more positive perception exists than the desired professional image (Roberts, 2005). Depending on the severity of discrepancy, potential benefits of successful impression management, and likelihood to achieve successful impression management, motivation varies for each interaction and the desire to change another person's perception. Construction is the final phase of impression management when an individual is motivated to select and employ strategies to shape the perception of others to obtain their desired image. Through impression management, individuals will strategically identify with positively valued groups and deflect negative attributes to construct a viable image (Roberts, 2005). These tactics serve to realign the individual with social rules and to avoid any conflicts (Tedeschi, 1981).

Impression management has a positive influence on well-being, relationships, and performance. However, as individuals are more inauthentic and noncredible, there are negative consequences (Roberts, 2005). Notably, impression management is not how an individual views self-behavior and consequences, but rather how they are viewed by others (Tedeschi, 1981). Impression management does not just consider the individual but also organizations. Jaworska and Bucior (2017) concluded that entities create a desired corporate image to make impressions consistent with the desires of company executives. Research also revealed that impression management was important especially

after poor performance, scandal, or incidents involving violations of norms or rules (Jaworska & Bucior, 2017). Individual level research concluded that impression management is positively correlated with interview and performance ratings with more use in interview settings than performance settings (Peck & Levashina, 2017).

Organizational Behavior

The third aspect of professional image construction is organizational behavior, defined as understanding, influencing, and predicting the behavior of people in organizations (Shani et al., 2009). Additionally, organizational climate and culture influences organizational behavior, both of which play a role in workplace interactions including acceptance, knowledge, and access to accommodations. There are four key components of organizational behavior: (a) individual and organizational ethics, (b) the individual in organizations, (c) leadership and team behaviors in organizations, and (d) the organization itself. These components are not independent of each other but instead integrate as a complex and dynamic subject based on the needs and desires of employees, which affects motivation (Hellriegel & Slocum, 2011). Leaders play a critical role, as they design organizational systems and shape organizational cultures, often serving as role models for normative behavior (Roberts, 2005). Organizational behavior research concentrates on work motivation and performance, absenteeism and turnover, climate and culture, and groups and leadership to evaluate and define organizations (Rousseau, 1997).

Stigma Management Communication Theory

Stigma is a discrediting mark on someone deemed questionable by society standards (Goffman, 1963). Researchers have categorized stigma into three domains:

physical, occurring when characteristics are seemingly unpleasant; social, occurring when there is an association with groups that are stigmatized; and moral, occurring when considered sinful, deceptive, or otherwise defying norms of civility (Ashforth & Kreiner, 1999). Falk (2001) stated that stigma is inescapable and results from group identity processes that foster unity of insiders and the exclusion of outsiders. Negative outcomes such as devalued social identities, prejudice, stereotyping, discrimination, neglect, lowered self-esteem, academic achievement, memory capacity, anxiety, and sustained illness linked to stigma enhances the need for management of stigmatization (Goffman, 1963; Meisenbach, 2010). Communication links management of stigma through spreading messages about stigma and how to recognize and react to situations. Focusing on encounters and how individuals react to perceived stigma, the communicative perspective addresses vulnerability and resilience to stigma communication (Meisenbach, 2010). Early stigma studies of Goffman (1963) mentioned strategies to accept, avoid, reduce, and deny stigma. Goffman and other researchers avoided a proactive stance toward stigma management. Stigma management communication builds on preceding research and considers the individual's attitude towards the existence of stigma and the public applicability of the stigma to themselves and how they accept/deny the stigma; these are referred to as the four quadrants (Meisenbach, 2010). Stigma management communication has six strategies within these quadrants to include accepting, avoiding, evading responsibility, reducing offensiveness, denying, and ignoring/displaying. This theory organizes strategies according to an individual's acceptance/denial of public perception of a stigma's existence and the applicability to themselves proposing that the

strategies will align with an individual's acceptance and denial stances (Meisenbach, 2010). This typology bridges themes found in previous research, and that research has been narrowly focused in its applicability to a wide range of stigma attributes.

Causal Attribution Theory

Attribution refers to the perception or inference of cause, the idea that people interpret behavior in terms of the reason for the situation, and those interpretations play an important role in reactions to behavior (Kelley & Michela, 1980). Causal attribution theory addresses the assignment of causes, justified or not, to observed behavior. Further, the causal attribution theory indicates that disorders with biological causes such as physical, neurophysiological, and genetic differences lack personal control and responsibility, and psychosocial causes such as environment, stresses or conditioning from life experiences are perceived as controllable. Menec and Perry (1998) conducted vignette-style research into stigma reactions of college students where disorders were described as controllable and noncontrollable. They concluded that for noncontrollable disorders, those with biological causes, responses were more understanding with more willingness to interact with the individual. Phelan (2005) concluded that providing genetic reasons for mental health conditions attributed perceived seriousness and persistence of the condition. However, other research shows that biological explanations do not lead to more understanding (Boyle, 2016). These attributions are automatic and often unconscious judgments that are unintentional mistakes (Draper et al., 2012). Cognitive shortcuts and snap judgements result from information overload that is common in our connected society. The avoidance of overload through cognitive shortcuts

and snap judgements results in misperceptions such as grouping representational or superficial attributes (Draper et al., 2012). It is human nature to find patterns and relate items and observances to identify with and relate to the world more quickly. These patterns can aid in identifying risks but are superficial for immediate need of fight or flight. Solely relying on this superficial nature and not evaluating complete context can create bias and discrimination. Causal attribution theory helps to explain decisions made by employers who perpetuate stereotypes that reinforce stigma, either consciously or unconsciously, resulting in an accommodation denial or discrimination caused by the fundamental attribution error of blaming a person rather than the situation (Draper et al., 2012).

Disabilities

Individuals with disabilities work in all types of organization, live in every city, and are present across every race and ethnicity. Historical documentation of disability is limited, relying mostly on formal services and treatment and secondhand accounts from professionals, and is rarely represented in the broad sense of across the full spectrum of mental, physical, and sensory disabilities (Braddock & Parish, 2001). Historical accounts from biblical and medieval eras relate disabilities as the mark of wrath from God, supernatural, or demonological. Despite the negative impacts of superstitions, there are historical accounts of great pilgrimages to seek out cures that reveal complex attitudes towards disabilities (Braddock & Parish, 2001).

Through the passing of the ADA in the United States and similar legal provisions around the world, persons with disabilities have gained increased rights (Gewurtz &

Kirsh, 2009). Without specifically naming covered impairments, the ADA defines disability as "a physical or mental impairment that substantially limits one or more major life activities, a person who has a history or record of such an impairment, or a person who is perceived by others as having such an impairment. The ADA does not specifically name all of the impairments that are covered" (U.S. Department of Justice Civil Rights Division, n.d.). Finalized in 2016, the ADA Amendments Act of 2008 clarified the meaning and interpretation of the ADA definition of disability to ensure a broadly construed definition that would be applied without extensive analysis. The ADA Amendments Act of 2008 clarified that an impairment is a disability if it substantially limits a major life activity compared to most people in the general population and the comparisons of these differences will not require scientific, medical, or statistical evidence. This amendment also clarified that other than glasses or contacts, no factors that alleviate discomfort or improve functionality are to be considered in evaluating the presence of a disability. Additionally, the ADA Amendments Act deleted two findings that were in the original ADA: "(1) that 'some 43,000,000 Americans have one or more physical or mental disabilities,' and (2) that 'individuals with disabilities are a discrete and insular minority'" (U.S. Department of Justice Civil Rights Division, 2016, IV. Summary of the ADA Amendments Act of 2008 section, para. 2). These were found to interfere with judicial proceedings and used to limit how provisions of the ADA were construed. Despite antidiscrimination policies and ADA laws, individuals with disabilities struggle to obtain jobs. The result of stigma associated with having a

disability is the perception that individuals with disabilities are weak, frail, and/or incompetent (Santuzzi & Waltz, 2016).

Visible Disabilities

There is a longstanding social exclusion of individuals with disabilities (Draper et al., 2012; Santuzzi & Walts, 2016). Statistics reveal that disabled workers struggle to attain more than entry level positions, receive lower pay, and are subject to a range of stressors (Ameri et al., 2018; Araten-Bergman, 2016). Santuzzi and Waltz (2016) found that employers expressed less interest in applicants with disabilities even for positions in which disability should not affect job performance. The results pointed to hiring bias, that employers were uninterested due to the presence of a disability and not a concern for performance or cost of accommodations associated with hiring persons with disabilities. Physical disabilities often pair with visual manifestations or features that identify a person as disabled such as canes, wheelchairs, loss of limbs, or prosthetics to name a few. Because physical disabilities are outwardly apparent, they are often accepted without questioning legitimacy (Carpenter & Paetzold, 2013). Due to the visible nature individuals are readily recognized by their disability and are unable to hide or mask their disability status.

Invisible Disabilities

Often without visible manifestation or visible features and episodic in nature with intermittent and unpredictable periods of illness and wellness, invisible disabilities include a wide range of physical and psychological conditions (Santuzzi et al., 2009). Ysasi et al. (2018) stated that invisible disabilities are extensive and vary in effects; they

emphasized that of the 26 million identified in the United States as having a severe disability, 19 million of those are invisible disabilities. The concealable nature of invisible disabilities increases the possibility of working alongside an individual choosing not to disclose their disability and struggling with performance standards without accommodations. High turnover, increased absenteeism, lost productivity, and negative job attitudes might be evidence of nondisclosure in an organization (Santuzzi et al., 2014). These perceptions, disclosure decisions, and accommodation challenges create a stressful and unproductive working environment.

Invisible disabilities are not directly reported by any current measures; however, they are well represented, totaling 57.4% of U.S. EEOC claims filed under the ADA in 2019. The media has highlighted several employment discrimination cases related to invisible disabilities which were all successful claims in finding discrimination towards the individual (see Table 1). The number of cases points to the pervasiveness of hidden disabilities and their importance under ADA. Researchers agree that the prevalence of invisible disabilities in the workplace are underestimated (Norstedt, 2019).

Table 1

EEOC Disability Discrimination Cases

Case	Year	Disability involved	Discrimination charge
EEOC v. Pirtek USA	2021	Chronic illness	Firing an employee because of a perceived disability. In late 2015, the employee was hospitalized for several weeks with pancreatitis, acute respiratory distress syndrome and pneumonia. In March 2016, the employee's physician cleared him to return to work without restrictions. Nevertheless, the employee was fired, claiming that he was a "liability" and fear that he would get injured on the job. Awarded $85,000, company to provide a written policy against disability discrimination, to conduct antidiscrimination training for management and human resources personnel and submit written reports twice a year to the EEOC.
EEOC v. Gentiva Health Services, Inc. d/b/a Kindred at Home	2021	Chronic pain	Learned that one of its employees suffered from Morton's neuroma and capsulitis in both feet. The employee asked to telecommute for three weeks as an accommodation for her disability and in accordance with her doctor's recommendation to stay off her feet. Company originally allowed telework for a week but then reversed the decision, placing her on unpaid leave without benefits for four months. Awarded $160,000 and company to provide regular reporting, monitoring, annual training, distribution of ADA policies, and notice posting.
EEOC V. Interconnect Cable Technologies	2020	Mental illness - depression	Demoting and later firing an employee after hospitalized for a mental illness. The employee was hospitalized and diagnosed with major depressive disorder. When returning to work the following week, the employee was immediately stripped of her job duties and later demoted and cut pay. Employer terminated employment about four months after hospitalization. Awarded $35,000

Case	Year	Disability involved	Discrimination charge
EEOC v. PML Services	2020	Epilepsy	Employee went home and had a seizure, called work following the incident and requested two days off to recover. Employee was subsequently fired for calling into work during a probationary period. Awarded $60,000
EEOC v. Lockheed Martin	2020	Brain injury	Employer refused reasonable accommodations and forced employee into long-term disability and eventually fired the individual; awarded $115,000
EEOC v. Guidewire Software	2020	Auditory processing	Qualified applicant requested in-person interview due to difficulty making out sounds on the phone and computer, was approved initially and then never contacted again; awarded $200,000
EEOC v. Brock Services	2020	Glaucoma	Employee subjected to multiple eye exams and although was an 8-year employee and could perform the essential job functions was fired after the third eye exam; awarded $35,000
EEOC v. Busse Combat Knife Company	2020	Anxiety	After revealing a disability due to an episode at work the employer asked why the disability weas not disclosed during hiring and required a doctor's note for clearance to return to work. Note was provided however employee was still fired; awarded $20,900
EEOC v. Faurecia Madison Automobile Seating, Inc.	2020	Perceived disability	Failure to hire 15 applicants based on sick or FMLA days used due to perceived disability status; awarded $825,000
EEOC v. IDEC Corporation	2020	Sleep apnea / heart condition	Fired employee due to perception of having disabling impairments; awarded $275,000
EEOC v. Party City	2019	Autism spectrum disorder / anxiety	Failed to hire after learning that the applicant needed a job coach as part of a reasonable accommodation; awarded $155,000
EEOC v. Adecco USA	2019	Learning disability	After being deemed to slow on an employment test due to a reading disability, applicant was denied a desired position and offered a lower paying position; awarded $49,500

Case	Year	Disability involved	Discrimination charge
EEOC v. Exide Technologies	2019	Chronic illness	During a post-offer medical examination applicant was found to have chronic kidney disease and the job offer was rescinded; awarded $45,000
EEOC v. Whole Foods	2018	Genetic disease	Cashier required absences related to doctor visits for kidney transplant and was fired due to excessive absences; awarded $65,000
EEOC v. Associated Fresh Market	2018	Medical conditions	Group disability claim after several employees were denied reasonable accommodations such as additional leave and working with restrictions or reassignment. Investigation revealed a practice of disciplining and/or firing employees because of their need for reasonable accommodation; awarded $832,500
EEOC v. Diallo's of Houston	2017	Hiv	Employee was unlawfully requested to take an HIV test after employer heard second-hand that the employee may be positive. Employee refused testing and was fired; awarded $139,366
EEOC v. Regis Corporation	2016	Claustrophobia	Employee asked for an accommodation to work in an open space and was initially granted, company then moved to a more restricted space and after various attempts to resume accommodation was denied and eventually fired; awarded $60,000
EEOC v. Kroger	2016	Back impairment	Hired with knowledge of needing accommodations due to a back impairment but upon learning that the restrictions were permanent employee was fired; awarded $33,000
EEOC v. Parker Drilling Co.	2015	Vision impairment	Failure to hire after initial job offer after learning about blindness in one eye; awarded $245,619
EEOC v. Bond Bros., Inc.	2015	Dyslexia	Refusal to hire after learning about dyslexia while asserting that the applicant would present a safety risk; awarded $120,000

Case	Year	Disability involved	Discrimination charge
EEOC v. Benny Boyd Chevrolet	2015	Multiple sclerosis	Denied a partnership and subjected employee to a hostile work environment forcing him to quit as a result; awarded $250,000
EEOC v. LHC Group, Inc. d/b/a Gulf Coast HomeCare	2015	Epilepsy	Denied nurse a reasonable accommodation and then fired her due to epilepsy; awarded $100,000
EEOC v. Helmerich & Payne Int'l Drilling Co.	2015	Chronic pain	Forced off the job due to taking prescribed medications to treat chronic pain associated with a degenerative disk condition; awarded $59,000 and modify its written policies to achieve compliance with the ADA; provide training regarding the ADA; and post a notice referencing the consent decree
EEOC v. American Tool & Mold, Inc.	2014	Herniated discs	Withdrawing a job offer because of the applicant's old back injury; awarded $150,000
EEOC v. Walgreen Co.	2014	Diabetes	Cashier with Type II Diabetes, was fired because of her disability after eating a $1.39 bag of chips during a hypoglycemic attack to stabilize blood sugar level; awarded $180,000 and company to implement revised policies and training

Disability Discrimination

Ameri et al. (2018) conducted a study investigating employer's potential discrimination against persons with disabilities, and results indicated that disability applications received 26% less interest in employment. The results suggest disability affects employer hiring intent. Santuzzi et al. (2014) stated that individuals with invisible disabilities face unique challenges compared to visible disabilities, calling for a need of policies that are more sensitive to the uniqueness and disclosure decisions of this group. Identifying, accepting, and acknowledging invisible disabilities is complicated, since

they, by definition, cannot be directly seen. This can raise questions when an individual, who is seemingly ‘normal’, requests or receives accommodations (Santuzzi et al., 2014). Spiegel et al. (2016) revealed that although individuals may be open about their disability, they may still engage in normalizing behaviors to gain and sustain employment. The authors concluded that those who concealed their identity until professionally established were positively associated with positive career outcomes but were also stressful and taxing, both physically and mentally. Individuals with invisible disabilities face psychological and lifestyle barriers often being misunderstood and receiving skeptical reactions with their disability being questioned as legitimate (Ysasi et al., 2018).

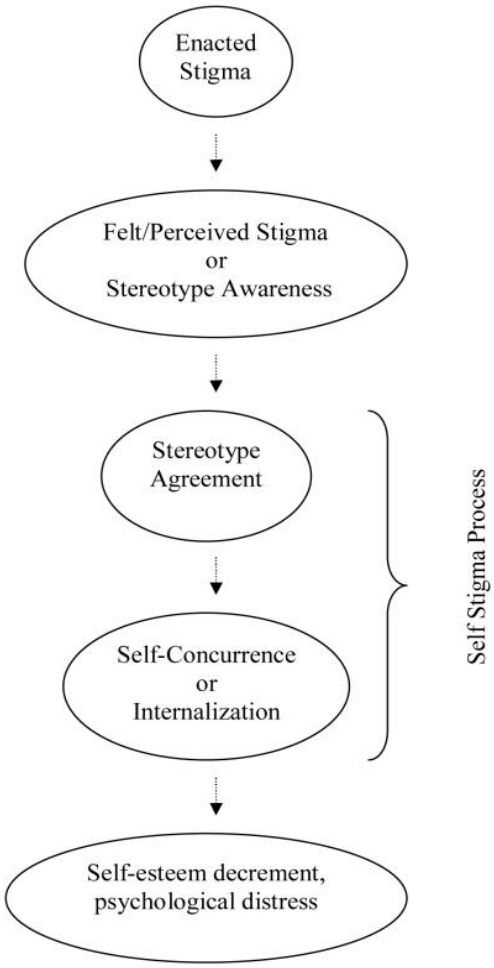
Stigma

Persons with a visible disability can experience an array of stigmatizing effects such as aversion to the disabled persons appearance (aesthetic aversion), assuming the person has additional disability than the obvious disability (spread phenomenon), and discriminatory hiring practices (Ysasi et al., 2018). Although individuals with invisible disabilities can conceal their differences to avoid stigma, when seeking accommodation there is increased stress and burden such as the need to disclose and even prove that a disability exists (Beatty & Kirby, 2006; Chaudoir et al., 2010; Ysasi et al., 2018). Araten-Bergman (2016) found that 20% of managers and supervisors were identified as having negative attitudes, prejudices, and stereotypes towards individuals with disabilities, often manifesting as a major barrier to hiring. Carpenter and Paetzold (2013) confirmed their hypothesis that granting accommodations was dependent on impairment cause and the

perception of that impairment as a disability. Causation of disability, although not a legal basis for decisions regarding accommodations, demonstrated the continued role attitudes and perceptions play in the accommodation-granting process (Carpenter & Paetzold, 2013). Managers voiced concerns about productivity potential and costs for accommodations as well as fears that persons with disabilities might alienate coworkers and customers (Araten-Bergman, 2016). Gewurtz and Kirsh (2009), in a metasynthesis of qualitative research, concluded that employees with disabilities held back making their condition known out of fear of how they would be treated. The process by which stigma affects the person with an undesired condition is shown in Figure 1 (Rao et al., 2009). First there is then enacted stigma, referring to the experience of unfair treatment by others. This experience leads to the felt/perceived stigma or stereotype awareness, the stage where the individual becomes aware or feels the unfair treatment. Next is the self-stigma process in which the individual endorses the common public stereotype and then agrees with the stereotype or internalizes the effects of the stereotype. Finally, this ends in the individual experiencing a negative impact to self-esteem and distress.

Figure 1

The Process by Which Stigma Affects the Person With an Undesired Condition



Note. From "Measuring stigma across neurological conditions: the development of the stigma scale for chronic illness (SSCI)," by D. Rao, S. W. Choi, D. Victorson, R. Bode, A. Peterman, A. Heinemann, and D. Cella, 2009, *Quality of Life Research, 18*(5), p. 586 (https://doi.org/10.1007/s11136-009-9475-1). Copyright 2009 by Springer Science and Business Media B.V. Reprinted with permission.

Fears, concerns, perceptions, negative attitudes, and prejudices perpetuate stigma, which compounds existing reasons for nondisclosure (Chaudoir et al., 2010; Kulkarni, 2021). While arguments are made that these groups are protected by legislature, employment rates dropped after the initiation of ADA and increased stigma by drawing attention to differences (Santuzzi et al., 2014).

Disclosure and Concealment (Pass/Mask or Reveal)

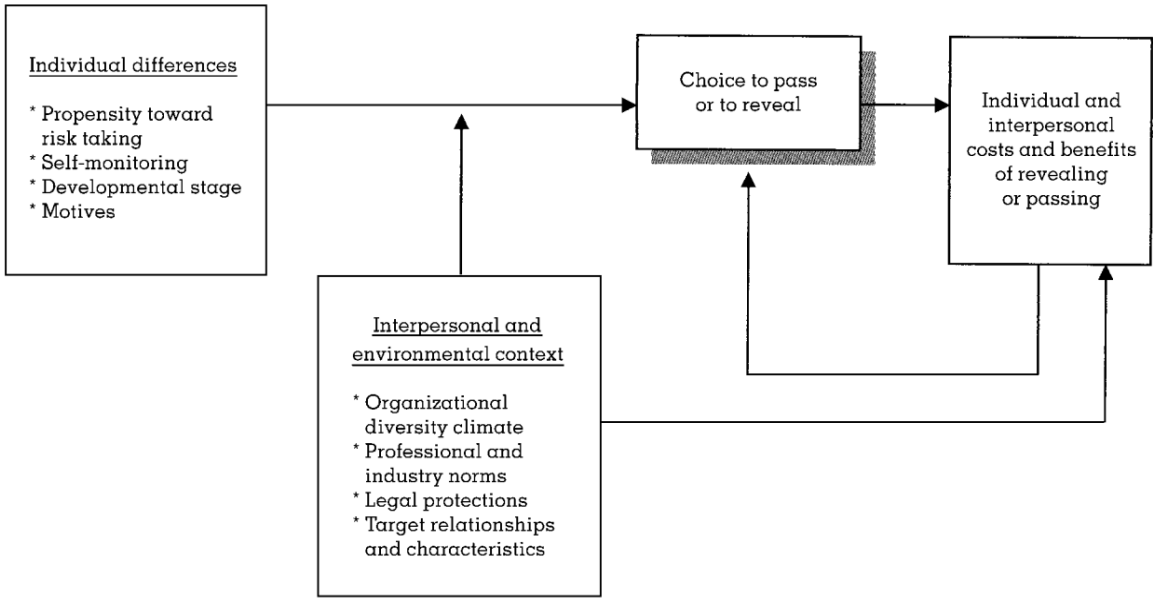
Stigma towards disabilities creates negative perceptions that disabled individuals are frail, weak, or inept, impacting disclosure decisions (Kulkarni, 2021; Thompson-Ebanks & Jarman, 2018). Disclosure, also referred to as revealing, is an act by an individual to intentionally communicate information about a stigmatized invisible identity verbally to another person. The person disclosing faces pressures of being an authentic self while protecting the self from possible mistreatment or discrimination (Follmer et al., 2020). Employers are not required to provide accommodations if there is no disclosure that a disability exists. This creates a dilemma for the individual who faces stigma associated with disclosure or lack of accommodations as a result of nondisclosure (passing). Because invisible disabilities are not readily obvious, individuals must disclose (reveal) their condition to receive accommodations or assistance. This complexity between disclosure and accommodations, in turn, exposes the individual to stigma (Chaudoir et al., 2010; Santuzzi et al., 2014).

Stigma associated with invisible disabilities is constant and inescapable. Compared to stigma faced by those with observable differences, individuals with invisible disabilities face further challenges of choosing when, where, and whom to

disclose and become vulnerable to further stigma such as legitimacy of the disability (Beatty & Kirby, 2006; Follmer et al., 2020; Meisenbach, 2010). Disclosure decisions related to invisible disabilities create a situation in which the person wants to disclose to receive supports and accommodations but has legitimate concerns with how others perceive the legitimacy and existence of the disability (Bosson et al, 2012; Jones & King, 2014; Kulkarni, 2021). In a study of 36 individuals who were at least 40 years old and who had lived with a degenerative eye condition for 10 years or more, Spiegel et al. (2016) concluded that there was no clear answer to whether disclosure is advantageous or not; however, it was clear that disclosure may reduce stress associated with concealing disabilities. Advocating for invisible disabilities and not outing an individual when they choose nondisclosure is difficult. However, research shows positive results of having nondisabled allies who advocate for the acceptance of disabled individuals in society lay the groundwork for an environment that promotes this stigmatized group to engage in disclosure (Bosson et al., 2012; Follmer et al., 2020; Sabat et al., 2014).

Figure 2

A Conceptual Model of the Decision to Pass or Reveal



Note. From "Out of Sight but Not out of Mind: Managing Invisible Social Identities in the Workplace" by J. A. Clair, J. E. Beatty, and T. L. MacLean, 2005, *Academy of Management Review*, *30*(1), p. 85 (https://doi.org/10.5465/amr.2005.15281431). Copyright 2005 by the Academy of Management. Reprinted with permission.

Disabilities in the Workplace

Research indicates that there is a complex relationship between the attitudes of managers and behavior towards stigmatized groups (Araten-Bergman, 2016; Kulkarni, 2021). Employers voiced uncertainty about support needed for persons with disabilities during employment (Gustaffson et al., 2012). Unjust judgements arise from this uncertainty and lead to higher rates of unemployment and underemployment (Araten-Bergman, 2016).

Shortages in skilled workers prodded the support of vocational rehabilitation and placement services to provide organizations with skilled persons with disabilities (PWD) to fill these shortages; however, findings suggest PWD go unnoticed by recruiters and are still not considered in applicant pools (Araten-Bergman, 2016). Additionally, although positive attitudes towards hiring PWD are expressed by potential employers in surveys, it is rare they do so in the real world (Araten-Bergman, 2016). Research findings support that the largest barrier to employment of PWD are negative attitudes and stereotypes by managers and supervisors, with managers voicing concerns over productivity and accommodations costs of PWD and the possibility of alienating coworkers and customers resulting in negative affects to the bottom line (Bruyere et al, 2000; Domzal et al., 2008; Gouvier et al., 2003; Hernandez et al., 2008; Heymann et al., 2014; Ju et al., 2013; Kaye et al., 2011; Lengnick-Hall et al., 2008; Livermore & Goodman, 2009; Nota et al., 2014).

The effect of negative attitudes towards PWD lends to the complexity of disclosure decisions for individuals with invisible disabilities (Kulkarni, 2021). It is the employee's responsibility to self-disclose the existence of a disability to request and receive accommodations provided by the ADA of 1990 and Section 504 of the Rehabilitation Act of 1973. People who choose not to disclose, and thus not receive accommodations, fall into two categories: those who don't feel accommodations are needed, and those who choose not to disclose to avoid negative impacts to the job such as not being promoted or jeopardizing networking relationships (Clair et al, 2005; Grimes et al., 2017; Madaus et al., 2018; O'Shea & Meyer, 2016). The workplace environment represents a social system that lacks knowledge about disabilities where negative

perceptions and misinformation are rampant (Clair et al, 2005; Nalle & Klau, 2019). Improved treatment for individuals with results from policies specifically addressed to this population, such as required training for HR, supervisors, and union personnel regarding disability and accommodation laws (Beatty et al., 2018; Follmer et al., 2020). Human resource professionals are important to improving workplace environments, since they can help organizations focus on abilities, not disabilities, and see it as a natural part of human diversity (Beatty et al., 2018; Follmer et al., 2020).

Current Disability Stigma Measurement Tools

Disability stigma research is rich in qualitative data but limited in quantitative data that includes experimental studies (Trammell, 2006). Current measures of stigma of invisible disabilities are limited to specific disorders and populations. Limiting the scope of tools in the cultural sense is necessary because stigma is a cultural construct that varies in kind and degree f across cultures (Ayedemir et al., 2018). However, workplaces are diverse environments and need to represent the variety of invisible disabilities. While existing tools support the overall research of stigma towards invisible disabilities, they are mostly limited due to their narrow scope.

The Perceived Stigma Scale and the Concealment of Epilepsy Scale for the Turkish Population

The Perceive Stigma Scale and the Concealment of Epilepsy Scale (Ayeemir et al., 2018) is a measure containing two separate scales that assess the stigma felt and disclosure by individuals with epilepsy. The Perceived Stigma Scale includes 10 items related to felt stigma, and the Concealment of Epilepsy Scale contains 17 items. Initial

validation data were provided by 200 individuals with epilepsy. Both scales were created through formative research and concept development, item development, data collection, and reliability and validity assessment. The stigma scale directly asks about stigma related to epilepsy and seizure activity with questions such as “I feel ashamed after a seizure,” “I feel people who know about my epilepsy pity me,” and “I feel less valued than others because of my epilepsy.” The concealment scale asks about disclosure of epilepsy in different ways and relational to different situations such as “I avoid disclosing my epilepsy to my friends,” “I feel uncomfortable if my coworkers know about my epilepsy,” and “I reveal my epilepsy only when it is impossible to hide it.” Both scales used a five-point Likert scoring system. Response options were “completely agree,” “agree,” “not sure,” “disagree,” and “completely disagree.” Higher scores indicate higher felt stigma and higher concealment of epilepsy. Reliability using Cronbach’s alpha was 0.86 for the stigma scale and 0.92 for the concealment scale. A correlation analysis to measure convergent validity was performed confirming highly significant correlation between the scales ($r = 0.64$, $p < .001$). The authors found that neither scale showed significant relationships with age, duration of epilepsy, years of education, number of seizures, and gender; this suggests that recognition of stigma is difficult. Additionally, the authors noted that due to cultural differences, these scales could be applied to neighboring countries after validation but would not work for western cultures. In Eastern and developing cultures, epilepsy not only brings shame and guilt to the affected person but also to the whole family.

Ableist Microaggressions Scale

The Ableist Microaggressions Scale (AMS; Conover et al., 2017) was developed to measure microaggressions experienced by people with physical disabilities. The AMS was based on eight primary disability microaggressions domains outlined in Keller and Galgay's (2010) qualitative study as well as expert feedback, cognitive interviews, and a pilot study. The eight domains are (a) denial of identity (personal identities or experiences are ignored, minimized, or denied), (b) denial of disability (minimalization or denial of disability related experiences), (c) denial of privacy (others' demands for personal disability-related information), (d) helplessness (other's attempts to help a disabled person when they do not need help), (e) secondary gain (other's expectation for recognition through helping or associating with a disabled individual), (f) spread effect (assumptions that various abilities unrelated to the disability are made), (g) patronization (treating a person with a disability like a child or admiration for a disabled person completing almost any task), and (h) second-class citizenship (denying a person with a disability equality (Keller & Galgay, 2010). The 6-point Likert-type rating scale ranges from 0 (*never*) to 5 (*very frequently*) to capture a fuller range of experience. Beginning with 44 items, the authors then reviewed and removed redundant items and conducted cognitive interviews; these steps resulted in 32 items for the preliminary AMS (pAMS). Cronbach's alpha for the 32-items pAMS was .92. No significant differences were found in race, age, sexual orientation, or gender identity comparisons. A significant difference was identified based on severity of disability; those who reported a disability as mild or moderate were less likely to complete the study than those reporting severe or very severe

impact. The final AMS is 20-items and 4 factors (Helplessness, Denial of Personhood, Otherization, and Minimization). Three of the four factors showed adequate range for internal consistency reliability; however, the Minimization factor demonstrated weak internal consistency (α = .65). Overall internal consistency for the 20-item AMS was α = .91. Items in the scale posed questions such as "People act as if accommodations for my disability are unnecessary," "People stare at me because I have a disability," and "People minimize my disability or suggest that it could be worse." Authors concluded that people with physical disabilities do experience disability-specific microaggressions with only 1% of the 833 participants reporting no microaggressions.

Measuring Stigma Across Neurological Conditions: The Stigma Scale for Chronic Illness

The Stigma Scale for Chronic Illness (SSCI; Rao et al., 2009) assesses stigma for individuals with chronic illnesses such as stroke, multiple sclerosis, Parkinson's disease, epilepsy, and amyotrophic lateral sclerosis (ALS). Items were chosen based on one of six dimensions of stigma: concealability (whether symptoms are visible to others), course (whether the prognosis is salient or progressive), disruptiveness (whether the illness disrupts social interactions or not), aesthetic qualities (other's reactions to the unattractive sides of the stigmatized illness), origin (other people's attributes toward the origin of the illness: congenital, accidental, or intentional), and peril (the perceived threat of the disorder by others). The authors used a unique approach beginning with a focus group of people with chronic illnesses, followed by a literature review and initial item pool, then a cognitive interview and item review using their input to guide

development of the items. This multistep process for measurement development resulted in a 24-item scale. Items include statements such as “Because of my illness, I worried about other people’s attitudes towards me” and “Some people acted as though it was my fault, I have this illness.” Five hundred and eleven participants were recruited via an online internet panel and then completed the scale. Analysis resulted in two highly correlated factors ($r = 0.81$). Factor analysis resulted in a bifactor model reflecting enacted and self/internalized stigma. Additionally, a high internal consistency of $\alpha = .97$ was demonstrated. The authors notated a limitation of ethnic/racial diversity in the study as 95% of participants were of European-American background. Overall, the SSCI is useful in understanding the impact of stigma on individuals with chronic illness.

Standardized Measure of the Stigma of Mental illness

Developed in England, the Standardized Measure of the Stigma of Mental Illness (King et al., 2007) measures stigma associated with mental illness. This scale directly reflects items derived because of qualitative research of patients’ experiences with mental illness. One such study included responses from 46 mental health service users resulting in the creation of 42 statements associated with the stigma of mental illness (Dinos et al., 2004). Items were worded based on participant phrasing of responses and were adapted to fit most people’s experiences. The tool used a 5-point Likert-scale ranging from *strongly agree* to *strongly disagree*. Questions alternated between negative and positive wording to avoid set bias. A total of 193 people responded to the items of the scale. Items included statements such as “I have been discriminated against by health professionals because of my mental health problems,” “I feel the need to hide my mental health problems from my

friends,' and "Having had mental health problems has made me a more understanding person." Seven items with *k* coefficients below 0.4 and the fourth factor with an eigenvalue of 1.1 were removed, resulting in 28 items. Three factors resulted from the items: 13 focused on perceived hostility by others or lost opportunities because of prejudiced attitudes (discrimination), 10 were mainly concerned with disclosure of mental illness (disclosure), and five reflected positive aspects of mental illness. Cronbach's alpha for all 28 items of the final version was 0.87. Although patients were randomized and came from a variety of community and clinical settings, participants were mostly white and may not be representative of all people with mental illness. The authors concluded that this scale may contribute usefully to understanding the processes that affect help-seeking, treatment uptake, and outcome of mental illness.

Measurement of Stigma in People with HIV: The HIV Stigma Scale

The HIV Stigma Scale (Bunn et al., 2007) was designed to measure the perception of stigma of HIV infected individuals. The authors conducted their study in New England with 157 participants, and the revision shortened the scale from 40 to 32 items. The original four factors remained; however, one was renamed. The factors are: Enacted Stigma (formerly Personalized Stigma), Disclosure Concerns, Negative Self-image, and Concerns with Public Attitudes. The items are assessed using a 4-point Likert-scale; responses indicate degree of agreement or disagreement. Examples of questions are, "I have lost friends by telling them I have HIV/AIDS," "I feel set apart and isolated from the rest of the world," and "I never feel ashamed of having HIV/AIDS." Cronbach's alpha for all factors was greater than 0.90, and for the total scale, it was 0.95.

Authors conclude that the HIV Stigma Scale is a reliable and valuable tool to measure stigma of HIV/AIDS. The authors also noted the importance of quantifying stigma as relational to the negative impact on well-being.

The Postsecondary Student Survey of Disability Related Stigma

The Postsecondary Student Survey of Disability Related Stigma (SSDRS; Trammell, 2006) was developed to assess perceived stigma in adult college students. This scale was patterned after similar instruments developed to measure race-related stigma and other social discriminations. The SSDRS consists of five subscales: Personal Feelings, Global Events, Academics, Group Identity, and Personal Relationships. After multiple pilot studies and factor and reliability analyses, the scale was administered to students in a large urban research university. Subscale scores combined to create a stigma score between 0 and 96. Question items included "I think about my disability," "My friends think I am different because of my disability," and "Students are understanding about disabilities." Disabilities included in the items encompassed physical, medical, psychological, and learning. Stigma scores in a sample of 85 participants ranged from 2 to 60 (M = 36.74, SD = 11.59). Cronbach's alpha was satisfactory, $\alpha = .82$. Cutoff scores based on the standard deviation were created: 0-24 indicates little stigmatization, 25-48 moderate stigmatization, 49-72 high stigmatization, and 73-96 extremely high stigmatization. The author concluded that SSDRS confirmed the existence of measurable disability related stigma in several post-secondary settings.

Summary and Limitations of Previous Measures

There are commonalities between many of the measures previously described. There are similarities in how the questions are posed using “I feel” and “People act” statements with Likert-type scaled responses. Several similar factors such as concealment, disclosure, public opinion, and negative self-image were common between the measures. Additionally, the measures commonly limit their scope to one disability type and limited cultural context.

Along with the common themes there were also some limitations. One limitation is the limited scope in measuring disability type. Relating a measure useful in the workplace needs to include multiple types of disabilities to capture the full social context. Another limitation of previous measures is that few involved samples in the United States. This gap in research has left individuals with disabilities vulnerable to workplace discrimination. The review of the literature recognizes that stigma towards disabilities exists, yet there remains no tool to adequately measure stigma associated with a broad range of invisible disabilities. Such measures are needed to create appropriate policies, procedures, and training appropriate to the workplace.

Conclusion

Societal views about individuals with disabilities have changed over time; however, stigma causes tension within and between individuals. Inclusion in the workplace is a driving aspect of many organizations, yet individuals with disabilities continually make less and suffer higher unemployment rates (Araten-Bergman, 2016). Individuals with invisible disabilities have limited choices between concealing their

disability from an employer to avoid stigma at this risk of health implications and revealing their disability subsequently subjecting themselves to stigma and the risk of being passed over for employment or offered less opportunities (Ameri et al., 2018; Araten-Bergman, 2016; Beatty et al., 2018; Santuzzi & Waltz, 2016). It is important to understand commonalities and differences in attitudes of individuals with invisible disabilities and how they are associated with stigma in the workplace. Developing policies, procedures, and training should have the goal of lessening stigma, increasing disclosure, and improving retention. The strategy for the developing the tool to assess stigma associated with individuals with invisible disabilities in the workplace is presented in Chapter 3.

Chapter 3: Research Method

Introduction

The purpose of this chapter is to introduce the research methodology for this quantitative study that involved developing an instrument to assess stigma associated with invisible disabilities and their effect on intention to disclose in the workplace. The theories that ground this study aid in deeper understanding of the relationship between invisible disabilities, workplace stigma, and disclosure in the workplace. Understanding stigma of invisible disabilities is important because of the role they play in acceptance of individuals in society (Follmer et al., 2020; Kulkarni, 2021; Santuzzi et al., 2014). There are few tools available that can be used to measure the stigma of invisible disabilities and, of those that are available, the language is limited to specific disabilities or specific communities. In addition, no studies address the impact on stigma related to invisible disabilities and workplace disclosure. This chapter includes descriptions of the methodology, study participants, procedures, analysis method, and ethical concerns.

Research Rationale

Organizations have increasingly embraced diversity and inclusion; however, holding organizations accountable to these principles requires empirical data to assess workplace cultures. The gap in empirical data regarding stigma of invisible disabilities in the workplace and the relationship to intended disclosure identified the need for a tool for organizations to assess stigma related to invisible disabilities. The purpose of the study was to create and determine the validity and reliability of a new survey instrument to measure the stigma of invisible disabilities in the workplace and to examine the

relationship between perceived stigma and intention to disclose invisible disabilities in the workplace.

Research Question and Hypothesis

The research question is: How is perceived stigma related to intent to disclose invisible disabilities in the workplace? There is one hypothesis that will be tested.

H_O: There is no correlation between perceived stigma of people with invisible disabilities, as measured by a new researcher-developed tool, and intention to disclose, as assessed by a single item modeled from the transtheoretical model of the stages of change construct that will be included as part of the instrument development, when controlling for key demographic factors shown by the data to be associated with intention to disclose.

H_A: There is a negative correlation between perceived stigma of people with invisible disabilities, as measured by a new researcher-developed tool, and intention to disclose, as assessed by a single item modeled from the transtheoretical model of the stages of change construct that will be included as part of the instrument development, when controlling for key demographic factors shown by the data to be associated with intention to disclose.

Research Design

A quantitative study is appropriate when the goal of research is to collect data needed to test for a correlation between two phenomena. Quantitative studies are also appropriate when one of the goals is to create and validate a new instrument. Factor analysis was applicable for this study, as it allowed me to reduce several variables to a smaller number of latent variables that explain the data (DeVellis, 2017). Bivariate

correlation was applicable for this study, as it allowed me to identify any variances attributed to a common source. This was a multistep process for tool development that followed the guidance of DeVellis (2017).

Step 1: Identifying the Measure

The first step was to clearly identify the measure and its purpose. The purpose of the tool, as described in Chapter 2, is to measure the stigma associated with invisible disabilities in the workplace. Stigma impacts the workplace as a whole and as such is important to identify and address. This tool gathers data in the workplace and identifies factors in the workplace that support or hinder individuals with invisible disabilities. Questions were written in English and phrased so that all workplace employees may contribute and provide insight into the level of stigma of invisible disabilities and its impact on disclosure intention of those who identify as having an invisible disability. The results can be used to help engage the organization to examine policies and practices and to encourage conversation and educational awareness.

Step 2: Generate the Item Pool

The second step was to generate an item pool. I drafted these questions using guidance from the literature, workplace experience, professional discussions, and personal experience. Some questions were like those used in other tools on stigma that have been adapted specifically to invisible disabilities. Examples of these tools include the Perceived Stigma Scale and the Concealment of Epilepsy Scale for the Turkish Population (Aydemir et al., 2018), Ableist Microaggressions Scale (Conover et al., 2017), SSCI (Rao et al., 2009), Stigma of Mental Illness (King et al., 2007), HIV Stigma Scale

(Bunn et al., 2007), and the SSDRS (Trammell, 2006). Many questions in the initial pool were duplicated and written slightly different for redundancy. The importance of redundancy was to capture the phenomenon of interest by revealing it in different ways (DeVillis, 2017).

Step 3: Selecting the Format for Measurement

There are numerous measurement formats; however, scales are generally made up of items that are scorable on a continuum. Likert scales are widely used in instruments measuring opinions, beliefs, and attitudes (DeVillis, 2017). For this research, I used a 6-point Likert-scale with no neutral option to measure degree of stigma. This approach forces the respondent to give either a positive or negative rating toward the stigma of invisible disabilities in the workplace and be ample to provide variation in responses.

Step 4: Expert Review of the Initial Item Pool

Test items were sent for review to research committee members who are subject matter experts in the areas of stigma and instrument development. After providing the committee members with the working definition of the construct, I asked them to rate each item with respect to its relevance as defined (see DeVillis, 2017). The purpose of this step was to confirm or invalidate whether the questions met the definition of the phenomenon (DeVillis, 2017). The committee members rated the relevancy of each item to measuring stigma of invisible disabilities in the workplace. These initial test items were placed in a Google Doc and a link sent to the committee members. Feedback and discussion with committee members was gathered through the shared document. Email and video correspondence was also used for comments or to resolve any questions that

arose. Clarity and conciseness were additionally evaluated during this step to identify any problematic wording, ambiguity, or otherwise unclear items. Expert reviewers also provided ways of tapping the phenomenon not previously included and helped maximize the content validity of the scale (DeVillis, 2017).

Step 5: Validation Items

It is human nature to answer questions as would be socially desirable. To detect these flaws or problems, the 10-item Marlow-Crowne Social Desirability Scale short version (Strahan & Gerbasi, 1972) was included. This tool is shortened from its original length of 33-items and demonstrates strong correlation (r = .80 and above) to the original tool, thus supporting the reliability of the shortened scale. Items that correlate strongly with the social desirability score were considered as candidates for exclusion (DeVillis, 2017).

Additionally, the Perceptions of Stigmatization by Others for Seeking Help (PSOSH; Vogel et al., 2009), a 5-item stigma scale was included to demonstrate concurrent validity. The tool has demonstrated strong internal consistency reliability (α = .91) and concurrent validity with three different stigma scales (Strahan & Gerbasi, 1972). The addition of the validation items strengthened evidence for validity of the tool.

Step 6: Validate the Items With Participants

The initial item pool was read by approximately 50 volunteer participants over 18. This step was to ensure the questions were understandable, to solicit feedback on readability and appropriateness, and to evaluate for redundancy. I recruited volunteers through online discussion groups, social media, and contacts within organizations and

asked them to answer the questions and provide input about comprehension of the question and why they chose the answer they did. This was to identify strengths and weaknesses on the items and allow items to be revised if needed. The answers provided by the volunteers were also used as an initial validation for item selection. Finally, the items were selected, based on feedback from the volunteers, for the initial question pool.

Step 7: Administer Item Pool to Development Sample

I then recruited participants from online discussion groups, social media, and Mechanical Turk (Mturk), a crowdsourcing website operated by Amazon. In MTurk, requestors submit tasks for registered workers to claim. Qualification parameters are set by the requestor to limit the pool (essentially, the delimiters for the population). A base charge of $0.16 per task covered targeting adults in the United States; an additional premium of $0.35 per assessment was paid to MTurk to target individuals employed fulltime (35+ hours per week). Finally, an additional incentive of $0.40 per task was offered to participants, of which 201 participants claimed. Recruiting from the university participation pool, key contacts within organizations, social media, and MTurk resulted in 1412 participants. Data were collected through an online survey tool; no identifying information was gathered to protect anonymity. Requirements for participation were that individuals be 18 years or older and employed currently or within the last 5 years. Participants completed the developmental tool, the two validation scales, and a measure of intention to disclose (for those who reported an invisible disability).

Step 8: Item Analysis

The eighth step was to evaluate the performance of the individual items to identify appropriate ones to constitute the scale (DeVillis, 2017). I randomly split the items into two groups to perform analysis. Evaluation of the first group (n = 420) was performed using EFA to identify correlations among items. Items were evaluated as desirable when an item has high correlation with the true score of the latent variable (DeVillis, 2017). True score cannot be directly assessed; however, inferences can be made based on formal measurement models. The higher the correlation between items, the higher the reliability of the scale and its component items (DeVillis, 2017). CFA was used on the second group (n = 417) to ensure integrity of the scale.

Step 9: Optimize Scale Length

Selecting the items that correlated strongest with the overall scale increases internal consistency reliability; however, it is important to keep in mind the importance between reliability and brevity (DeVellis, 2017). The fewer the items, the greater the change in alpha that results when removing or adding each item. The number of items has a direct impact on both the alpha and intercorrelations average. The more items, the lower the inter-item correlation needs to be to achieve an alpha of .80 (DeVillis, 2017). I used the SPSS (Version 27) reliability procedure to examine the effect of omitting each item on the overall scale properties (see DeVillis, 2017). This process streamlined the ability to decide which items were best to drop or keep for the final scale.

Step 10: Final Instrument

The final instrument was developed using exploratory and confirmatory factory analysis methods.

Methodology

Population and Sample

The population included people 18 years of age and older who are currently employed or have been employed within the last 5 years. The sample for the initial instrument was drawn from the general population of working adults. The sample for the final instrument was drawn from the total population of one or more medium to large organization (i.e., more than 250 employees). Participants were both those who identify as having an invisible disability and those who do not. This ensured the diverse makeup of a workplace was included to obtain a more comprehensive understanding of the prevalence of stigma regarding invisible disabilities in the workplace. All participants were from the United States with fluency in English; however, English did not have to be the primary written or spoken language.

Sampling and Sampling Procedures

Three different samples were required: the initial volunteers who reviewed items; participants who completed the initial instrument; and participants from an organization for the final instrument.

Sample 1: Review Items

Sampling for the item review volunteers was through social networks to reach a diverse set of individuals who reviewed the items. The sample size to review the item pool was set at 20 individuals.

Sample 2: Initial Instrument Validation

Sampling for the initial instrument was by convenience. I sent notifications through the Walden University institutional participant pool, discussion boards, various social media sites, and Mturk. The initial instrument sample needed to be large to eliminate subject variance as a significant concern (DeVillis, 2017). The sample size to administer the initial instrument was set to 300 participants which was considered an adequate number to sample (DeVillis, 2017).

Sample 3: Confirmatory Factor Analysis

The confirmatory sample included employees of a single large organization. The sample size required for confirmatory sample is 100 to 200 participants, depending on the number of items in the final scale (DeVellis, 2017).

Procedures for Recruitment, Participation, and Data Collection

Sample 1: Review Items

Individuals for this step were recruited from online resources including Facebook, TikTok, Discord, and Twitter. These resources are public social media groups and communities with which I have connected through networking and advocacy. Individuals within these social media communities expressed excitement with the research and were eager to contribute to the research. Reviewers were volunteers and engaged with me to

gain clarity on scale items. I provided participants with a document or link to a document; all correspondence was through email. Participation was based on two criteria: (a) the individual must be in the United States, and (b) the individual must be 18 years or older. Data for the item review were collected through web-based form, email communication, or phone/video interview as needed. Data gathered from the reviewers were evaluated for each item on level of understanding, readability, appropriateness, and redundancy. After answering the item, the reviewers were asked to give a rating on a scale of 1–10 (1 = *poor*; 10 = *excellent*) for each item as they relate to understanding (i.e., the question asked was clear and focused), readability (i.e., the language/wording used was suitable), and appropriateness (i.e., the question was relatable to the subject and geared for a workforce audience). The reviewers were additionally provided with an open response to provide any additional comments. Cronbach's alpha and inter-item correlation were used to determine redundancy between items. The data gathered in the review items between the scale rating, open responses, and testing for redundancy provided information to select the best items for the initial instrument.

Sample 2: Initial Instrument Validation

I recruited individuals for the initial test from online resources including Facebook, TikTok, Discord, and Twitter, as well as the Walden University Participant Pool, and Mturk. Participation was voluntary and based on three criteria: (a) the individual must live in the United States, (b) the individual must be 18 years or older, and (c) the individual must be employed currently or within the last 5 years. Data were collected anonymously through the selected online survey tool, Survey Monkey. This

application provides security features that secure sensitive survey data with single sign-on (SSO), data encryption, and access controls; keeping data compliant with the Health Insurance Portability and Accountability Act of 1996 (HIPAA); and General Data Protection Regulation (GDPR) features. Additionally, Survey Monkey supports advanced data exports to SPSS. Data were downloaded to a dedicated laptop for analysis and secured with a password protected file. The exit of the survey included a thank-you for participation and links to educational and advocacy information as well as free counselling services.

Sample 3: Confirmatory Factor Analysis

Individuals for the confirmatory pool were recruited from one large organization. I provided a link and brief information describing the survey to the organizational contact. A standardized email invitation through their department (if applicable) or through a top management team member's e-mail address was sent to employees requesting voluntary participation. The e-mail described the study's purpose and provided a link to a web-based survey. Participation was voluntary and based on two criteria: (a) must be currently employed by the organization and (b) must be 18 years or older. Data were gathered through the web-based survey on a secure server. No personal identifying information was gathered to provide anonymity. Data were downloaded to a dedicated laptop for analysis and secured with a password-protected file. The exit of the survey included a thank-you for participation and links to educational and advocacy information as well as free counselling services. The organization was provided a report detailing the findings from the survey in return for their participation.

Instrumentation and Operationalization of Constructs

The survey started with a brief introduction, participation requirements, and consent. Following the consent, the participants answered "yes" or "no" to the three participation requirements; any answer of "no" resulted in their being exited from the survey and thanked for their interest. The survey included the following opening statement defining the three categories of invisible disability:

> Invisible disabilities are often without visible manifestation or visible features and episodic in nature with intermittent and unpredictable periods of illness and wellness, including a wide range of physical and psychological conditions. For this survey, invisible disabilities are separated into three categories: neurodivergent, physical, and sensory.
>
> - **Neurodivergent** relates to differing mental or neurological function from what is considered typical or normal such as depression, anxiety, ADHD, autism, bipolar, dyslexia, OCD, memory functions, learning disabilities, etc.
> - **Physical invisible disabilities** are those that inhibit physical functions from what is considered typical or normal such as fibromyalgia, chronic pain, Ehlers-Danlos Syndrome, asthma, chronic fatigue, chronic dizziness, celiac disease, brain injuries, endometriosis, ulcerative colitis, allergies, hypoglycemia, etc.

- **Sensory invisible disabilities** are those that inhibit sensory function from what is considered typical or normal such as hearing impairments and vision impairments.

Participants were asked to answer a brief demographic questionnaire including items related to age, gender, race, employment status, management level, whether they identify as having an invisible disability, the type(s) of invisible disability they identify with, and if they have disclosed their disability to their workplace. Demographic information follows suggestions from Hughes et al. (2016) and other examples in currently used surveys.

Age

The participant is asked to write in their age with a fill-in-the-blank response.

Gender

Gender is asked using the following multiple-choice question: What is your preferred gender identity? Responses include Female, Male, Non-Binary, Transgender Female (MTF), Transgender Male (FTM), and Other.

Sexual Orientation

Participants are asked, "Do you consider yourself to be", with the following response options: Bisexual, Gay, Lesbian, Heterosexual/straight, and Other.

Race/Ethnicity

Participants are requested to identify their race in the standard two-part question for race identification. The first part of the question is, "Are you of Hispanic, Latino, or Spanish origin?" with a yes or no response. The second part requests their race; choices

include American Indian or Alaska Native, Asian, Black or African American, Native Hawaiian or Other Pacific Islander, White, and Other.

Education

The participant is asked to answer a multiple-choice question to indicate highest level of education achievement. Choices include: Some high school, High school diploma or equivalent, Vocational training beyond high school diploma, Some college but no college degree, Associate degree, Bachelor's degree, Master's degree, and Post-Masters/Doctorate.

Management Level

The participant is asked to answer a multiple-choice question indicating level of management held by the individual in their organization. Choices include Non-Management, Operation Level Management, Middle Level Management, and Top-Level Management (Hierarchy Structure, 2018).

Remote Work

The participant is asked to answer a multiple-choice question indicating the amount of time their employment is remote work. Choices include 0%, 25%, 50%, 75%, 100%.

Invisible Disability Status

This was assessed using two questions. First, the participant will state (Yes or No) whether they identify as having an invisible disability based on the description at the start of the survey. Second, the participant will be asked (Yes or No) if they have been diagnosed with an invisible disability.

Invisible Disability Demographic Question

This question will only appear if the participant answers yest to either of the invisible disability status questions above. This is a singular multiple choice questions requesting participants to identify the invisible disability category (or categories) out of the three selections identified in the beginning of the survey: neurodivergence, physical, and/or sensory.

Disclosure Intention

This set of questions only appears if the participant answers yes to either of the questions on invisible disability status. Modeled from the Child Abuse Report Intention Scale (CARIS) by Feng and Levine (2005), that uses the Theory of Planned Behavior (TPB) theoretical model consisting of six sections: demographic information, past experiences of reporting child abuse, and five scales measuring the major study variables: (a) attitude, (b) knowledge, (c) subjective norms, (d) perceived behavioral control, and (e) intended reporting behaviors (eight vignettes). This design was modified to relate to invisible disability creating eight questions related to disclosure intentions to three key stakeholder groups: HR, management, and coworkers and four scales: (a) Intention, (b) Attitude, (c) Subjective Norms, and (d) Perceived Behavioral Control. Intention is measured using a single item on a scale of 1–10 (1 = *Almost certainly would not disclose* and 10 = *Almost certainly would disclose*). The Attitude scale gauges the attitudes of participants towards the responsibility of disclosing an invisible disability (1 = *Highly harmful / highly disagree* to 10 = *Highly helpful / highly agree*). The Subjective Norm scale included two items that assess perceptions of social pressure to disclose or not (1 =

Definitely No to 10 = *Definitely Yes*). Finally, Perceived Behavior Control gauges perception of degree of whether the participant has control over disclosure behavior (1 = *Definitely No* to 10 = *Definitely Yes*). The single-item intention variable was used as the dependent variable.

Invisible Disability Knowledge

The participant is requested to answer three questions that were used as organizational demographic information to provide feedback to the organization about the understanding of invisible disabilities. First the participant was asked to rate their knowledge on each of the following on a scale of 1to10, where 1= No Knowledge and 10 = Highly Knowledgeable: Invisible disabilities; neurodivergence; physical invisible disabilities; and sensory invisible disabilities. Next the participant was asked to provide the number of coworkers/family members/friends they know with an invisible disability. Last, the participant was asked to provide their best estimate of the percentage of individuals in the workplace with an invisible disability.

Invisible Disability Stigma Scale

Approximately 61 items were presented to the individuals selected for the item review stage of the study (Appendix A). Items were listed along with a corresponding subfactor in parenthesis. All items were answered using a 6-point Likert-scale response (1= *Strongly Disagree*, 2 = *Disagree*, 3 = *Slightly Disagree*, 4 = *Slightly Agree*, 5 = *Agree*, 6 = *Strongly Agree*). After the review, items were adjusted to create the items for the new tool.

Validation Scales

Social Desirability. The 10-item social desirability scale M-C 1(10) (Strahan & Gerbasi, 1972; see Appendix B) was included in the exploratory sample to detect items that correlated with a socially desirable answer selection. The M-C 1(10) is a shortened version from the longstanding Marlowe-Crowne Social Desirability Scale (M-C SDS), after some items showed to contribute little value and the desire for a shorter scale (Strahan & Gerbasi, 1972). Sampling approximately 608 undergraduate students from a medium sized state university showed consistent reliability between M-C SDS ($\alpha = .82$) and M-C 1(10) ($\alpha = .63$) (Reynolds, 1982). The drop in reliability is tolerable when administration time is limited. Reliability for both the M-C 1(10) M-C SDS were strong, with reliability coefficients above .80 (Reynolds, 1982; Strahan & Gerbasi, 1972). Those items in the test scale with high correlation to the M-C 1(10) scale were considered for deletion.

PSOSH. Additionally, the 5-item PSOSH stigma scale (Vogel et al., 2009) was included in the exploratory and confirmatory sample questionnaire. In the original study, internal consistency reliability was excellent, $\alpha = .88$. Across multiple samples the PSOSH showed consistent validity and reliability. Concurrent validity was supported through significant correlations between the PSOSH and the Stigma of Seeking Professional Psychological Help scale (Komiya et al., 2000; $r = .31$); the PSOSH and the Self-Stigma of Seeking Help scale (Vogel et al, 2006; $r = .37$); and the PSOSH and Devaluation-Discrimination scale, a measure of stigma of mental illness (Link et al., 1987; $r = .20$). Test-retest reliability of the PSOSH was .77. Thus, the PSOSH was

included to help establish concurrent validity of the new scale. Comparing a tool under development with a reliable and valid tool that is currently used is an important step towards acceptance of a new measure.

Data Analysis Plan

EFA, correlation, and CFA were used to examine the construct reliability and validity of the measurement model. Factor analysis provides information about reliability, item quality, and construct validity and can bridge the gap between theory and observation (Mueller & Hancock, 2001; Shiker, 2012).

EFA

EFA using SPSS V27 was conducted to discover latent factors underlying items. EFA was also used to eliminate items that did not load highly. The goal was to reduce redundancy among the items and to identify a smaller number of factors that explain variance in the data (Shiker, 2012). First, EFA using principal components analysis (PCA) was conducted on Sample 2 using the 79 items of the initial item pool. The rule of identifying the number of factors consistent with the number of eigenvalues greater than 1.0 was used to estimate the number of factors. Additionally, the Scree plot was examined; the number of factors was determined by where the plot significantly changes inflection. Promax rotation was used, given that it is expected that factors will be correlated (Yong & Pearce, 2013). Items were considered for elimination if: (a) they loaded at less than .40 on a factor; (b) loaded less than .30 on the alternate factors; and (c) difference between cross-loaded items was less than .20. This is commonly referred to as the “40-30-20 rule” (Howard, 2016). In addition, items that correlated highly with social

desirability scale items were eliminated (Burkholder et al., 2022; Mueller & Hancock, 2001; Tabachnick & Fidell, 2019; Yong & Pearce, 2013).

Correlation

Correlation was conducted to identify any key demographic factors associated with intention to disclose. SPSS (Version 27) was used for the analysis. Correlation coefficient analysis results in a number between -1 and 1, indicating the strength and direction of a relationship between variables (Burkholder et al., 2022).

CFA

CFA using structural equation modeling techniques (AMOS V28) was the analysis strategy Sample 2 data to investigate how well the hypothesized factor structure discovered in the exploratory sample fit with the data. Confirmatory structure model fit was judged using fit indices such as chi square statistic (excellent fit to data is indicated by a nonsignificant probability value); χ^2 to the degrees of freedom ratio (CMIN) ideally less than 2.0 but no greater than 5.0; root mean square error of approximation (RMSEA) less than 0.10; and comparative fit index (CFI) greater than 0.95 (Mueller & Hancock, 2001; Tabachnick & Fidell, 2019; Yong & Pearce, 2013). The p-value alone does not signify fitness of data, nor does it provide evidence of a good model or hypothesis; evaluation requires consideration of all criteria (Wasserstein & Lazar, 2016).

Test of the Hypothesis

H_O: There is no correlation between perceived stigma of people with invisible disabilities, as measured by a new researcher-developed tool, and intention to disclose, as assessed by a single item modeled from the theory of reasoned action that was included

as part of the instrument development, when controlling for key demographic factors shown by the data to be associated with intention to disclose.

H_A: There is a correlation between perceived stigma of people with invisible disabilities, as measured by a new researcher-developed tool, and intention to disclose, as assessed by a single item modeled from the theory of reasoned action that was included as part of the instrument development.

A correlation was run to identify any stigma factors associated with intention to disclose.

Concurrent Validity

Concurrent validity was tested using the Pearson correlation coefficient to ascertain the relationship between new tool and the PSOSH. The expected correlation was statistically significant and modest. A statistically significant result suggested that the new scale is measuring a form of stigma. A modest correlation indicated that the new scale is not assessing the exact same construct.

Threats to Validity

The purpose of the study was to understand the perceived stigma of invisible disabilities in the workplace and the effects on intent to disclose. No current tool exists to measure this phenomenon and as such this was executed by creating a tool and surveying working adults within the United States to better understand if stigma exists and how it might impact the workplace. Common threats to internal validity include history, maturation, testing, instrumentation, statistical regression to the mean, researcher bias, selection, overall mortality (attrition), and differential mortality and external validity

including interactions of the observed causal relationship with sample units, treatment variations, types of outcome measures used, settings in which the treatment was delivered, context-dependent mediation (Burkholder et al., 2016). The possible threats to validity pertaining to this study were instrumentation, researcher bias, selection, and context dependent mediation. This being a tool development, instrumentation was a possible threat to validity as it is important to use a tool that measures the intended effect. Following the multistep design process, factor analysis, and using concurrent validity were mediating factors to combat this threat to validity from instrumentation. Another possible threat to validity was researcher bias, as a member of the invisible disability population it was important to be aware of personal bias pertaining to the subject. This was combatted by presenting data truthfully without skewing to present desired findings resulting from the researcher's subjective views was pertinent to a quality study. Selection was an additional area of possible threat to validity; recruitment efforts was within discussion groups that may contain a large population of individuals with invisible disabilities. This created a possibly of bias in the data by providing only one view of the working population. To best combat this possible bias demographic questions were included, and the data were grouped by those who identified with an Invisible Disability to gauge the percentage of the participants. Context-dependent mediation was also a threat to validity to be aware of throughout this research. Organizations differ greatly from one another in climate and culture which may influence inclusion policies and employment. This was combatted through researching the organization(s) used during Sample 3 and presenting findings. Additionally, a thorough literature review and thinking

of how findings may generalize to other settings acted to minimize threats to external validity.

Ethical Procedures

Participants were recruited using invitations within online social media. The organizers of those groups with closed access agreed to distribute research invitations on the behalf of the researcher and as such no letter of commitment was needed. The Institutional Review Board (IRB) approved the study, Walden University approval number 02-04-22-0429655. Participants were provided with an informed consent that briefly outlined the purpose of the research; provided a clear statement that this was for research purposes; stated that all information was confidential or anonymous; and provided information on risks versus benefits. During recruitment, special care was taken to limit my discussion in groups that I belonged to where recruitment took place as to not cause bias or create any persuasion for individuals to complete the survey. All participants were volunteers and were able to skip questions and decline to participate at any time. Surveys among the exploratory and confirmatory sample, and final sample were anonymous; there is no way to connect data to individual respondents. Data were only available to the researcher and to the researcher's committee. Data were stored on the online survey system during data collection which has privacy and security features. After data collection, data were exported to a dedicated laptop and the files password protected and backed up on a password protected computer. Data will be stored for at least 5 years and destroyed by deleting it from the computer system and cloud storage. An additional ethical concern of this study was the involvement of an adult vulnerable

population due to the involvement of invisible disabilities; however, this study did not solely recruit on the basis of disability. This research is to benefit this population and the benefits outweigh the risk of using this population.

Summary

This research into the stigma of invisible disabilities in the workplace is a large undertaking that brings benefits to this population. The purpose and methodology of the study were clearly identified through the 10 steps for tool development. Reliability and validity were assured through exploratory and confirmatory factor analyses on a large data set that was randomly split into two independent samples. Chapter 4 contains an overview of the study purpose, explanation of slight modifications to the methodology, and the evidence for reliability and validity of the instrument.

Chapter 4: Results

Introduction

The purpose of this quantitative research study was to develop a tool to measure the perceived stigma of individuals with invisible disabilities in the workplace and to understand how experience of stigma affects intention to disclose those disabilities in the workplace. The research question involves understanding how perceived stigma is related to disclosure intention of invisible disabilities in the workplace. There is one hypothesis that was tested.

H_O: There is no correlation between perceived stigma of people with invisible disabilities, as measured by a new researcher-developed tool, and intention to disclose, as assessed by a single item modeled from the transtheoretical model of the stages of change construct that will be included as part of the instrument development, when controlling for key demographic factors shown by the data to be associated with intention to disclose.

H_A: There is a negative correlation between perceived stigma of people with invisible disabilities, as measured by a new researcher-developed tool, and intention to disclose, as assessed by a single item modeled from the transtheoretical model of the stages of change construct that will be included as part of the instrument development, when controlling for key demographic factors shown by the data to be associated with intention to disclose.

Chapter 4 includes explanation of slight modifications to the methodology and evidence for reliability and validity of the instrument. Results of each phase of the study

are associated with development and validation of the Workplace Invisible Disability Experience (WIDE). Results of hypothesis testing are provided.

Phase 1: Initial Pool Item Review Results

The purpose of Phase 1 was to review the initial pool items with a small group of approximately 20 participants. Over a period of a month there was a total of 56 participants; however, nine were disqualified by the three qualification checks required for participation in this phase, resulting in a sample of 47 qualified participants. Data for Phase 1 were analyzed using preliminary factor analysis, item correlations, component reliability (Cronbach's alpha), item score distribution, and qualitative responses for each item. The purpose of this phase was to clarify the need to remove or reword items.

Preliminary Factors

While creating items, I assigned preliminary factors to each based on language and intention resulting in 10 unevenly loaded factors: Wellbeing, Acceptance, Teamwork, Legitimacy, Performance, Impression, Ablism, Knowledge, Discrimination, and Disclosure. A preliminary EFA was run to initially verify the factors for the items. This resulted in six factors with numbers of items varying from five to 17: Acceptance, Wellbeing, Legitimacy, Ablism, Discrimination, and Masking. Three items that did not have a similar theme nor fit with the others were marked as an undefined factor and eliminated.

Interitem Correlation

Next, items were correlated to identify highly correlated items ($r > 0.7$), suggesting that these items may be essentially identical and that one or more items could

be considered for removal. In total there were 36 highly correlated item pairs; six of these items were highly correlated with items in different factors. Disregarding duplication count of items and those correlating within the same factor identified 11 items: items with high correlation outside factor and those with high correlation to multiple items. These 11 items were marked for further review.

Reliability

I conducted a preliminary reliability analysis to assess item fit with "factors." Overall, the items within the preliminary factors demonstrated good fit with Cronbach's alpha ranging from .712 to .761.

Ratings

Participants were requested to rate each item on a scale of 1 (*Poor*) to 10 (*Excellent*) in three areas: Readability ("The question asked was clear and focused"); Understanding ("The language/wording used was suitable"); and Appropriateness ("The question was relatable to the subject and geared for a workforce audience"). The overall means were Understanding (M = 8.86); Readability (M = 8.93); and Appropriateness (M = 8.95), demonstrating that the items generally rated closer to *Excellent*. Next, ratings were analyzed for each individual item to examine items whose rating fell below the mean; this analysis resulted in eight items that were further examined.

Qualitative Responses

Participants were provided the option to include additional comments to each item. The responses varied in both amount and content, including suggestions for alternate questions, concerns on wording usage, and requests for clarification. I used

descriptive coding to summarize the comments and analyze responses. The descriptive codes that captured the variation in responses included: (a) clarification needed (50 mentions), (b) vagueness (five mentions), (c) ambiguity (22 mentions), (d) question was deemed offensive (five mentions), (e) question is pretentious (one mention), (f) offered suggestions (27 mentions), and (g) question is repeated (one mention). This analysis resulted in 42 items that were reviewed for rewording or deletion.

Results of Combined Analyses

The five analyses provided 11 possible evaluation areas for each item; factor loading, high correlation, reliability, ratings, and descriptive coding (clarify, vague, ambiguous, offensive, pretentious, suggestion, repeat). All items were reviewed considering the analysis with emphasis on the qualitative responses. This resulted in keeping eight items as originally written, removing six items, rewording 47 items, and adding 24 new items. Therefore, the instrument that was tested in Phase 2 contained 79 items.

Phase 2: Survey Development and Validation

The purpose of this phase was to test the item pool within the general population of adults 18 and older and currently employed or employed within the last 5 years. Participants were recruited using social media (n = 419), the university research participation website (n = 55), and MTurk (n = 938) over a period of 6 months.

Sample Size

There was a total of 1,412 participants. Responses were filtered first by removing responses in which all survey items were missing (n = 357). Next, patterned responses,

such as all the same answer or only two different answers (e.g., responses of 1 or all responses of 5) were removed (n = 151). Finally, the social desirability total scale score was correlated with scale items to assess for potential contamination by social desirability bias. Participants with high social desirability score (9 or 10; n = 67), were removed. This data cleaning resulted in a final sample size of 837.

Study Deviation From the Proposal

Given the large sample generated for Phase 2 (N = 837), I sought and was given approval to randomly split the sample into two equal and independent samples to use for EFA and CFA. Therefore, Phase 3 of the proposal, whose purpose was to confirm the results of the EFA using company data, was no longer necessary. Thus, exploratory and confirmatory analyses were performed on the randomly split samples.

Sample Demographics

The sample for Phase 2 (N = 837) included working individuals from age 19 to 74, was 59.4% Female (n = 496), 38.7% Male (n = 323), 1.6% Non-Binary (n = 13), and .3% Other (n = 3), .2% (n = 2) chose to skip this question. Participants responded 26.5% Bisexual (n = 220), 3.3% Gay/Lesbian (n = 27), 67.1% Heterosexual/Straight (n = 556), and 3.1% Other (n = 26), 1% (n = 8) chose to skip this question. Participants described themselves as 19.3% (n = 160) of Hispanic, Latino, or Spanish origin. Participant sample consisted of 2.6% (n = 22) American Indian or Alaska Native, 2% (n = 17) Asian or Asian American, 5.9% (n = 49) Black or African American, 2.8% (n = 28) Hispanic or Latino, 86.4% (n = 722) White or Caucasian, 0.4% (n = 3) another race, and 0.1% (n = 1) chose to skip this question. Educationally, participants consisted of 0.7% (n = 6) some

high school, 4.1% (*n* = 34) high school diploma or equivalent, 2% (*n* = 17) vocational training beyond high school diploma, 6.2% (*n* = 52) some college but no college degree, 4.6% (*n* = 38) Associate degree, 55.9% (*n* = 467) Bachelor degree, 22.8% (*n* = 190) Master's degree, 3.7% (*n* = 31) Post-Masters/Doctorate, and 0.2% (*n* = 2) chose not to answer the question. Managerial demographics presented by participants were 23% (*n* = 192) nonmanagement, 22.9% (*n* = 191) operation level management, 45% (*n* = 376) middle level management, and 9.1% (*n* = 76) top level management; 0.2% (*n* = 2) chose not to respond. Participants indicated remote work with 19.5% (*n* = 162) as no remote work (0%), 17% (*n* = 141) as quarter time remote work (25%), 21.8% (*n* = 181) parttime (50%) remote work, 22.7% (*n* = 189) seventy-five percent (75%) remote work, and 19% (*n* = 158) fulltime remote work; 0.7% (*n* = 6) chose not to respond. When answering about invisible disabilities, 73.5% (*n* = 615) answered "yes" to identified and/or diagnosed and 26.5% (*n* = 222) responded "no." The demographics represent a generalized population of working adults within the United States.

Exploratory Factor Analysis

Items were grouped into those directly pertaining to invisible disability-specific questions (62 items) and those involving more general organizational behavior questions (17 items). The decision was made to remove the general organizational behavior questions as part of the tool to focus the instrument more clearly on invisible disabilities. Factor analysis was run with the 62 invisible disability items. Cross-loaded items were removed, and EFA was repeated until there were none remaining. The scree plot suggested three factors; thus, factor analysis procedure was constrained to three factors.

This resulted in three factors with high factor loadings ranging from .430 to .826. The factors are Ableism (16 items), Acceptance (10 items), and Advocacy (14 items). The three factors accounted for 50.9% of the variance.

Reliability

Cronbach's alpha was computed for each scale, and the scales were scrutinized for items that degraded overall fit. I removed items in subsequent analyses until deleting items would not increase the value of alpha. The result was three subscales with excellent reliability values: Ableism (15 items, $\alpha = .938$), Advocacy (14 items, $\alpha = .905$), and Acceptance (10 items, $\alpha = .905$). This resulted in a total scale of 39 total items.

Interitem Correlation

Next, items were correlated to identify those that could be removed. Items within factors should be correlated; however, high correlation ($r > 0.7$) suggests that items may be essentially identical and that one or more could be considered for removal. I examined items that correlated highly ($r > 0.7$) with items contained in other factors. From these analyses, no additional items were removed.

Confirmatory Factor Analysis

CFA was performed on the final 39 items from the EFA. The model fit was not ideal; $X^2/df = 2.246$, CFI = .885, and RMSEA = .055. Fit indices suggested additional room for improvement. Eleven items with factor loadings below .60 were removed but still did not result in a good model fit. Models were run adjusting by removing lowest factor loadings and selecting items that represented unique ideas. Items with low factor loadings were removed and model fit was checked: if the model fit improved, then the

item was kept out; if the model fit did not improve or only slightly improved, the item was reviewed for wording and fit in the factor. This resulted in the removal of four items, and the CFA model without these four items was tested. The resulting model represented an excellent fit of the factor structure to the data, $X^2/df = 1.855$, CFI = .955, RMSEA = .045, $p = .000$. Thus, this model containing three factors was retained. This new instrument, the WIDE, has three subscales: Ableism (nine items, α = .925); Advocacy (seven items, α = .862); and Acceptance (eight items, α = .895). High alpha levels suggest excellent internal consistency and reliability. Table 2 shows items, factor loadings, and Cronbach's alpha for the subscales.

Table 2

Subscale Items, Cronbach's Alpha, and Factor Loadings

Subscale items	Factor loading
Ableism (nine items; α = .925)	
Attitudes in my workplace towards invisible disabilities leave me feeling emotionally exhausted.	.710
Attitudes in my workplace towards invisible disabilities leave me feeling physically exhausted.	.755
There is discrimination in my workplace towards people with invisible disabilities.	.772
I am angry with the way coworkers have reacted to invisible disabilities.	.669
Coworkers have been derogatory towards those with invisible disabilities in my workplace.	.775
Employees with invisible disabilities are treated poorly in my workplace.	.778
My workplace has fired/terminated an employee due to an invisible disability.	.742
Managers have been derogatory towards people with invisible disabilities in my workplace.	.789
Disclosing an invisible disability will decrease promotion opportunities in my workplace.	.630
Advocacy (seven items; α = .862)	
A strong organization employs individuals with invisible disabilities.	.671
Invisible disabilities are just as valid as visible disabilities.	.697
Access to accommodations for invisible disabilities in the workplace is important.	.677
Providing accommodations to individuals with invisible disabilities creates equality in the workplace.	.719
If a reliable coworker confides in me that they have an invisible disability, I accept their word.	.680
Addressing invisible disabilities in the workplace is beneficial.	.699
Invisible disabilities inclusion in the workplace creates a strong organizational foundation of understanding.	.706
Acceptance (eight items; α = .895)	
My workplace is inclusive of invisible disabilities.	.744
My organization values inclusion of people with invisible disabilities.	.770
My workplace is open to requests for invisible disability accommodations.	.682
My coworkers are understanding of the needs of people with invisible disabilities in the workplace.	.685
My workplace practices invisible disabilities inclusion.	.765
Management is understanding of the needs of people with invisible disabilities in the workplace.	.677
My workplace educates managers on invisible disability accommodations.	.710
Compared to previous employment, my current workplace advocates more for people with invisible disabilities.	.710

Concurrent Validity

The total WIDE score and each of the subscale scores were correlated with the PSOSH scale to assess concurrent validity. A moderate correlation of subscales of the WIDE with the PSOSH satisfies the requirement for demonstrating concurrent validity. Statistically significant correlations were found between the two of the three factors, the total WIDE score, and PSOSH: WIDE, r (837) = -.422, $p < .01$; Ableism, r (837) = .581, $p < .01$; Advocacy, r (837) = -.196, $p < .01$; and Acceptance, r (837) = .061, $p = .076$.

Test of the Hypothesis

I used bivariate correlation to test whether perceived stigma, as measured by the WIDE, significantly predicted intent to disclose. Intent to Disclose to Human Resources significantly correlated with Acceptance, r (576) = .302, $p < .01$, Advocacy, r (576) = .161, $p < .01$, and total WIDE score, r (576) = .162, $p < .01$. Intent to Disclose to Management is significantly correlated with Acceptance, r (575) = .374, $p < .01$, Advocacy, r (575) = .162, $p < .01$, and total WIDE score, r (575) = .252, $p < .01$; however, there was not a significant correlation between Intent to Disclose to Management and Ableism, r (575) = -.013, $p = .763$. Intent to Disclose to Coworkers significantly correlated with Acceptance, r (574) = .417, $p < .01$, Advocacy, r (574) = .092, $p < .05$, and total WIDE score, r (574) = .229, $p < .01$; however, there was not a significant correlation to Ableism, r (574) = -.050, $p = .233$. Finally, the three intention questions were summed to create a total intention score. This total score is significantly correlated with Acceptance, r (604) = .444, $p < .01$, Advocacy, r (604) = .110, $p < .01$, and total WIDE score, r (604) = .243, $p < .01$; however, there is not a significant

correlation with Ableism, r (604) = -.057, p = .163. Table 3 contains the matrix of correlations. Thus, the null hypothesis is rejected, and it is concluded that there is significant evidence to support the claim that there is a correlation between perceived stigma of people with invisible disabilities, as measured by the researcher-developed tool WIDE, and intention to disclose. Thus, predictive validity is established.

Table 3

Correlations Among WIDE Total and Subscale Scores and Intention to Disclose.

Subscale	Intent HR	Intent Mgt	Intent coworker	Intent Total	WIDE Total
Acceptance	.302**	.374**	.417**	.444**	.668**
Ableism	-.086*	-.013	-.050	-.057	-.626**
Advocacy	.161**	.162**	.092*	.110**	.462**
WIDE Total	.162**	.252**	.229**	.243**	--

Note. HR = human resources; Mgt = management; WIDE = Workplace Invisible Disability Experience.

** Correlation is significant at the 0.01 level (2-tailed).

* Correlation is significant at the 0.05 level (2-tailed).

Summary

This data analysis supports the validity and reliability of the instrument. CFA identified three factors with an excellent model fit to the data. Using the PSOSH, I determined that the WIDE demonstrates excellent concurrent validity, and the total WIDE scale score and its subscales demonstrate excellent internal consistency reliability. Using a measure of intention to disclose, predictive validity was ascertained. Chapter 5 includes discussion of the findings and how they relate to the current literature, study limitations, and implications for theory, practice, and positive social change.

Chapter 5: Summary, Conclusion, and Recommendations

Introduction

It is important to understand the attitudes that exist in the workplace towards invisible disabilities; understanding such attitudes can provide guidance on how to provide education and training that could result in attitude change. Understanding the attitudes that the workplace about invisible disabilities and stigma towards hiring and accommodations may lead to a more accepting workplace environment. Such acceptance can then lead to an increase in disclosure of invisible disabilities, which in turn may increase productivity and decrease turnover (Domzal et al., 2008; Gouvier et al., 2003; Hernandez et al., 2008; Lengnick-Hall et al., 2008; Livermore & Goodman, 2009; Pinel & Paulin, 2005). Currently, no instruments focus on measuring attitudes and stigma associated with invisible disabilities in the workplace and the effects of these on invisible disability disclosure decisions in the workplace. The purpose of this quantitative research study was to develop a measure to meet this need. The WIDE scale resulted from carefully following standardized instrument development steps. The WIDE was found to be both reliable and valid, and it can be used as a total score or through scores associated with its three subscales: Ableism, Acceptance, and Accommodations. The WIDE statistically predicts intention to disclose invisible disabilities in the workplace.

Interpretation of the Findings

The WIDE incorporates aspects of the conceptual model of professional image construction (Roberts, 2005), stigma management communication theory (Meisenbach, 2010), and causal attribution theory (Kelley & Michela, 1980) to capture the interaction

between stigma of invisible disabilities and disclosure decisions in the workplace. The WIDE was specifically developed using a broad cross-section of employees with and without invisible disabilities who were currently employed or employed in the last 5 years within the United States. The WIDE total score, Acceptance factor score, and Advocacy factor score are correlated with intention to disclose to HR, management, coworkers, and total intention to disclose score. These correlations communicate the importance of Acceptance and Advocacy towards disclosing in the workplace. Acceptance is the feeling of belonging and obtaining a desired image in social environments including the workplace (Newheiser et al., 2017). Additionally, acceptance is relative to the individual in accepting their disability identity (Aspland, 2021). Advocacy relates to positive outreach and support such as accommodations (Patton, 2022; Syma, 2019; Totorica, 2017). The positive relationship between these factors and intention to disclose shows the importance that acceptance and advocacy of invisible disabilities has regarding disclosure decisions in the workplace.

However, further examination shows that Ableism was negatively correlated only with intention to disclose to HR. Ableism represents a complexity of prejudice ideas discriminating toward disabled individuals, often blaming the individual for the disability. Recent research findings concluded that most people demonstrate prejudice against people with disabilities; thus, ableism is extremely common (Friedman & Awsumb, 2019). This includes self-prejudice within individuals with disabilities (Olkin et al., 2019). HR is the face of the organization; it is the department tasked with hiring, firing, and complaints, and it is considered the legal and formal disclosure route versus

informal disclosure through management or coworkers (Patton, 2022). The negative correlation of Ableism to intent to disclose to HR communicates that when individuals with invisible disabilities are faced with ableism, intention to disclose to HR is greater, perhaps due to HR ability to act in legal matters.

Professional image construction (Roberts, 2005) highlights that professionals work to maintain an identity shaped by the affiliation with or distance from stereotypical characteristics of certain social identity groups. This identity is split into the perceived image and desired image creating an image discrepancy—a discrepancy that is monitored through awareness of the difference, motivated to reduce discrepancies, and constructed of identities to create a desired image. Reaching this desired image is relative to the factors of Acceptance and Ableism in the current research. According to Roberts (2005), individuals are seeking acceptance up to and including the point of denying their own personal identity. This is relative to individuals with invisible disabilities in navigating the workplace as they have the choice in nondisclosure, which denies their disability identity, a form of self-ableism, as they navigate seeking acceptance through stigma and stereotypes of disabilities (Olkin et al., 2019). This theory supports the results in increased disclosure with Acceptance and increased positive experiences for individuals with invisible disability represented by the significant positive impact to the overall WIDE score.

Causal attribution theory (Kelley & Michela, 1980) involves the assignment of causes to observed behavior, whether it is justified or not. This has significant implications for invisible disabilities as there is no apparent observable disability due to

the nature of these types of disabilities. The theory postulates that an effect is contributable to a condition when observable; however, when unobservable, contribution to a condition is absent. This reinforces the Ableism factor of the current instrument, for example, because an observable trait cannot be attributed to an action, concluding that an individual does not have a just cause for the behavior completely negates the lived experiences of invisible disabilities (Kelley & Michela, 1980; Olkin et al., 2019). The factors of Acceptance and Advocacy are significant to the attributions applied to behaviors to combat attributions solely being assigned based on perceptions of typical stereotypes. As Advocacy and Acceptance combat preconceived perceptions toward stigmatized groups, negative connotations of Ableism may recede as attributions to behaviors are better understood on a whole-person level versus cause and effect.

Finally, stigma management communication theory (Meisenbach, 2010) organizes strategies according to an individual's acceptance/denial of public perception of a stigma's existence and the applicability to themselves proposing that the strategies will align with an individual's acceptance and denial stances. The paradigm supported by this theory is significant to the factors of Ableism, Acceptance, and Advocacy. Faced with stigma, an individual has the decision to accept or challenge how the stigma applies to self as well as accept of challenge the public's understanding of the stigma (Meisenbach, 2010). These various stages involve such actions as masking, passive acceptance, apologizing, blame, isolation, hiding, avoiding, distancing, comparison, evading responsibility, providing information, bonding, supporting, and discrediting ableists. The actions in these various stages align with Acceptance, Advocacy, and Ableism when

faced with stigma. Faced with ableist remarks and actions individuals will deny their identity as is the case for invisible disabilities there is the choice of nondisclosure and withholding identifying characteristics (Olkin et al., 2019; Patton, 2022). Inversely the presence of Advocacy and Acceptance promotes belonging and the rejection of stigma encouraging individuals to disclose (Meisenbach, 2010; Patton, 2022; Syma, 2019).

Additionally, the anonymous nature of the survey created an opportunity for respondents to disclose their invisible disabilities. Thus, about 74% of the respondents identified an invisible disability. This is different from what has been found in other research (e.g., about 30%; Disabilities and Inclusion US Findings, 2017, and about 19%; Accenture Getting to Equal, 2020). This updated finding confirms the current research that the prevalence of invisible disabilities in the workplace are underestimated (Norstedt, 2019).

The WIDE is like other stigma assessments in its ability to measure stigma and identify the different perspectives among groups. PSOSH, an instrument measuring perception of stigma by others when seeking help, and the WIDE show concurrent validity, but the correlation is modest, indicating that the WIDE assesses something different from PSOSH. The WIDE captures unique information specific to invisible disabilities, examines stigma in a workplace context through the three factors of Acceptance, Advocacy, and Ableism, and measures the effect of stigma on disclosure decisions within the workplace.

Limitations of the Study

Participants from the Invisible Disability demographic may have been drawn to the study due to the title creating a limitation to representing current workplace populations. Difficulty was met when attempting to test within a company, which would have provided a more accurate representation of the workplace. This limitation shows the importance to reach inside organizations for a better understanding of the workplace experience and varying experiences in different types of organizations.

Recommendations for Further Research

The existence of an instrument specific to invisible disabilities provides new opportunities to expand understanding of stigma in the workplace. Thus, research should include use in small, medium, and large-sized companies. Using the instrument in U.S. companies would provide more accurate estimates for the prevalence of invisible disabilities in the workplace. In addition, research could be conducted to expand this instrument across cultures to better understand the impact of disabilities stigma in international settings as different cultures approach disabilities differently. Further, the WIDE does not request individuals to indicate their type of invisible disability. An additional demographic question to request participants who indicate an invisible disability to identify if they belong to one or more of the categories (sensory, physical, or neurodivergent) of invisible disabilities would allow more precise understandings of the impact of stigma as it relates to specific invisible disabilities. Additionally, as the WIDE reaches individual organizations further research into the impact and effects of invisible disabilities in different types of fields is of interest.

Implications for Theory

The previous stage of this research showed that it was possible to develop an instrument to measure stigma of invisible disabilities in the workplace and the effects on disclosure intention. As is expected for instrument development, a large sample was obtained to gain insight and determine validity and reliability of the new instrument. The results were easily generalized and met all the relevant criteria for viability (Worthington & Whittaker, 2006). The present study improves and deepens understanding of the theoretical and conceptual frameworks (professional image construction, stigma management communication theory, and causal attribution theory) and how stigma of invisible disabilities can be accommodated. The three theoretical frameworks revolve around individuals avoiding negative perceptions from others and how we create images of ourselves to do this; this is supported in the results with statistical significance between acceptance and advocacy facets that predict intention to disclose. Thus, individuals with invisible disabilities develop the ability to mask identities to preserve the image they want to project in the workplace; this impacts intention to disclose. The findings support the theoretical framework and further understanding of the perceptions of the workplace between those who identify as having an invisible disability and those without.

Implications for Practice

Research has shown that little is known about invisible disabilities in the workplace and disclosure intentions (Syma, 2019; Totorica, 2017). Other research highlights that despite protections, stigma and stereotypes of invisible disabilities continue (Patton, 2022). The nature of invisible disabilities suggests policies that are

sensitive to the uniqueness of disclosure decisions (Santuzzi et al, 2014). This study does not address the creation of educational materials based on the information collected via the WIDE; however, expanding this survey into part of a program used to assist companies to write policy and procedures regarding invisible disabilities could prove beneficial.

The WIDE instrument developed in this research closes the previous research and practice gap in the lack of instruments to assess stigma associated with invisible disabilities. The WIDE can provide insight into workplace stigma and stereotypes. Data collected through administration of the WIDE can provide a means to measure the level of acceptance, advocacy, and ableism related to invisible disabilities in the workplace. Used within an organizational setting, the instrument can help managers uncover strengths and weaknesses in workplace policies related to individual disabilities and the potential impact of policies on workplace culture. The total WIDE score, as well as its three factor scores, provides opportunities for managers to target specific aspects of the culture around invisible disabilities (Meisenbach, 2010; Patton, 2022; Roberts, 2005; Syma, 2019). These data can provide the necessary information to create informed policies and further gauge whether policies and procedures affect the workplace as intended.

Implications for Positive Social Change

There is a no-win situation created between the ability for workers with invisible disabilities to mask traits that would give away their disability status and employers that do not have to provide accommodations unless a disability is disclosed (Claire et al.,

2005; Santuzzi et al., 2014). Individuals choose not to disclose due to stigma and the perception that disclosure would negatively impact career possibilities. Implications for positive social change include better organizational understanding of the impact of stigma on workers with invisible disabilities. That understanding can lead to more accepting work environments that give workers the confidence to disclose disabilities at work. Workplace productivity increases when individuals no longer need to use energy to mask invisible disabilities and are more apt to feel included through acceptance, advocacy, and decreased ableism (Kelley & Michela, 1980; Meisenbach, 2010; Patton, 2022; Roberts, 2005; Syma, 2019).

The main benefit of this study was the development of a survey instrument that could prove useful regarding perceptions that individuals hold about invisible disabilities in the workplace. Managers can use the WIDE to understand the extent of invisible disability stigma across departments and the organization. Managers can increase understanding of the level of acceptance, advocacy, and ableism and use their enhanced awareness to customize policies, procedures, and education to improve organizational climate and culture towards invisible disabilities helping social change within the whole organization to benefit all employees (Patton, 2022; Totorica, 2017). Given that disclosure is important to wellbeing, decreasing turnover, decreasing absenteeism, productivity, and positive job attitudes (Santuzzi et al., 2014), employees with invisible disabilities can be encouraged to feel more confident to disclose their status and improve workplace productivity. Employment brings meaning and purpose to individuals, especially individual with disabilities who thrive within social interactions to feel

purposeful (Van Laar et. al, 2019). An understanding work environment where ableist attitudes are identified and addressed and where acceptance and advocacy are an important part of the workplace culture create an atmosphere beneficial to all employees and thus to their productivity and well-being.

Conclusion

This study had two goals. The first goal was to develop an instrument (the WIDE) to measure the stigma of invisible disabilities in the workplace, using appropriate steps of tool development to measure the attitudes that the workplace holds about these individuals. It was important to establish reliability and validity. The WIDE was administered to working adults within the United States. Data analysis of the scores from the 837 participants indicate that the total WIDE and PSOSH has a statistically significant concurrent validity. Observing the three factors indicates that Ableism has a statistically significant correlation to PSOSH; Acceptance shows a negative statistical significance while Advocacy shows no statistical significance. The verbiage of the PSOSH concentrates on ableist and discriminatory verbiage of stigma, explaining the lack of correlation to the Acceptance and Advocacy factors. The CFA confirmed an excellent model fit for the tool. Additionally, Cronbach's alpha was also high (.84). Therefore, it can be concluded that the WIDE is a reliable and valid instrument that can be used to measure stigma of invisible disabilities in the workplace.

The second goal of this study was to measure the effects of stigma on disclosure decisions in the workplace. In the development study, those who reported having a diagnosis or identified with an invisible disability were presented with a set of disclosure

intention questions. The greatest fear of disclosing an invisible disability in the workplace is discrimination and missing opportunities in employment and career paths (Madaus et al., 2002). Data analysis from the scores of the WIDE and the Intent to Disclose has statistically significant correlation. The relationship to each factor, Acceptance had the greatest correlation followed by Advocacy; however, Ableism had a low negative correlation. Ableism is discrimination in favor of ablebodied people, being present it is concluded that individuals would only disclose to HR with the ability to take legal measures. This provides explanation as to no correlation between intent to disclose to management and coworkers, and Ableism.

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Appendix A: Initial Item Pool

1. I am comfortable in my working environment. (well-being)
2. My workplace is inclusive. (acceptance)
3. My workplace encourages me to be myself. (acceptance)
4. Including differently abled persons in the workplace creates a strong organization. (acceptance)
5. I enjoy helping others in my workplace. (teamwork)
6. It is a burden when I must help someone else do their job. (teamwork, inverse rated)
7. Invisible disabilities are just as valid as disabilities I can see. (legitimacy)
8. A person with invisible disabilities should have to show proof of disability. (legitimacy)
9. Proof of an invisible disability should take more than one doctor's note. (legitimacy)
10. There should be a history of an invisible disability before workplace accommodations are considered. (legitimacy)
11. Accommodating invisible disabilities lowers the standards of the workplace. (performance)
12. Accommodations for physical disabilities lowers workplace standards. (performance)
13. Accommodations in the workplace are costly. (impression)
14. Providing accommodations creates an advantage to individuals with invisible disabilities. (impression)
15. Inclusion values are clear to employees in my organization. (acceptance)
16. Employees are respectful of each other's differences. (acceptance)
17. If a coworker confides in me that they have an invisible disability, I will accept their word. (legitimacy)
18. Coworkers should not discuss disabilities. (ablism)

19. Invisible disabilities are made up. (ablism)
20. People claim invisible disabilities for attention. (ablism)
21. Invisible disabilities create real obstacles. (legitimacy)
22. I know people with invisible disabilities. (knowledge)
23. Invisible disabilities negatively affect the workplace. (impression)
24. In my workplace it is safe to have differences. (acceptance)
25. My job leaves me feeling mentally exhausted. (well-being)
26. My job leaves me feeling physically exhausted. (well-being)
27. I feel alienated at work. (acceptance, inverse rated)
28. I have coworkers that I consider friends. (acceptance)
29. My workplace is understanding of people with invisible disabilities. (acceptance)
30. Other people have made me feel ashamed of myself. (impression)
31. The way people have treated me upsets me. (impression)
32. There is discrimination in my workplace towards invisible disabilities. (discrimination)
33. Sometimes I feel that I am being talked down to. (impression)
34. People with invisible disabilities are dangerous in the workplace. (acceptance, inverse rated)
35. People in my workplace are understanding of invisible disabilities. (acceptance)
36. I have witnessed discrimination against invisible disabilities by employers. (discrimination)
37. A person should disclose invisible disabilities when applying for a job. (disclosure)
38. People's reactions to invisible disabilities would make me keep them to myself. (impression)

39. I am angry with the way people have reacted to people with invisible disabilities. (discrimination)

40. People have been derogatory towards invisible disabilities in my workplace. (discrimination)

41. Having a diverse workplace has made me a stronger person. (acceptance)

42. It is difficult to disclose invisible disabilities in the workplace. (disclosure, inverse rated)

43. People should hide their invisible disabilities in the workplace. (ablism)

44. It is a shame to be diagnosed with an invisible disability. (impression)

45. My workplace practices diversity and inclusion. (acceptance)

46. My workplace educates employees on invisible disabilities. (knowledge)

47. My workplace educates employees on accommodations for people with disabilities. (knowledge)

48. My managers treat people with disabilities the same as those without disabilities. (acceptance)

49. Individuals with disabilities get preferential treatment. (ablism)

50. An individual with an invisible disability has an advantage when being hired. (ablism)

51. An individual with an invisible disability has a disadvantage when being hired. (ablism)

52. Individuals with invisible disabilities are treated differently at work. (ablism)

53. My workplace has fired/let go an individual due to an invisible disability. (discrimination)

54. Individuals with invisible disability have poor work performance. (performance)

55. Individuals with invisible disabilities have poor work ethics. (performance)

56. I am comfortable interacting with a coworker who identifies with a neurodivergent invisible disability. (acceptance)

57. I am comfortable interacting with a coworker who identifies with a physical invisible disability. (acceptance)

58. I am comfortable interacting with a coworker who identifies with a sensory invisible disability. (acceptance)

59. Equally matched in experience, I would be hired over an individual with an invisible disability. (ablism)

60. Equally matched in experience, an individual with an invisible disability would be hired before myself. (ablism)

61. If an employee is found to have an invisible disability management will scrutinize job performance so they can be fired/let go. (discrimination)

Appendix B: 10-Item Social Desirability Scale M-C 1(10)

For each of the following answer True or False

1. I'm always willing to admit it when I make a mistake.
2. I always try to practice what I preach.
3. I never resent being asked to return a favor.
4. I have never been irked when people expressed ideas very different from my own.
5. I have never deliberately said something that hurt someone's feelings.
6. I like to gossip at times.
7. There have been occasions when I took advantage of someone.
8. I sometimes try to get even rather than forgive and forget.
9. At times I have really insisted on having things my own way.
10. There have been occasions when I felt like smashing things.

Appendix C: 5-Item PSOSH Stigma Scale

INSTRUCTIONS: Imagine you had an emotional or personal issue that you could not solve on your own. If you sought counseling services for this issue, to what degree do you believe that the people you interact with would _____.

1- Not at all, 2- A little, 3- Some, 4- A lot, 5- A great deal

1. React negatively to you
2. Think bad things of you
3. See you as seriously disturbed
4. Think of you in a less favorable way
5. Think you posed a risk to others

Appendix D: Permission to Use Scales

Record: 1

Title: Marlowe-Crowne Social Desirability Scale--Short Versions (M-C SDS, M-C 1(10), M-C 2(10), M-C (20))

Test Name Note: Created by PsycTESTS

Other Version: , Marlowe-Crowne Social Desirability Scale
, Marlowe-Crowne Social Desirability Scale–Spanish Version
, Marlowe-Crowne Social Desirability Scale—Icelandic Version; Revised

Acronym: M-C SDS; M-C 1(10); M-C 2(10); M-C (20)

Purpose: The purpose of the Marlowe-Crowne Social Desirability Scale–Short Versions (M-C 1[10], M-C 2[10], and M-C [20]) are to briefly assess an individual's need to obtain approval by responding in a culturally appropriate and acceptable manner.

Description: Based on the 33-item Marlowe-Crowne Social Desirability Scale (M-C SDS; Crowne & Marlowe, 1960), the Marlowe-Crowne Social Desirability Scale–Short Versions (M-C 1[10], M-C 2[10], and M-C [20]); Strahan & Gerbasi, 1972) were developed to briefly assess an individual's need to obtain approval by responding in a culturally appropriate and acceptable manner. A PCA was performed on the M-C SDS items. Size of loading on the first principal component was the primary criterion for selection of items to form two 10-item social desirability scales (M-C 1[10] and M-C 2[10]) and, through their combination, a 20-item measure (M-C [20]). Each scale had equal numbers of positively- and negatively-keyed items, with true/false response options. In four samples (university males, university females, college females, and British males), Kuder-Richardson formula 20 (K-R 20) demonstrated coefficients from .59-.70 for the M-C 1(10), from .49-.75 for the M-C 2(10), and from .73-.83 for the M-C (20). Correlations between the two 10-item forms in the four samples ranged from .55-.75. Correlations between each of the short scales and the M-C SDS were in the .80s or .90s, and correlations between M-C (20) and M-C SDS were all in the .90s. The generality of the new scales' reliability was supported. (PsycTESTS Database Record (c) 2019 APA, all rights reserved)

Test Year: 1972

Author: Strahan, Robert; Gerbasi, Kathleen Carrese

Affiliation: Strahan, Robert. University of Rochester, Rochester, New York, United States
Gerbasi, Kathleen Carrese. Washington University, St. Louis, Missouri, United States

Instrument Type: Rating Scale

Format:

From: Jessica Hicksted
Sent: Thursday, November 4, 2021 11:56 AM
To: Vogel, David L [PSYCH]
Subject: Re: Permission to use PSOSH as concurrent validity

Thank you!

From: Vogel, David L [PSYCH] <dvogel@iastate.edu>
Sent: Wednesday, November 3, 2021 9:47:36 AM
To: Jessica Hicksted <jessica.hicksted@waldenu.edu>
Subject: Re: Permission to use PSOSH as concurrent validity

Feel free to use the scale in your research.

David

From: Jessica Hicksted <jessica.hicksted@waldenu.edu>
Date: Wednesday, November 3, 2021 at 5:59 AM
To: "Vogel, David L [PSYCH]" <dvogel@iastate.edu>
Subject: Permission to use PSOSH as concurrent validity

Dr. Vogel,

I am a doctoral candidate at Walden University under the guidance on Dr. Gary Burkholder. My dissertation is titled "Stigma Associated with Invisible Disabilities and Its Effect on Disclosure". I am creating a tool to measure perceived stigma of invisible disabilities in the workplace. I am writing for permission to use your Perceived Stigma of Seeking Help (PSOSH) tool in my dissertation to demonstrate concurrent validity. Thank you for your time and attention, I look forward to hearing from you.

v/r,

Jessica Hicksted
Doctoral Candidate
PhD Industrial Organizational Psychology
Walden University

Sent from Mail for Windows

Appendix E: Proposed Workplace Invisible Disability Experience Tool

Qualification Questions

- Do you live in the United States? If yes, continue; If no, thank for interest and end survey.
- Are you at least 18 years old? If yes, continue; If no, thank for interest and end survey.
- Are you currently employed or have been employed within the last five years? If yes, continue; If no, thank for interest and end survey.

Demographics

- What is your age? ___
- Which gender do you identify most with?
    - Female
    - Male
    - Non-Binary
    - Transgender Female (MTF)
    - Transgender Male (FTM)
    - Other
- Do you consider yourself to be?
    - Bisexual
    - Gay/lesbian
    - Heterosexual/straight
    - Other
- Are you of Hispanic, Latino, or Spanish origin?
    - Yes
    - No
- How would you describe yourself?
    - American Indian or Alaska Native
    - Asian or Asian American
    - Black or African American
    - Hispanic or Latino
    - Native Hawaiian or other Pacific Islander
    - White or Caucasian
    - Another Race
- My highest level of education is:
    - Some high school
    - High school diploma or equivalent
    - Vocational training beyond high school diploma
    - Some college but no college degree
    - Associate degree (e.g., AA, AE, AFA, AS, ASN)

    - Bachelor's degree (e.g., BA, BBA BFA, BS)
    - Master's degree (e.g., MA, MBA, MFA, MS, MSW)
    - Post-Masters/Doctorate
- Which of the following best describes your management level in your current or previous employment?
    - Non-Management
    - Operation Level Management
    - Middle Level Management
    - Top Level Management
- What percent do you work remotely?
    - 0%
    - 25%
    - 50%
    - 75%
    - 100%
- Rate your knowledge on each of the following on a scale of 1-10, 1 being no knowledge and 10 being highly knowledgeable
    - Invisible disabilities
    - Neurodivergence
    - Physical invisible disabilities
    - Sensory invisible disabilities
- The number of coworkers/family members/friends I know with an invisible disability:
    - Please provide your best estimate (#): ___
- The percentage of individuals in the workplace with an invisible disability:
    - Please provide your best estimate (%): ___
- Do you identify as having an invisible disability based on the description at the start of the survey?
    - Yes
    - No
- Have you been diagnosed with an invisible disability?
    - Yes
    - No

Intent to Disclose

- If yes to either of the previous two questions on invisible disability the following single demographic multiple choice question followed by three sections (human resources, manager, co-workers) of eight questions will be presented to participant to answer on a scale of 1-10:
    - I Identify with the following invisible disability categories (please select all that apply)
        - Neurodivergence

        - Physical
        - Sensory
    - How likely would you disclose your invisible disability to Human Resource/your Manager/a co-worker?
        - 1 (almost certainly would not disclose)
        - 10 (almost certainly would disclose)
    - All things considered, what overall impact would disclosure of your invisible disability to Human Resources/your Manager/a co-worker have on your employment?
        - 1 (highly harmful)
        - 10 (highly helpful)
    - All things considered, it is professionally responsible to disclose your invisible disability to Human Resources/your Manager/a co-worker.
        - 1 (highly disagree)
        - 10 (highly agree)
    - All things considered, would disclosing your invisible disability to Human Resources/your Manager/a co-worker result in accommodations?
        - 1 (highly disagree)
        - 10 (highly agree)
    - Do most people who are important to you think you should disclose your invisible disability to Human Resources/your Manager/a co-worker?
        - 1 (definitely no)
        - 10 (definitely yes)
    - Do most people you have a professional affiliation with think you should disclose your invisible disability to Human Resources/your Manager/a co-worker?
        - 1 (definitely no)
        - 10 (definitely yes)
    - I believe I have a lot of control over disclosing my invisible disability to Human Resources/my Manager/a co-worker.
        - 1 (definitely no)
        - 10 (definitely yes)
    - I Believe disclosing my invisible disability to Human Resources/my Manager/a co-worker would positively impact the workplace.
        - 1 (definitely no)
        - 10 (definitely yes)

Items

Items will be decided and reduced from initial pool of 79 after Phase 1 is completed, initial item pool is provided in Appendix A.

Social Desirability Questions

For each of the following answer True or False

1. I'm always willing to admit it when I make a mistake.
2. I always try to practice what I preach.
3. I never resent being asked to return a favor.
4. I have never been irked when people expressed ideas very different from my own.
5. I have never deliberately said something that hurt someone's feelings.
6. I like to gossip at times.
7. There have been occasions when I took advantage of someone.
8. I sometimes try to get even rather than forgive and forget.
9. At times I have really insisted on having things my own way.
10. There have been occasions when I felt like smashing things.

Validation Items

INSTRUCTIONS: Imagine you had an emotional or personal issue that you could not solve on your own. If you sought counseling services for this issue, to what degree do you believe that the people you interact with would _____.
1- Not at all, 2- A little, 3- Some, 4- A lot, 5- A great deal

1. React negatively to you
2. Think bad things of you
3. See you as seriously disturbed
4. Think of you in a less favorable way
5. Think you posed a risk to others

Exit

The fact that you are reading this message indicates that you have completed the survey and are owed a debt of thanks.

The time you have taken to assist in this research provides the data to contemplate and implement worthwhile improvements.

Advocacy information for invisible disabilities can be found at the following sites:

Invisible Disability Project - www.invisibledisabilityproject.org

Invisible Disabilities Association - https://invisibledisabilities.org

Autistic Woman & Nonbinary Network - https://awnnetwork.org/

Project Lets - https://projectlets.org/

Job Accommodations Network – https://askjan.org

State Disability and Health Programs
http://www.cdc.gov/ncbddd/disabilityandhealth/programs.html

If you are left with questions or feeling any uneasiness, free counselling and crisis resource services are available through:

National Alliance on Mental Illness (NAMI) https://www.nami.org/
Helpline 800-950-6264 Text "NAMI" to 741741

National Suicide Prevention Lifeline
http://www.suicidepreventionlifeline.org/ Helpline 800-273-8255

Alliance of Hope https://allianceofhope.org/

ADA Helpline https://adata.org/ Helpline 800-949-4232

Call 2-1-1 https://www.211.org/

Once again, thank you for contributing your valuable time, your honest information, and your thoughtful suggestions.

Disqualification Statement

Thank you for your interest in participating in this research study. At this time, you do not qualify as a participant.

You can ask questions of the researcher by email at Jessica.Hicksted@waldenu.edu. If you want to talk privately about your rights as a participant or any negative parts of the study, you can call Walden University's Research Participant Advocate at 612-312-1210.

Advocacy information for invisible disabilities can be found at the following sites:

Invisible Disability Project - www.invisibledisabilityproject.org

Invisible Disabilities Association - https://invisibledisabilities.org

Autistic Woman & Nonbinary Network - https://awnnetwork.org/

Project Lets - https://projectlets.org/

Job Accommodations Network – https://askjan.org

State Disability and Health Programs
http://www.cdc.gov/ncbddd/disabilityandhealth/programs.html

If you are left with questions or feeling any uneasiness, free counselling and crisis resource services are available through:

National Alliance on Mental Illness (NAMI) https://www.nami.org/ Helpline 800-950-6264 Text “NAMI” to 741741

National Suicide Prevention Lifeline http://www.suicidepreventionlifeline.org/ Helpline 800-273-8255

Alliance of Hope https://allianceofhope.org/

ADA Helpline https://adata.org/ Helpline 800-949-4232

Call 2-1-1 https://www.211.org/

Once again, thank you for your interest in contributing to this valuable research.

Appendix F: Phase 1 Data Analysis

Table F1

Item Ratings

Item	Mean	Min	Max	N
U1	6.96	2	10	28
R1	7.86	3	10	28
A1	7.52	1	10	27
U2	6.77	1	10	26
R2	7.19	1	10	26
A2	7.73	1	10	26
U3	7.25	2	10	24
R3	7.28	2	10	25
A3	6.92	1	10	25
U4	8.11	2	10	27
R4	7.38	1	10	26
A4	7.93	1	10	27
U5	8.72	4	10	25
R5	8.64	6	10	25
A5	8.80	6	10	25
U6	7.72	2	10	25
R6	7.96	2	10	25
A6	8.24	5	10	25
U7	9.12	4	10	25
R7	9.04	2	10	25
A7	8.80	2	10	25
U8	8.32	1	10	25
R8	8.52	2	10	25
A8	8.52	1	10	25
U9	8.36	1	10	25
R9	8.32	1	10	25
A9	8.28	1	10	25
U10	8.56	1	10	25
R10	8.84	2	10	25
A10	8.72	1	10	25
U11	9.00	1	10	25
R11	9.08	2	10	25
A11	8.92	1	10	25
U12	9.25	4	10	24
R12	9.00	3	10	24

Item	Mean	Min	Max	N
A12	9.04	2	10	24
U13	8.50	1	10	24
R13	8.83	1	10	24
A13	8.75	1	10	24
U14	8.96	1	10	24
R14	8.71	1	10	24
A14	9.08	1	10	24
U15	8.48	1	10	23
R15	8.57	1	10	23
A15	8.57	2	10	23
U16	8.42	3	10	24
R16	8.17	2	10	24
A16	8.88	2	10	24
U17	9.35	4	10	23
R17	9.43	4	10	23
A17	9.39	2	10	23
U18	8.74	3	10	23
R18	9.26	4	10	23
A18	9.13	3	10	23
U19	9.26	2	10	23
R19	9.17	1	10	23
A19	9.30	2	10	23
U20	9.22	2	10	23
R20	9.22	2	10	23
A20	9.17	1	10	23
U21	9.13	1	10	23
R21	9.22	1	10	23
A21	9.09	1	10	23
U22	9.09	1	10	23
R22	8.91	2	10	23
A22	8.70	1	10	23
U23	7.70	1	10	23
R23	8.17	1	10	23
A23	9.00	2	10	22
U24	6.95	1	10	20
R24	6.22	1	10	18
A24	7.75	1	10	20
U25	9.09	1	10	22
R25	9.05	2	10	22
A25	9.00	2	10	22
U26	9.23	2	10	22

Item	Mean	Min	Max	N
R26	9.05	2	10	22
A26	9.05	2	10	22
U27	8.86	1	10	21
R27	8.86	1	10	21
A27	8.81	1	10	21
U28	9.05	1	10	21
R28	9.05	1	10	21
A28	9.00	2	10	21
U29	9.15	3	10	20
R29	9.00	3	10	20
A29	9.10	1	10	20
U30	7.95	1	10	20
R30	8.50	1	10	20
A30	7.75	1	10	20
U31	8.33	1	10	18
R31	8.50	1	10	18
A31	7.61	1	10	18
U32	9.05	1	10	19
R32	9.05	1	10	19
A32	9.11	1	10	19
U33	8.63	2	10	19
R33	9.00	1	10	19
A33	8.05	2	10	19
U34	9.00	1	10	19
R34	8.84	1	10	19
A34	9.16	2	10	19
U35	8.53	1	10	19
R35	8.68	1	10	19
A35	9.11	1	10	19
U36	9.22	1	10	18
R36	9.17	1	10	18
A36	9.28	2	10	18
U37	9.29	2	10	17
R37	9.12	1	10	17
A37	9.12	1	10	17
U38	8.71	1	10	17
R38	8.88	1	10	17
A38	8.41	1	10	17
U39	8.82	1	10	17
R39	8.53	1	10	17
A39	8.12	1	10	17

Item	Mean	Min	Max	N
U40	8.94	1	10	17
R40	8.76	1	10	17
A40	9.12	1	10	17
U41	9.41	3	10	17
R41	9.47	3	10	17
A41	9.41	3	10	17
U42	9.00	1	10	16
R42	8.81	1	10	16
A42	9.19	1	10	16
U43	9.20	1	10	15
R43	9.07	2	10	15
A43	9.00	1	10	15
U44	8.50	1	10	16
R44	8.56	1	10	16
A44	8.06	1	10	16
U45	8.64	1	10	14
R45	8.93	2	10	14
A45	8.93	1	10	14
U46	9.21	6	10	14
R46	9.43	8	10	14
A46	9.43	7	10	14
U47	9.21	5	10	14
R47	9.50	8	10	14
A47	9.57	8	10	14
U48	8.33	1	10	15
R48	8.93	1	10	15
A48	8.93	1	10	15
U49	9.14	5	10	14
R49	9.71	8	10	14
A49	9.50	7	10	14
U50	9.77	8	10	13
R50	9.38	8	10	13
A50	9.77	9	10	13
U51	9.67	9	10	12
R51	9.75	9	10	12
A51	9.58	8	10	12
U52	9.50	8	10	12
R52	9.58	9	10	12
A52	9.58	9	10	12
U53	8.64	5	10	11
R53	9.18	5	10	11

Item	Mean	Min	Max	N
A53	9.09	5	10	11
U54	8.91	5	10	11
R54	9.27	7	10	11
A54	9.36	7	10	11
U55	9.55	8	10	11
R55	9.64	8	10	11
A55	9.64	8	10	11
U56	9.73	9	10	11
R56	9.73	9	10	11
A56	9.64	9	10	11
U57	9.64	9	10	11
R57	9.82	9	10	11
A57	9.82	9	10	11
U58	9.82	9	10	11
R58	9.82	9	10	11
A58	9.91	9	10	11
U59	9.80	9	10	10
R59	9.80	9	10	10
A59	9.90	9	10	10
U60	8.64	1	10	11
R60	9.09	1	10	11
A60	9.09	2	10	11
U61	9.80	9	10	10
R61	9.60	8	10	10
A61	9.80	9	10	10
U62	9.80	9	10	10
R62	10.00	10	10	10
A62	10.00	10	10	10
U63	9.70	8	10	10
R63	9.70	8	10	10
A63	9.70	8	10	10
U64	9.67	8	10	9
R64	9.67	8	10	9
A64	9.78	8	10	9

Table F2

Descriptive Coding

Items	Clarify	Vague	Ambiguous	Offensive	Pretentious	Suggestion	Repeat	Total
				Acceptance				
1	4					1		5
2	2		7			1		10
3	1	3	1			2		7
5	2							2
15			2			2		4
16	2							2
24								0
27								0
28								0
29			1					1
35	3					1		4
45			1					1
46								0
47								0
48	1							1
49	1							1
				Wellbeing				
18	2							2
25						2		2
26						1		1
57								0
59								0
61						1		1
				Legitimacy				
7		1				1		2
17						1		1
21	2							2
40								0
58								0
				Ablism				
4	1			4	1			6
8	1		2					3
9	1		1					2
11								0
12	1		1			1		3
13	1		3					4
14	1							1
19				1				1
20	1			1				2

Items	Clarify	Vague	Ambiguous	Offensive	Pretentious	Suggestion	Repeat	Total
23	2					5		7
34						1		1
37	1							1
44						1		1
50								0
51								0
63								0
64								0
				Discrimination				
30	5	1	1					7
31	3					1	1	5
32								0
33	3							3
36						1		1
39	3							3
42								0
52								0
53	1							1
60	1							1
62								0
				Masking				
6	1		2			1		4
38	1					2		3
43								0
54						1		1
55								0
56								0
				Undefined				
10	2							2
22							1	1
41								0

Items for Phase 2

1. I am physically comfortable in my working environment. (acceptance)
2. My workplace is inclusive of invisible disabilities. (acceptance)
3. My workplace encourages me to be open about all aspects of my life. (acceptance)
4. A strong organization employs individuals with invisible disabilities. (legitimacy)

5. I enjoy helping coworkers on tasks in my workplace. (acceptance)
6. Helping a coworker with an invisible disability would negatively affect my job performance. (ablism)
7. Invisible disabilities are just as valid as visible disabilities. (legitimacy)
8. Invisible disabilities should not be addressed in the workplace. (ablism)
9. Without a medical diagnosis, invisible disabilities are not valid in the workplace. (ablism)
10. Access to accommodations for invisible disabilities in the workplace is important. (wellbeing)
11. Accommodating invisible disabilities lowers workplace performance. (ablism)
12. Accommodations for invisible disabilities have more costs than benefits in the workplace. (ablism)
13. Providing accommodations to individuals with invisible disabilities creates equality in the workplace. (ablism) (inverse)
14. My organization values inclusion of people with invisible disabilities. (acceptance)
15. In my workplace, employees respect each other's differences. (acceptance)
16. If a reliable coworker confides in me that they have an invisible disability, I accept their word. (legitimacy)
17. It is not appropriate to discuss invisible disabilities in the workplace. (wellbeing) (inverse)
18. Addressing invisible disabilities in the workplace is beneficial. (ablism) (inverse)
19. People who claim to have invisible disabilities in the workplace seek attention. (ablism)
20. Employees with invisible disabilities have more obstacles in the workplace than coworkers without invisible disabilities. (legitimacy)

21. Lack of accommodations for invisible disabilities negatively impacts the workplace. (ablism) (inverse)

22. Differences are valued in my workplace. (acceptance)

23. Attitudes in my workplace towards invisible disabilities leave me feeling emotionally exhausted. (wellbeing) (inverse)

24. Attitudes in my workplace towards invisible disabilities leave me feeling physically exhausted. (wellbeing) (inverse)

25. I feel alienated at work. (acceptance) (inverse)

26. I have coworkers that I consider friends. (acceptance)

27. My workplace is open to requests for invisible disability accommodations. (acceptance)

28. Coworkers have made me feel ashamed of myself in the workplace. (discrimination)

29. The way I am treated in the workplace upsets me. (discrimination)

30. There is discrimination in my workplace towards people with invisible disabilities. (discrimination)

31. In my workplace I often feel I am being talked down to. (discrimination)

32. Hiding invisible disabilities decreases productivity in the workplace. (ablism)

33. My coworkers are understanding of the needs of people with invisible disabilities in the workplace. (acceptance)

34. I have witnessed employers discriminate against people with invisible disabilities. (discrimination)

35. Invisible disabilities should be disclosed when applying for a job. (ablism)

36. If I had an invisible disability, reactions in my workplace would make me keep my status to myself. (masking)

37. I am angry with the way coworkers have reacted to invisible disabilities. (discrimination)

38. Coworkers have been derogatory towards those with invisible disabilities in my workplace. (legitimacy)

39. Invisible disability inclusion in the workplace creates a strong organizational foundation of understanding. (acceptance)

40. It is difficult for employees to disclose invisible disabilities in the workplace. (discrimination)

41. Employees should hide their invisible disabilities in the workplace. (masking)

42. It is shameful to be diagnosed with an invisible disability. (ablism)

43. My workplace practices invisible disability inclusion. (acceptance)

44. My workplace educates employees on invisible disabilities at least once a year. (acceptance)

45. My workplace educates employees on invisible disability accommodations. (acceptance)

46. Managers treat employees with invisible disabilities the same as those without disabilities. (acceptance)

47. People with invisible disabilities have an advantage when being hired. (ablism)

48. People with invisible disabilities are at a disadvantage during the hiring process. (discrimination)

49. Employees with invisible disabilities are treated poorly in my workplace. (discrimination)

50. My workplace has fired/terminated an employee due to an invisible disability. (masking)

51. Employees with invisible disabilities are poor performers. (masking)

52. Employees with invisible disabilities have poor work ethics. (masking)

53. Individuals with a neurodivergent invisible disability make great coworkers. (wellbeing)

54. Individuals with an invisible disability that effects their body make great coworkers. (wellbeing)

55. Individuals with an invisible disability that effects their senses make great coworkers. (wellbeing)

56. Given the same experience, someone with an invisible disability would be hired over someone without an invisible disability. (wellbeing)

57. The performance of an employee with an invisible disability will be scrutinized more than one with no disability. (discrimination)

58. Individuals with invisible disabilities have preferential treatment in the workplace. (ablism)

59. I am mentally comfortable in my working environment. (acceptance)

60. I am socially comfortable in my working environment. (acceptance)

61. Compared to previous employment, I am more mentally comfortable in my current workplace. (wellbeing)

62. Compared to previous employment, I am more physically comfortable in my current workplace. (wellbeing)

63. Compared to previous employment, I am more socially comfortable in my current workplace. (wellbeing)

64. Compared to previous employment, my current workplace is more inclusive of invisible disabilities. (acceptance)

65. Compared to previous employment, my current workplace encourages me to be open about all aspects of my life. (acceptance)

66. I would assist a coworker with an invisible disability with work tasks. (acceptance)

67. I am talked down to in my workplace. (discrimination)

68. Management is understanding of the needs of people with invisible disabilities in the workplace. (acceptance)

69. My workplace needs to be more inclusive towards people with invisible disabilities. (acceptance) (inverse)

70. I am angry with the way managers have reacted to people with invisible disabilities. (discrimination)

71. Managers have been derogatory towards people with invisible disabilities in my workplace. (legitimacy)

72. It is best to hide invisible disabilities from coworkers. (masking)

73. It's best to hide invisible disabilities from managers. (masking)

74. My workplace educates managers on invisible disability accommodations. (acceptance)

75. Without accommodations, an employee with invisible disabilities may suffer poor performance in the workplace. (legitimacy)

76. Disclosing an invisible disability will decrease promotion opportunities in my workplace. (ablism)

77. Invisible disabilities are not a topic in my workplace. (acceptance) (inverse)

78. Compared to previous employment, my current workplace advocates more for people with invisible disabilities. (acceptance)

79. An employee that discloses an invisible disability in the workplace will need to work twice as hard to prove themselves worthwhile. (ablism)

Appendix G: Phase 2 Data Analysis

Table G1

Reliability

Item	Cronbach's Alpha	Cronbach's Alpha if Item Deleted		
		Ableism	Advocacy	Acceptance
(Item23) Attitudes in my workplace towards invisible disabilities leave me feeling emotionally exhausted.	.925	.897		
(Item24) Attitudes in my workplace towards invisible disabilities leave me feeling physically exhausted.	.925	.897		
(Item30) There is discrimination in my workplace towards people with invisible disabilities.	.925	.926		
(Item37) I am angry with the way coworkers have reacted to invisible disabilities.	.925	.898		
(Item38) Coworkers have been derogatory towards those with invisible disabilities in my workplace.	.925	.893		
(Item49) Employees with invisible disabilities are treated poorly in my workplace.	.925	.896		
(Item50) My workplace has fired/terminated an employee due to an invisible disability.	.925	.896		
(Item71) Managers have been derogatory towards people with invisible disabilities in my workplace.	.925	.908		
(Item76) Disclosing an invisible disability will decrease promotion opportunities in my workplace.	.925			
(Item4) A strong organization employs individuals with invisible disabilities.	.862		.843	
(Item7) Invisible disabilities are just as valid as visible disabilities.	.862		.841	
(Item10) Access to accommodations for invisible disabilities in the workplace is important.	.862		.841	
(Item13) Providing accommodations to individuals with invisible disabilities creates equality in the workplace.	.862		.841	

Item	Cronbach's Alpha	Cronbach's Alpha if Item Deleted		
		Ableism	Advocacy	Acceptance
(Item16) If a reliable coworker confides in me that they have an invisible disability, I accept their word.	.862		.845	
(Item18) Addressing invisible disabilities in the workplace is beneficial.	.862		.843	
(Item39) Invisible disabilities inclusion in the workplace creates a strong organizational foundation of understanding.	.862		.843	
(Item2) My workplace is inclusive of invisible disabilities.	.895			.879
(Item14) My organization values inclusion of people with invisible disabilities.	.895			.878
(Item27) My workplace is open to requests for invisible disability accommodations.	.895			.885
(Item33) My coworkers are understanding of the needs of people with invisible disabilities in the workplace.	.895			.883
(Item43) My workplace practices invisible disabilities inclusion.	.895			.878
(Item68) Management is understanding of the needs of people with invisible disabilities in the workplace.	.895			.883
(Item74) My workplace educates managers on invisible disability accommodations.	.895			.885
(Item78) Compared to previous employment, my current workplace advocates more for people with invisible disabilities.	.895			.884

Figure G1

Confirmatory Factor Analysis