

The Development and Content Validation of an Injured Worker Stigma Scale

Lauren Reynolds

Department of Psychology, Lakehead University

Supervisor: Amanda Maranzan, Ph.D., C. Psych.

Second Reader: Dwight Mazmanian, Ph.D., C. Psych.

External Examiner: Lynn Martin, Ph.D.

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Abstract

Individuals who experience workplace injuries or illnesses also experience societal stigma related to their injured identity. Such stigmatization takes place in the form of stereotyping, prejudice from others, and unethical actions and often occurs in multiple facets of an injured worker's life. The injured worker can also internalize the pervasive stigma; self-stigmatization has been linked with adverse outcomes such as reduced help-seeking, increased shame, impeded recovery, raised stress levels, lowered self-efficacy. However, there is currently no reliable measure that accurately measures internalized stigma within injured workers. The current study generated an initial item pool based on content from within the stigma and injured worker literatures as well as interviews with six injured workers. Seven knowledgeable individuals assessed the relevance and representativeness of the items. Item-level content validity index values ranged from .14 to 1.00 (.09 to 1.00 when corrected for chance agreement with Polit's modified kappa). Qualitative feedback indicated a need for simplified language, trauma informed questions, and further emphasis on the structural nature of stigma. Given this feedback and a scale-level content validity index value of .55, further revisions are needed to develop a valid measure of internalized injured worker stigma.

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Work is an important aspect of an individual's life. It contributes to social identity, self-esteem, feelings of belongingness, and income (Blank et al., 2015). However, for many people, these tenets go unfulfilled when they acquire an injury at work. A workplace injury is an injury (physical or mental) or disease that occurs due to a work-related event, exposure, or workplace condition (Association of Workers' Compensation Boards of Canada [AWCBC], 2021).

Despite improvements in health and safety measures, workplace injuries remain a relevant issue within Canada. According to the AWCBC's most recent annual report, 348,747 lost time claims and 993 work-related fatalities occurred in 2022. However, the AWCBC's data underestimate the rates of work-related injuries and fatalities in Canada. Unfiled or rejected compensation claims and injuries in industries exempt from coverage are not included in the data. It has been estimated that the rates of work-related injuries and fatalities in Canada are 10 to 13 times higher than what has been reported by the AWCBC (Bittle et al., 2018).

Workplace injuries can result in a permanent, temporary, or episodic disability (chronic mental and physical health conditions with intermittent symptoms; Gignac et al., 2021). It is estimated that 8-12% of the Canadian workforce is off work due to injury at any moment and up to 25% of disabled Canadians acquired their disability from a workplace injury (Statistics Canada, 2017). In addition to the physical implications of an injury, injured workers face significant amounts of stigma that causes mental harm and limits their full and equal participation in society.

Workers' Compensation Boards

In Canada, Workers' compensation boards (WCBs) are independent trust agencies that act as a form of insurance to prevent workers and employers from destitution in the event of a work injury (AWCBC, 2020). They provide no-fault compensation to workers who obtained an injury while performing employment duties and is employed in an industry that is not exempt from worker's compensation (Barnetson, 2010). If an injury is eligible, WCBs provide access to medical care, wage-loss replacement (typically a maximum of 75%-90% of a worker's salary), and vocational rehabilitation. The system spreads the costs of injuries across an entire industry, funded by premiums that employers pay based on their industry, size of payroll, and injury rates (AWCBC, 2020). Although WCBs have many advantages as a social program and can increase access to adequate services, several studies have found that the process of claiming injury through WCBs is often extremely stressful for injured workers and contributes to the stigmatization injured workers face (Kirsh et al., 2012; Lippel, 1999b, 2007; Noël et al., 2022; Strunin & Boden, 2004).

The focus of the present study is on injured worker stigma and its internalization. This thesis first reviews the broad concept of stigma, and leading social-cognitive models of stigma. The injured worker stigma literature is next reviewed, including common stereotypes, affects, and behaviours associated with injured worker stigma. Attributes that modify the extent and nature of stigmas faced by injured workers are summarized. Finally, the measurement of stigma in injured worker populations is reviewed, highlighting the current gap in the literature.

Stigma

Stigma is a multidimensional social phenomenon in which vulnerable members of society are disadvantaged, dehumanized, and alienated due to attributes, traits, or group memberships considered to be "discrediting" (Goffman, 1963). While Goffman's original conceptualization of

stigma focused primarily on three categories of discrediting traits (physical disabilities, character flaws, and group memberships), contemporary conceptualizations of stigma incorporate social positions and power (Arboleda-Florez & Stuart, 2012; Link & Phelan, 2001; Pescosolido & Martin, 2015). Stigmatization involves relies upon power differentials that allow for groups with influence to create social and structural inequities, meaning that the cognitive aspect of labelling and stereotyping differences among individuals is not considered stigmatization without the corresponding emotional and behavioural components of stigma (prejudice and discrimination, respectively; Link & Phelan, 2001; Sheehan et al., 2017).

Types of Stigma

Due to its multidimensional nature, stigma has been categorized by researchers into several types of stigma based on the level at which it manifests. The most common types of stigma include public stigma, internalized stigma, and structural stigma, all of which are applicable to injured worker stigma. Public stigma, simply put, is stigma found within the general population: how much it is expected that the public agrees with or endorses stigmatizing stereotypes, and how discriminatory the public is expected to be (Pescosolido & Martin, 2015). Internalized stigma (also called self-stigma) occurs on the individual level when an individual accepts common prejudices and applies them to their own self-concept (Corrigan & Rao, 2014). Structural stigma is the stigma that is found on a larger societal scale through institutional or governmental policies and practices; it creates systemic discrimination against those who are stigmatized (Angermeyer et al., 2014).

It is important to note that the types of stigmas have reciprocal relationships. For instance, the development of public stigma influences the development of structural stigma and vice versa. Policies are based on the assumptions of policymakers who were informed by

stereotyped knowledge, and the biased policies further inform negative public opinions, endorsement of the existing policies, and incentivize the creation of additional biased policies (Angermeyer et al., 2014).

The reciprocal relationship is exemplified in work disability policies. Ståhl and colleagues (2022) noted that contemporary disability and compensation policies were created around the assumption that easy access to welfare will lead to passivity in the population and that people will abuse benefits whenever possible. By extension, gatekeeping of compensation occurs to limit access to benefits and root out malingerers, entrenching suspicion in those who handle claims and assess the abilities of injured workers (such as physicians, employers, and case workers; Ståhl et al., 2022). Over time, such gatekeeping has resulted in increasingly complex compensation systems, decreased trust in social systems from those impacted by injury, and exacerbation of stereotypes that injured workers are “malingerers,” playing the system, and are looking for easy money (D. Côté et al., 2020; Dean et al., 2019; Dunstan & Machean, 2016; Gray et al., 2019; Harpur et al., 2017; Kirsh et al., 2012; Ståhl et al., 2022).

Conceptualizations of Internalized Stigma

The most commonly cited definition of internalized stigma is that it is the acceptance and incorporation of stereotypes and prejudices into an individual’s self-concept (Sheehan et al., 2017; Pescosolido & Martin, 2015). Although this definition is somewhat constant, researchers differ in the conceptualizations of what constitutes the experience of stigma internalization. Many describe internalized stigma in terms of subjective experiences organized into factors. For example, Ritsher and colleagues (2003) described internalized stigma as being made up of four factors: alienation (feeling less than a full member of society), stereotype endorsement (agreement with common stereotypes), discrimination experience (the level of rejection from

others that is perceived), and social withdrawal (avoidance of those who do not share their stigmatized attribute or identity). Similarly, Eaton and colleagues (2020) described internalized stigma as a combination of self-blame, self-doubt, self-shame, and distress. A critique of these conceptualizations is that some of the components are better conceptualized as consequences of stigma rather than part of the definition of internalized stigma (M. M. Andersen et al., 2022).

Another conceptualization of internalized stigma is inspired by cognitive-behavioural theory. Mak and Cheung (2010) argue that regardless of stigma antecedents, internalized stigma can be conceptualized along three core dimensions: self-stigmatizing cognition (e.g., perceiving the self as less competent and unworthy of prosperity), self-stigmatizing affect (e.g., feelings of shame, self-blame, despondency, sadness, embarrassment, or anger), and self-stigmatizing behaviour (e.g., social withdrawal, self-isolation, concealment of status, or behavioural futility). Additionally, Mak and Cheung (2010) emphasize that the severity of stigma reactions will vary between individuals, despite the core experiences of internalized stigmatization being similar.

However, this conceptualization of internalized stigma was criticized by Corrigan et al. (2002) as they noted that self-stigmatizing cognitions about self-esteem and the future (e.g., “I’ll never be able to get a job because I can’t handle it”) overlap with cognitions that would be endorsed by individuals with mental health challenges such as depression and anxiety and thus the cognitions are not unique to those who self-stigmatize. Furthermore, depression and internalized stigma commonly co-occur, but longitudinal data has mixed findings on the direction of their relationship (O’Donnell & Foran, 2024). Thus, it is difficult to parse out the influence of mental health challenges on internalized stigma cognitions. The overlap is mitigated by some researchers by ensuring that measurements refer specifically to cognitions relating to the stigmatized social disadvantage. For example, “I’ll never be able to get a job because I can’t

handle it” could be rephrased as “because I am an injured worker, I will never be able to get a job.”

Theories of Internalized Stigma

Modified Labelling Theory

Modified labelling theory acknowledges that labelling deviance from societal norms represent stereotyped imagery and leads to devaluation stemming from internalized social conceptions. However, the influence of that label will differ based on the individual’s expectations of the community and how much devaluation and discrimination they expect to face. A label becomes personally relevant when given a diagnosis or treatment, following which the labelled individual may ward off stigmatization by concealing their stigmatizing condition, withdrawing from those who do not accept them, or attempting to educate others (Link et al., 1989). Negative consequences can arise from any stage of the labelling and reaction process, often resulting in shame, alienation, lowered self-esteem, reduced opportunities, and illness recurrence or prolongation.

Corrigan’s Model of Internalized Stigma

While both the modified labelling theory touches upon the process of stigma internalization and the resulting identity shifts, prominent stigma researcher Patrick Corrigan developed another model that specifically addresses the process of stigma internalization. Dubbed the progressive model of self-stigma (also known as the situational model, the social-cognitive model of internalized stigma, and the “3A” model; Catalano et al., 2021; Corrigan et al., 2002; Eaton et al., 2019), Corrigan’s model of self-stigma explicates the process of stigma internalization and why some individuals experience internalization of stigma while others

remain indifferent or are empowered to fight against the stigmatization (Corrigan et al., 2002). The model explicates that for those who internalize stigma, there are progressive stages to the process. First, the individual must be aware of the stereotypes perpetuated by the public; second, the individual must agree with the stereotypes; third the individual will apply the stereotypes to their self-concept; and lastly will experience harm (such as social withdrawal, reduced self-efficacy, behavioural futility, or limited opportunities in society; Corrigan et al., 2012).

The stages of agreement and application are influenced by group identification and the perceived legitimacy of the stigmatization. Should a person not identify with a group, they will not apply the stigma to themselves, thus not fulfilling the third stage, and will remain indifferent to the stigma (Corrigan et al., 2002). Similarly, to fulfill the agreement stage, a person must perceive the stigmatization as legitimate, and their ultimate reaction varies based on their amount of group identification. If an individual has high group identification and perceives public stigma as legitimate, they will internalize the stigma (Corrigan et al., 2002). However, if the individual has high group identification and does not perceive the public stigma as legitimate, they will respond instead with righteous anger (Corrigan et al., 2002).

Quantitative studies that test the fit of Corrigan's model in individuals with serious mental illness through structural equation modelling have been supportive of the pathway (Catalano et al., 2021; Göpfert et al., 2019). However, there has been some debate regarding the relationship between the aware and agree stages. There have been several studies that found awareness was not significantly correlated with the application of stigmatization (Corrigan et al., 2006; Eaton et al., 2016; Watson et al., 2007). However, it has been noted that these studies were restricted by small sample sizes (Catalano et al., 2012), and even when stigma awareness was not significantly correlated with the subsequent stages of agree, apply, and harm, awareness was

significantly correlated with negative outcomes such as reduced self-esteem, recovery, and self-efficacy (Watson et al., 2007). Overall, Corrigan's model has been widely accepted in the stigma literature.

Injured Worker Stigma

Although stigma experiences broadly share commonalities (the impact of stereotypes, prejudice, and discrimination), differences in stigma expression exist across targeted identities, physical traits, or characteristics. Those who have been injured at work experience stigma related to their status as an injured worker. A study by Kirsh and colleagues (2012) developed a preliminary theoretical framework that delineates the nature and impact of injured worker stigma. Kirsh et al. analyzed transcripts of interviews and focus groups held with 28 individuals who experienced workplace injuries and the resulting stigma. They found that injured worker stigma is experienced primarily through negative stereotypes, unethical treatment, and insensitivity from others.

When exploring the nature of internalized injured worker stigma, similar to Mak and Cheung's (2010) theorization of internalized stigma, observations from the literature fall into three core dimensions: self-stigmatizing cognitions (the internalization of common stereotypes), self-stigmatizing affects (e.g., feelings of shame, self-blame, burdensomeness, and unproductivity) and self-stigmatizing behaviour (e.g., social withdrawal, self-isolation, putting oneself in risky situations, and behavioural futility).

Stereotypes

There are several pervasive stereotypes about injured workers that get internalized by injured workers. Among the most common noted in the literature are the stereotypes that injured workers are malingerers, lazy workers, and irresponsible or poor workers.

Malingers. The stereotype that injured workers are “malingerers,” “profiteers,” “opportunists,” faking their injury, trying to “cheat the system” for easy money, or are otherwise illegitimately claiming compensation are the most commonly cited stereotypes in qualitative interview studies (e.g., Lippel, 2007; Kirsh et al., 2012). Despite the pervasive impression that injured workers will attempt to fake or exaggerate their injuries, there is no empirical evidence to suggest that fraudulent claims are a common occurrence. For instance, the Workplace Safety and Insurance Board of Ontario (WSIB) report that annually 20 out of 250,000 claims are convicted of fraud, a rate that is less than 0.008% of their yearly claims (WSIB, 2010). However, the stereotype is perpetuated both in the workplace and in broader social environments and is often worse for those with injuries that are not immediately apparent to onlookers.

Dunstan and MacEachen (2012, 2014) examined co-worker reactions to injured workers in the workplace and developed a theoretical model to explain variation in reactions (from support to antagonism). A major component of the model is whether accommodations or compensation received by the injured worker is perceived to be fair. Animosity is higher should co-workers feel they have to compensate for the injured worker, if an injured worker receives accommodations that are desirable (e.g., exemptions from stressful tasks or the ability to work from home), and if the injury is not easily observable by co-workers. In such circumstances, co-workers are more likely to lash out and perpetuate the stereotype that injured workers are malingering or otherwise faking their injury.

In interview studies, injured workers have described being subject to investigative measures such as surveillance by supervisors, video, or private investigators in attempts to “verify” their injuries (Barneston, 2010; Lippel, 1999b, 2007). Such practices are deleterious, resulting in injured workers internalizing cognitions about feeling trapped, vulnerable, alone in the process, invalidated, and unworthy of help or accommodations (D. Côté et al., 2020; Dean et al., 2019; Eggert, 2010; Lippel, 2007; Kirsh et al., 2012). The impact of the malingering stereotype is far-reaching, as many other common stereotypes about injured workers share the assumption that injured workers are playing the system for their own gain, such as in the stereotype of the lazy worker.

Lazy Workers. Injured workers face the stereotype that they are lazy workers, which has a few different connotations. One connotation is that the injured worker is seeking workplace accommodations to avoid doing hard work (due to a lack of motivation). This assumption is typically held by coworkers or employers who do not believe the injured worker’s injury is legitimate. Alternatively, the lazy worker stereotype refers to the belief that when injured workers can stay at home and collect benefits, they will remain idle and not return to work (Ståhl et al., 2022). Literature focusing on the perspectives of injured workers indicates that neither interpretation of the lazy worker stereotype is accurate. Injured workers report a desire to return to their job and often feel demeaned and frustrated when accommodations make their job trivial or too easy (P. Côté et al., 2001). Additionally, a study by Chapman-Day and colleagues (2010) which investigated the process of returning to work for 63 WCB clients found that for “difficult” clients who were reluctant to return to their job the most commonly expressed reasons is fear of re-injury or an inability to perform their job duties (Chapman-Day et al., 2010), not a desire to remain inactive. The stereotype of the lazy worker has several impacts on injured workers,

namely the internalization that if they are not working, not working “hard enough,” or are utilizing the necessary accommodations it means they are doing something wrong. This leads to cognitions such as “I am not doing enough,” “I am not getting well fast enough,” and “I am not a productive member of society.”

The Irresponsible Worker. In spite of the WCBs ‘no fault’ approach in Canada, injured workers face accusations that their injury was caused by their own irresponsibility (Lippel, 1999a; Kirsh et al., 2012). Some relevant examples are described by Lippel (1999a) in an opinion piece informed by classical legal research methods. In Quebec, tribunals will compensate work-related stress claims only if the stressors are deemed to be outside of normal working conditions (the “unusual stress rule”; Lippel, 1999a). Should a stressor be deemed a normal part of working conditions, the claim is denied on the grounds that the worker bears responsibility by entering a personally unsuitable profession. For instance, there have been several cases where female prison guards claiming stress claims following sexual harassment were denied on the grounds that such harassment should be expected in their line of work (Lippel, 1999a).

The categorization of stressors as a normal part of the job is troubling, as chronic stressors leading to mental strain/illness are much more common in the workplace than traumatic events/critical incidents. A study by Dollard and colleagues (1999) investigated all of the stress claims accrued by a company in the span of a year and twice as many claims were filed due to chronic work stressors (44%) rather than critical incidents (19%; $N = 19$). The shift of responsibility from systems and workplace structures to the individual in such circumstances is part of the larger pattern of shifting blame to injured workers for their injuries, resulting in the stereotype that injured workers are irresponsible workers.

Due to the stereotype that workers are responsible for their injury, workers internalize the cognitions that they are to blame for their injuries, expressed in qualitative interview studies (e.g., Beardwood et al., 2005; Lippel, 2007; Kirsh et al., 2012). In some cases, workers may avoid applying for compensation because they feel they are to blame for their injury and that their claim would be denied (Beardwood, 2005). Unfortunately, messaging from WCBs only serves to re-enforce these beliefs. In an opinion piece, Barnetson (2010) highlights the content of WCB advertising campaigns. The campaigns are meant to promote occupational health and safety but focus almost exclusively on workers' contributions to accidents and unsafe workplace practices, omitting the role employers play in the composition of workplace environments and task delegation (Barnetson, 2010). The focus on worker contribution to accidents likely reinforces the public's belief that the irresponsibility of the worker is the main catalyst of an injury, contributing to stereotypes about injured workers.

Self-Stigmatizing Affects

There are many common affects related to internalized stigma of various stigmatized identities including feelings of sadness, embarrassment, shame, anger, and depression (Corrigan et al., 2016; Mak & Cheung, 2010). However, injured worker stigma has affective components that differ from other stigmatized identities such as mental illness such as the loss of being a "breadwinner" for their family and reactions to the compensation process.

For many workers their injury means that they will be either temporarily or permanently disabled and will have to take time away from their job to recover. Wage-loss replacement from WCBs cover a maximum of 75%-90% of a worker's salary, which impacts financial stability. For injured workers with financial struggles as a result of the injury, it is common to have difficulty adjusting to no longer being a breadwinner in their family and/or the loss of identity as a

“productive” member of society and their workplace identity (Kirsh et al., 2012). Throughout this adjustment, workers experience intense feelings of shame, loss, and burdensomeness (to both their family and sometimes to society as a large; Dollard et al., 1999). For instance, an interview respondent from Noël and colleague’s (2022) study described “All those feelings of shame that go with it... it has such a compounding effect on your whole life.”

There are also several affective reactions to the claims process. Lippel (2007) noted in their study of 85 interviewed injured workers that affective reactions were particularly complex with one global emotion such as “fear” having as many as 21 different variations (e.g., fear of potential job loss, fear of compensation refusal, fear of surveillance by private investigators, fear of painful treatment, and fear of receiving insufficient/erroneous information). A study by Noël and colleagues investigated experiences of injured workers from Northwestern Ontario with the compensation system through interviews and surveys administered to WCB stakeholders and injured workers. The common affective themes reported included anger/frustration, helplessness/hopelessness, and shame/guilt (Noël et al., 2022).

Interview studies also report injured workers feel deindividuation when dealing with the compensation system, that they are just another case or just a “number” (Lippel, 2007; Kirsh et al., 2012; Roberts-Yates, 2003). In many cases, workers feel tired of having to fight for their rights (Lippel, 2007), while other injured workers report that feeling disrespected resulted in righteous anger at the compensation system and their employer (Beardwood et al., 2005).

Finally, it is common for injured workers to express severe mental distress. Lippel (2007) noted that injured workers frequently experience chronic stress, anxiety, depression, and suicide ideation. For instance, 66% of the participants ($N = 85$) described having depression and 40%

reported suicidal ideation. The finding is made more concerning by the fact that Lippel's interview questions did not ask about or prompt individuals to discuss suicide.

Internalized Stigma Behaviours

There are many behavioural implications related to stigma that are present within the injured worker literature. The most notable include the “why try” effect, social isolation, and concealment of their injury/injured worker status.

The Why Try Effect. Behavioural and emotional futility is a manifestation of internalized stigma that has been dubbed the “why try” effect (Corrigan et al., 2009). People internalize negative stereotypes related to their stigmatized identity and feel unable or unworthy of achievement, which interferes with life goal attainment (Corrigan et al., 2009, 2016). The effect is well-documented in the wider stigma literature and has been linked to reduced help-seeking, impeded recovery, higher levels of stigma stress, poorer academic outcomes, and lower self-efficacy in those with mental illness (Corrigan & Rao, 2012; Livingston & Boyd, 2010).

Although (to the author's best knowledge) there are no articles that focus exclusively on the “why try” effect in injured workers, sentiments expressed by injured workers in qualitative studies confirm the presence of behavioural futility as an aspect of internalized injured worker stigma. For example, Beardwood and colleagues (2005) interviewed 17 injured workers who lived in Toronto and injured workers expressed reluctance to apply for jobs that have the potential to elevate their career due to beliefs that the opportunities would not work out because of their stigmatized status/injury. One worker described the futility they felt during job hunts “Nobody wants to hire me...nobody calls me for an interview. And even if I go, I never get a job” (Beardwood et al., 2005, p. 42).

Similarly, in interviews with Kirsh and colleagues (2012), Injured workers expressed that unless they have niche expertise or are exceptionally qualified, they believe they will be seen as too much of a liability to be hired or promoted. Other sentiments captured by qualitative studies suggest that injured worker well-being and self-efficacy are impacted through workers expressing that they feel as though they are a drain on society, second-rate employees, just a number in the system, and that they are unworthy or unable to achieve recovery (Beardwood, 2005; Chapman-Day et al., 2010; D. Côté et al., 2020; Lippel, 2007; Kirsh et al., 2012). Overall, the literature thus far supports that injured worker stigma manifests behaviourally as futility in the realms of help-seeking, service use, recovery, and the career advancement of injured workers.

Social Isolation. Accounts of isolation from interviews and focus groups note that a widespread coping mechanism for injured workers is social isolation. There is a pattern of reduced social outings to avoid stigmatizing and hurtful comments from the general public and those they previously turned to for social support (Dean et al., 2019; Eggert, 2010; Kirsh et al., 2012; Noël et al., 2022). Injured workers also often experience disruption and divorce in their familial lives due to financial and personal stressors, further reducing their support systems (Beardwood et al., 2005; Dean et al., 2019; Kirsh et al., 2012).

Concealment of Injury. To avoid the label of injured worker, some individuals choose to hide their workplace injury. Dollard and colleagues (1999) interviewed those within an Australian urban center who filed work related stress claims with a public welfare agency between 1994 and 1995 ($N = 19$). They found that the number of individuals who filed stress claims was likely an underestimation of the total amount of stress-related injuries because workers reported utilizing worker's compensation as a last resort when their other forms of leave (i.e., personal, sick, vacation) were spent (Dollard, 1999). Workers described worries that

utilizing worker's compensation would label them as an injured worker, tarnish their reputation, and blacklist them from future employment positions (a fear that was especially salient for contract workers; Dollard et al., 1999).

Similarly, a recent systematic literature review that investigated the underreporting of injuries in the workplace found that 20-91% of workers did not report their work-sustained injury to management or worker compensation boards (Kyung et al., 2023). Furthermore, 60% of the studies identified in the review cited that a fear of repercussion to their reputation and career was among the most prevalent reasons workers did not report their injuries (Kyung et al., 2023). The feared repercussions include being labelled as a careless worker, excluded from promotions, and job loss; sentiments which are mirrored in the broader injured worker literature (Kyung et al., 2023, see also D. Côté et al., 2020; Lippel, 2007; Kirsh et al., 2012). The underreporting of injuries is particularly concerning, as without disclosure workers are unlikely to receive workplace accommodations.

Research suggests that proper workplace accommodations can greatly improve job outcomes. For instance, a large-scale employment intervention for those with mental illness in the workplace found that those with accommodations stayed employed an average of 31% longer than those without accommodations, with each additional accommodation reducing the risk of termination by an average of 12.7% ($N = 1648$; Chow et al., 2014). Overall, although it may have broad implications to the health and wellbeing of injured workers, some choose to hide their injury to avoid the label of injured worker and the associated stereotypes.

Modifiers of Injured Worker Stigma

There are various factors that affect the extent and nature of stigma experienced by injured workers, including characteristics of their injury and demographic characteristics of the individual.

Injury Visibility

The visibility (or concealability) of an injury is the degree to which an individual is recognizable as someone with an injury by looking at them. For example, if an individual has a limb amputation as a result of a workplace injury, they will be more easily “read” as injured than an individual who has a mild traumatic brain injury and does not show physical signs of injury. It is theorized by Pachankis (2007) that visibility is not necessarily a static characteristic and will vary in different contexts. For instance, someone with a visible injury or disability will not be read as injured through a telephone interview. Having a stigmatized identity that can be concealed has been described as a doubled-edged sword in the broader stigma literature, as others may not know an individual belongs to a stigmatized group and they will be spared from direct stigmatizing actions, but the individual is more likely to face microaggressions (such as hearing bigoted ideas in conversation with others; Mak & Cheung, 2010; Pachankis, 2007). Preliminary research also suggests that individuals with less visible injuries are treated differently in the workplace.

A Canadian interview study by Teindl and colleagues (2018) used thematic analysis to investigate differences between individuals with visible and non-visible disabilities in workplaces across Alberta and Ontario. They found that compared to individuals with visible disabilities, workers with less visible disabilities were more readily hired but faced greater difficulties when maintaining a position. For instance, those with invisible disabilities had to advocate more for workplace accommodations, felt more pressure to disclose their disability to

coworkers, and were judged more harshly for their limitations and mistakes (Teindl et al., 2018). Another qualitative study investigating the experiences of individuals with invisible disabilities (including neurodegenerative disorders, chronic pain, HIV, mental illnesses, back injuries, and brain injuries; $N = 14$) found that a common theme was the policing of their bodies (Kattari et al., 2018). The participants described being called out for using accommodations in public (such as wheelchair accessible parking or mobility aids) because others expect them to be able based on their appearance. Accounts from injured workers reveal similar expectations of ability from others, resulting in the individual being treated “like a criminal” when their disease had no external signs but limited their working ability (Lippel, 2007).

Intersectional Identity

Research on the effects of stigma note that those with multiple social disadvantages experience multiple stigmas at a time that impact numerous areas of the individual’s life (Sheehan et al., 2017). To date, investigated identities that intersect with injured worker stigma are worker nationality and gender.

Immigrant Workers. One such population are immigrant workers, who face increased levels of stigma due to the influence of racism in addition to their workplace injury (Beardwood et al., 2005; D. Côté et al., 2020; Fuentes et al., 2023). Immigrant workers are significantly more likely to have temporary or precarious employment, work in risky industries (regardless of their education levels) and have less information about occupational health and safety or compensation processes (D. Côté et al., 2020; Fuentes et al., 2023; Sterud et al., 2018). These factors lead to a disproportionate number of injuries compared to the native worker population, a recent systematic review found that 10.91%-27.18% of the immigrant workforce sustained injuries compared to 6.5% of the native workforce in Canada and Europe (Sterud et al., 2018).

Furthermore, once injured, the stigmatization immigrant workers face is often more severe due to additional biases in the workforce and compensation system. For instance, D. Côté and colleagues (2020) documented WCB workers expressing that they believed workers belonging to cultural minorities are more likely to take advantage of the workers' compensation system in Canada. Injured immigrant workers are also more likely to face bullying in the workplace (Sterud et al., 2018), receive fewer referrals to available vocational and rehabilitation services (Fuentes et al., 2023), encounter assumptions about their cultural beliefs (such as determinants of health, likelihood of adherence to treatments, attitudes towards mental health, and assumed coping mechanisms; D. Côté et al., 2020), and have their diagnoses challenged by WCBs more often (Beardwood et al., 2005).

Overall, while injured immigrant workers face the common experiences of injured worker stigma (such as being labelled a malingerer), they also encounter additional structural disparities that increase their likelihood of sustaining a work injury and have to cope with the intersecting influence of racism in the workplace and compensation systems.

Gender. Another common factor that influences the experience of stigma is the gender of the injured worker. Although (to the author's knowledge) there are no papers directly investigating the impact of gender on injured worker stigma, the issue of gender is prevalent in the coverage of women's injuries, both by the media and the WCBs. For instance, an analysis of Canadian reporting on workplace injuries from 2009-2014 found that although 37.1% of workplace injuries were sustained by women, the news disproportionately focused on men's injuries as only 4.4% of the reports included female injured workers (Barnetson & Foster, 2015). This lack of coverage plays into a bigger pattern of women's work injuries having lower visibility than men's work injuries. It was theorized by Lippel and colleagues (1999b) that

because women occupy helping professions more often than men, there is a myth that women's jobs consist of what they do "naturally," which often leads to their work stressors being dismissed as banal, unimportant, and normal. An investigation of acceptance rates for stress claims (both chronic and acute) in Quebec found that men acquired compensation significantly more than women for equivalent stressors (men had an acceptance rate of 49%, women 36%; Lippel, 1999b). The findings imply that women who are injured at work (especially with a non-visible injury) will experience greater rates of invalidation and scrutiny, perhaps intensifying stereotypes common to injured worker stigma (such as being a malingerer).

Measures of Injured Worker Stigma

Even with extensive records of the impact stigmatization has on injured workers in the injured worker literature, there is a lack of reliable measures to capture the experiences of injured worker stigma. One quantitative study by Black and colleagues (2019) investigated employee anticipation of injured worker stigma (they refer to this as "safety stigma") as a predictor of safety behaviours in the workplace. However, their measure of safety stigma is lacking, as it included only 2 items that query whether individuals would expect to be treated poorly in the workplace (by supervisors and coworkers) should they sustain an injury. Such a measure is less than comprehensive. Furthermore, existing validated and thorough measures of stigma focus primarily on mental health stigma rather than occupational injuries and are not suitable for measuring injured worker stigma.

Despite the lack of an injured worker stigma scale, several scales that assess outcomes for injured workers contain components of stigma. For instance, the *How are you Coping Gauge* developed by McLinton and colleagues (2018) is a screening tool meant to predict recovery

based on self-rated coping and level of support (rated 0-10, 0 = *not at all*, 10 = *very well*). It includes questions such as “How safe and supported do you feel by your workplace, coworkers and managers?” (McLinton et al., 2018). It is possible that one of the reasons an injured worker would not feel supported by their coworkers and managers is due to stigmatization from their colleagues. However, the scale does not investigate what constitutes a lack of support.

An example of a scale that focuses on job outcomes for injured workers is the Job Accommodation Scale developed by Shaw and colleagues (2014). The scale measures the feasibility and likelihood of support for various job accommodations (e.g., modified hours, more frequent breaks, temporary assignments, co-worker assistance, special equipment/tools) rated by supervisors on a scale from very unlikely (to implement) to very likely (to implement). Through exploratory factor analysis, the existence of an overarching construct labelled “support for job accommodations” was found. Shaw and colleagues concluded that the beliefs and attitudes held by supervisors towards job accommodations (and by extension, injured workers) was a factor that could transcend differences among occupations and accommodation strategies. However, the scale does not directly measure the attitudes and beliefs of supervisors, focusing instead on the logistical side of workplace accommodation. These findings highlight the need for a measure of stigmatization in the workplace, as it is known stigmatized beliefs influence job outcomes for injured workers but there is a need for a better understanding of the impact of stigmatization and how it is perpetuated against injured workers.

A scale developed by Mak and Cheung (2010) assesses internalized stigma within individuals with concealable identities, focusing on a core set of internalized stigma experiences regardless of the antecedent for the stigma. The authors assessed stigma with a cognitive-behavioural approach, describing internalized stigma through underlying cognitions, emotions,

and behaviours thought to be common to minority groups of concealable identities. To be applicable to various stigmatized identities, relevant aspects of identity are inserted into blanks in the scale items for an easy adaptation for any concealable stigmatized identity or trait.

Although the scale captures the broad cognitions, emotions, and behaviours that characterize internalized stigma, several key aspects of injured worker stigma are not captured. For instance, it does not include the pervasive stereotype that injured workers are “playing the system” with illegitimate claims and the resulting suspicion from others, being labelled as a malingerer, not being taken seriously, and having to undergo excessive assessments to prove their condition (P. Côté et al., 2001, 2020; Dean et al., 2019; Dunstan & Machean, 2016; Gray et al., 2019; Harpur et al., 2017; Kirsh et al., 2012).

Nor does Mak and Cheung’s scale capture the extensive disempowerment experienced by injured workers through claimant processes. Although the scale includes items that broach related topics such as competency, ability to compete with others, and impact on finances, the power imbalance between compensation boards and employers against injured workers have additional stigmatizing implications. For instance, injured workers may feel as though they are coerced to comply with medical assessments and treatments to avoid denial of compensation claims and potential poverty (Beardwood et al., 2005). Limits to injured worker autonomy and the resulting feelings of powerlessness, anger, and vulnerability are well documented within the injured worker literature (e.g., P. Côté et al., 2001; Dollard et al., 1999; Eggert et al., 2010; Kirsh et al., 2012) and should be explicitly included in a scale designed to measure injured worker stigma.

Summary and Existing Gaps in the Literature

Overall, stigma is a significant barrier faced by injured workers that limits their full and equal social participation. The stigmatization of injured workers impacts a large portion of Canada's working population, given that 8-12% of the Canadian workforce is off work due to injury at any moment (Statistics Canada, 2017). Injured workers face stigmatization in the form of stereotypes, prejudice, and discrimination from multiple sources including their employer, coworkers, and the compensation system (Kirsh et al., 2012). When stigmatization is endorsed by the workers and subsequently applied to their own lives, the internalized stigma results in adverse outcomes, including reduced help-seeking, increased sense of shame, impeded recovery, raised stress levels, lowered self-efficacy, lower likelihood of a successful return to work, and a reduced ability to seek work accommodations (Corrigan & Rao, 2012; Livingston & Boyd, 2010; Kirsh et al., 2012).

Thus far, the full significance of stigma and internalized stigma for injured workers has not been addressed in the injured worker literature. Gaps in the literature include a lack of studies investigating how visibility of an injury influences the stigma workers face; whether stigma intersects or differs significantly based on gender, nationality, type of employment (for example, contract or seasonal work), and where they are in the recovery and return to work process. As well, there remains a need to understand how stigma influences health inequalities experienced by injured workers. Thus far, the literature about injured worker stigma is primarily qualitative.

There is a need for more cross-sectional research to provide quantitative evidence that can build on injured workers reported experiences of stigma. However, there is a lack of reliable measures to capture the experiences of stigma unique to work injuries (e.g., experiences with compensation boards). Therefore, to address this gap in the existing line of research, the current study aims to create a robust measure of injured worker stigma. Having a scale to measure the

stigma injured workers face would enable cross-sectional research using internalized stigma as a variable of interest. Furthermore, should interventions be developed in the future to address internalized stigma in injured workers, there will be a need for an accurate measurement to quantify the intervention impact and efficacy.

Study Aims and Objectives

The overall goal of the present study is to lay the groundwork for the creation of a psychometrically valid and reliable scale to measure internalized injured worker stigma. The planned study will follow the process of scale development described by Boateng and colleagues (2018), with a focus on the first phase of scale development. Thus, the study objectives are to generate an item pool (based on the injured worker literature and lived experiences of injured workers) and assess the content validity of the generated items. It is expected that the resulting items will form the foundation of a scale appropriate for use in research and program evaluation of internalized stigma interventions.

Study Procedures

Domain identification (i.e., the development of the measured construct definition) and item generation were completed using both deductive and inductive methods. The deductive methods included an informal review of the relevant injured worker literature, stigma theories, and existing internalized stigma scales. The inductive methods included semi-structured interviews with injured workers analysed with reflexive thematic analysis. Following item generation, the item content validity (i.e., the level of relevance and representativeness that developed items have to the entire universe of the construct that's been operationally defined; Cohen & Swerdlik, 2009; Spoto et al., 2023) was assessed by a group of expert raters. The

study's recruitment and research procedures were approved by the Lakehead University Research Ethics Board.

Interview and Thematic Analysis Methods

Approach

The scale development inductive methods consist of semi-structured interviews with injured workers and a reflexive thematic analysis to understand their lived experiences, understanding, and interpretations of stigma related to their work injury. Reflexive thematic analysis in the style of Braun and Clarke (2006; 2022b) is a flexible method used to identify patterns of meaning across participant narratives. It was selected to analyze the interview content because it is a theoretically flexible method that allows for an inductive, data-driven approach to analysis while acknowledging the researcher's role in deriving meaning from the data. It also has the adaptability to include both semantic (explicit and literal) and latent (conceptual or implicit) interpretations of the data. This flexibility is helpful for capturing instances and meanings of stigma which is in itself a broad concept and can include the explicit actions, judgements, and thoughts of others as well as implicit meanings behind those actions, judgements, and thoughts. To avoid restricting the investigation of internalized stigma to the researcher's preconceived notions of stigma internalization, the interviews asked about participant's experiences of stigma broadly before asking about internalization experiences. The knowledge gained from the thematic analysis was used to fill gaps in the scale development's construction of items to measure internalized injured worker stigma.

Study Participants

Researcher Description

Reflexive thematic analysis positions the researcher as an integral part of the analysis, as a researcher's values, assumptions, and intersectional identity contribute to the research questions and the interpretation of data points for theme development. The study's researchers (LR and KAM) have a background in psychology and stigma research. The researchers are also currently able-bodied, female, White, and are not economically disadvantaged. Prior understandings of injured worker stigma were predominantly informed by the academic literature and collaboration with the Canadian Injured Workers Alliance¹ (CIWA) and the Enhancing Prevention of Injury and Disability @ Work (EPID@Work) Research Institute.²

Participant Recruitment

Recruitment for the interviews took place from February 1st, 2024, to March 22nd, 2024. Participants were recruited through snowball sampling facilitated by existing research networks with CIWA as well as through local and provincial injured workers support groups. Individuals were eligible to participate in an interview if they sustained an injury at work (regardless of the type of occupational injury), had lived experience of stigma as a result of being an injured worker, lived in Canada, spoke English, had access to an electronic device with video-conferencing capabilities, and indicated in writing that they were interested in participation. A

¹ CIWA is a Canadian not-for-profit and national network of injured workers groups that strive to support injured workers and improve Occupational Health and Safety by building awareness of the negative impacts associated with work injury and addressing gaps in knowledge through research projects (such as this scale development).

² EPID@Work is a research institute at Lakehead University that conducts transdisciplinary research on work-related injury and disability prevention with a focus on equity, diversity and inclusivity; mental health in the workplace; knowledge mobilization; and issues relevant to the workforce in Northwestern Ontario.

total of six individuals were recruited for the study. Data collection was concluded based largely on the availability of individuals volunteering to participate in the study

Interview Participants

All six participants lived and worked in Ontario, Canada. They ranged in age from 23 to 72 years old (*Mdn* = 65.5), were Caucasian, and 60% were female. The participants had work experience in a variety of job sectors³ including healthcare and social assistance; transportation and warehousing; arts, entertainment and recreation; and construction. All of the participants experienced multiple physical injuries including back injuries, concussion, fibromyalgia, repetitive motion injury, nerve damage, musculoskeletal injury, burn and skin disorders, and traumatic mental stress. To protect the participant's identity and privacy, pseudonyms are used in place of the participant names.

Data Collection

Semi-structured interviews conducted through Zoom (a video-conferencing platform) and transcripts were produced using Zoom's automatic transcription feature. Transcripts were reviewed by the interviewer (LR) for accuracy. The interview protocol was developed according to Braun and Clarke (2013) and Galletta (2013) and featured open-ended questions. Where needed, the interviewer asked clarifying questions and used open-ended probes such as "Can you tell me more about that?" The interviews included a discussion of the study's goals, the participant's demographics, their job and injury history, their experiences of injured worker stigma, and their experiences with stigma internalization (see Appendix A for a copy of the interview protocol). Interviewees were provided with a copy of the interview protocol prior to

³ Job sectors have been informed by the North American Industry Classification System 2022 Version 1.0

the interview date. The interviews ranged in duration from 45 minutes to an hour and 30 minutes, with an average interview time of 60 minutes.

Thematic Analysis

Braun and Clarke's process for thematic analysis is comprised of six phases: data familiarization, data coding, theme generation, theme definition, revision, and report writing. The data familiarization process included correction of the transcripts while listening to the original audio recording and a subsequent transcript review. During this process, participants were assigned a pseudonym and any potentially identifying information (such as company titles, coworker or employer names, and healthcare provider names) was removed from the transcripts.

Initial data coding involves capturing an idea within interview transcripts and labelling it to create a unit of analysis (Braun & Clarke, 2022b). The coding was completed collaboratively by LR and KAM using NVivo qualitative data analysis software (version 14). Collaborative coding was used to facilitate discussion and reflection on differences in perspectives between the coders and contribute to more complex insights of the data (Braun & Clarke, 2021). The developed codes were a mix of semantic codes (explicit and literal meaning) and latent codes (conceptual or implicit meaning). All information potentially relevant to the research topic was coded.

Initial theme development involves grouping codes together based on a pattern of shared meaning unified by a single idea (Braun & Clarke, 2022b). The theme development occurred between the two researchers by sorting the developed codes into groups and assigning them preliminary titles. For instance, an initial theme *Control* included codes related to disempowerment, pressure to work, being cut-off, having fewer supports as in injured worker,

feeling helpless, and financial pressures. The following phases of theme generation, definition, revision and report writing were completed by LR. Transcripts were reviewed to facilitate the development of nuanced patterns in the data. As needed, codes were refined to clarify meaning among the data items. For instance, the code label *complaints from coworkers* was demarcated into *don't want to work with you*, *special treatment*, and *picking up their slack* to parse out the underlying meanings and assumptions behind the various complaints within the data items. Once codes were refined, themes were revisited to define and revise as needed. This process included reviewing the original transcripts to ensure the themes were supported by the interview transcripts. Through the processes of revision, four final themes were generated, defined, and revised.

Resulting Themes

The four developed themes that described the lived experiences and perceptions of injured worker stigma were titled: *playing the system*, *contribution as worth*, *structural mechanisms of control*, and *shattered assumptions & worldview*. See Table 1 for a summary of the themes.

Table 1

Summary of the Resulting Themes

Theme Name	Theme Definition
Playing the System	Injured workers are accused of faking or exaggerating their injury for personal gain
Structural Mechanisms of Control	Injured workers experience disempowerment due to structures of control that influence major aspects of their life
Contribution as Value	Worthiness and status are tied to productivity, when a worker is injured, they are devalued

and dismissed due to their changed capabilities

Shattered Assumptions and Worldview

Injured workers experience fundamental loss of trust in social systems, the intentions of other people, and their projected life plan

Playing the System

The theme *playing the system* explores a core idea expressed throughout the dataset that injured workers are somehow faking or exaggerating their injury for personal gain (such as money, time off, or light duties). The participants described often being questioned in the workplace by coworkers who think that they are getting special treatment from being accommodated. For example, Daniel described:

They [coworkers] used to say like, ‘Oh, look at him! He's so lucky. He's probably faking it because he's probably on- he's going to be on modified duties the rest of the summer now’ and I used to have to like, basically justify myself.

The legitimacy of the worker’s injury, abilities, and need for accommodations are questioned, which results in the injured worker feeling like they have to constantly justify or explain their injury and needs to others. In line with the injured worker literature, the visibility of an injury is perceived to influence the stigma from others. For example, Jenny noted that “It feels like you're telling people what's going on, because it's not a visible injury, you know what I mean? You look fine to people when you're out there, but you're not, but they don't know that.” Participants described having to explain their injury and abilities to others because others could not recognize their injury by looking at them. For all participants, being questioned by others and having to

explain their injury was tied to feeling not understood by others. For some, this leads to reclusion from others, as in the case of Jenny, “You get tired of explaining yourself to people, so you just don't. You know, you just keep quiet.”

It is important to note that the theme *playing the system* was present in more contexts than just the workplace. Participants also experienced being judged and questioned by family and friends. For example, Bea described:

People assume that if I canceled a social engagement that I- I was just a complainer or a malingerer. And I just really was looking for a way to bail on a social situation, even though they knew that that wasn't me, that I'd never done that before.

Bea's dilemma of others not understanding her limits and assuming she was exaggerating her injury is one that was shared by other participants. It seemed to stem somewhat from a lack of understanding for the impact of an injury and in particular episodic ability. Bea articulated the struggle well:

I encounter stigma and still push back from different family members and community members, the lack of understanding. “Well, if you can do it today, why can't you do it tomorrow? If you can carry in this bag of groceries today. Why can't you do it tomorrow?” It goes on all the time.

Participants noted that they were concerned about being perceived as a malingerer, a complainer, or lazy. For some, such as Clara, questioning from others and the fear of being judged as a malingerer stopped her from enjoying hobbies such as gardening, camping, and birdwatching.

Participants also reported that they experienced assumptions that they were faking or exaggerating their injury in the healthcare system, such as when seeking pain management. Both

Ruth and Bea experienced being treated like drug-seekers by medical professionals when seeking help for debilitating pain. Ruth expressed her frustration in the interview,

It's almost like you have to prove that yeah, you're- you're here, really, for. This is what- I'm- I'm- I'm not about getting a bunch of drugs so I can sell it on the streets or whatever like, I need them.

In these instances, the onus was on the injured workers to somehow prove that they required medical assistance and not faking or exaggerating their pain and distress. Overall, the theme “playing the system” relates to the misperception that injured workers are exaggerating or faking their injuries in order to gain benefits such as compensation, time off work, pain medication, or other advantages in workplace, healthcare, and social contexts, rather than legitimately needing support.

Structural Mechanisms of Control

The theme *structural mechanisms of control* emphasizes the disempowerment injured workers experience due to control over major aspects of their life including their return to work, access to healthcare, and income or financial stability. The control is exercised by institutions such as WCBs, healthcare systems, and employers.

A major mechanism of control described by participants was the WSIB’s influence over their financial stability. In Ontario when an injured workers requires time off of work to recover, the WSIB can provide wage replacement benefits that totals up to 85% of the worker’s pre-injury income. While this is meant to protect the worker from poverty, the WSIB has the capability to cut off an injured worker’s access to their benefits. All of the participants described facing financial pressure to return to work through underpayment or being cut-off from funds

completely. For some, such as Ruth, the WSIB's control over her finances and the resulting poverty led to her return to work before fully recovering from her injury:

I was cut off all the time, and you know at that point we, my husband, was working, he had a very low paid job. We were just starting out with a young family and that it was really, really hard. Like I said, I phoned- I had one package of meat in the freezer, and that's it. So, you win. We'll go back to work.

Being cut-off has major implications for injured workers including poverty, fear, and disempowerment. Several participants (i.e., Ruth, Bea, and Jenny) expressed being fearful of homelessness because of the financial instability. Bea, in particular, voiced the impact of the WSIB's financial control:

Sometimes I wanted to be invisible, because then- if I stayed under the radar of WSIB- then I would just get that money coming in. And they would leave me alone. And they wouldn't take away what I had, which was below poverty.

One driving factor behind the fear of being cut-off is the manner in which it happens. Participants described being cut-off without warning, with little or no explanation, in retaliation for disagreeing with their case manager, and/or in response to circumstances outside of their control (such as a doctor not filing reports on time).

Another aspect of the mechanisms of control is that the WSIB has authority over benefits associated with return-to-work timelines, which is perceived as prioritizing workers getting back to the job rather than worker recovery. For example, Jenny experienced an injury to her right arm and shoulder and described the return-to-work strategy that was recommended to her:

They [case manager] wanted me to go back and work and use my left arm. I'm right-handed and they wanted me to go back to construction using my left. I'm not allowed to use power tools, nothing vibrating, anything. There's nothing I could do [...] You cannot work one arm, left arm construction.

It was noted by participants (i.e., Ruth and Jenny) that case managers may not have medical training, which can result in decisions that violate doctor recommendations. WSIB is also the authority on what procedures or modalities are deemed medically necessary for an injured worker to access. Several participants (i.e., Ruth, Bea, Clara, and Jenny) reported feeling as though they had to beg to receive services such as physiotherapy to help their recovery. Furthermore, to be compensable, the injury must be determined to have occurred within the workplace. Participants (i.e., Henry and Daniel) described having delayed and denied compensation due to the WSIB deeming evidence shy of medical causality or deeming the injury to be a pre-existing condition. Henry described the impact of this when he had to decide whether to proceed with a surgery not knowing if it would impact his eligibility:

[WSIB] gave me entitlement for surgery the day after the surgery [...] I'm faced with that. I either tell them I don't want the surgery at the last minute, or I go through with it, knowing that the board might turn around and say, "Well, we don't think it was necessary. This caused the damage that you have from here on in" and I mean, it was scary.

Overall, the theme structural mechanisms of control captured the disempowerment injured workers perceived in various aspects of their lives. Participants described being in a vulnerable position with little control over their financial income, mental, and physical wellbeing.

Contribution as Value

The theme *Contribution as Value*'s central idea is that underlying social values tie worthiness and status to productivity; when a worker is injured and their capabilities change, they are devalued and dismissed. This can result in an injured worker feeling useless, burdensome, and worthless, and that what they can contribute is not good enough and does not matter.

A major setting for devaluation experiences is in the workplace, which participants described through employer actions and verbal statements. For example, when Ruth was injured, her employer tried to dismiss her but would then face fines if they did not keep her on for at least five hours a week. She described, "I had my 5-hour days on Wednesdays. and I was told that, you know I have no value to them except for on a Wednesday. So don't ask to work on another day, because there's no value." The attempted dismissal, bare minimum accommodations, and blatant statement that Ruth holds no value to the employer because of her injured status embodies this theme. Other examples from participants included non-renewal of contracts, improper workplace accommodations, and/or wrongful dismissal. All of these experiences may point to the message that if a worker cannot perform at the same level, they no longer have the same value to employers.

The devaluation is also seen within interactions with co-workers. An example was described by Clara, "It's difficult cause the other workers say 'I don't wanna have to work with you. Because I'm going to be expected to do the lifting that you can't.'" Participants faced sentiments that coworkers no longer wanted to work with them and if they did work with them that they would have to pick up the injured worker's slack. The underlying message is that injured workers are no longer seen as a full member of the team and are not valued as such.

The impact of the devaluation was prominent in the interviews. For example, Ruth described how she's noticed her self-worth diminish: "you'll notice in conversation how people unconsciously, consciously or unconsciously, how they have flipped. I'm- I'm very aware of that with myself. I always apologize. I'm sorry. I'm sorry. I'm sorry. I'm sorry. I'm sorry I'm opening my mouth." Like Ruth, participants expressed feeling of worthlessness, feeling like a burden to others, feeling less than others, as well as reduced self-esteem and self-efficacy. A severe example of this came from Bea:

I didn't even think I should be on this earth. I felt useless. I felt a burden to those around me who were worrying about me [...] Because there was nothing there. There was nothing I felt that I had to add to the world. That is how bad it was.

Bea's description of her distress was tied to feeling like a burden and not being able to add anything to the world. The messaging from others is that what an injured worker can contribute is not good enough and there was a pattern of individuals internalizing the message that they do not matter. Overall, following their injury participants described a pattern of devaluation tied to changes in their ability or productivity. The devaluation was primarily experienced through dismissal from employers and co-workers and was tied to reduced self-worth.

Shattered Assumptions & Worldview

The theme *Shattered Assumptions & Worldview* explores a pattern of fundamental loss of trust in social systems, the intentions of other people, and an injured worker's projected life plan. Typically, individuals expect to get a job, work for the duration of their career, retire, and live reasonably comfortably following retirement. It is also assumed that there are social safety nets in place in the event of workplace accidents and injuries that interfere with the ability to work.

However, participants found that when they were faced with an injury, the social safety net failed them, and they were faced with poverty, mistreatment, and a loss of trust. This was described by Jenny:

You just lose belief in things, I guess you could say. You don't believe in the system anymore. So how can you believe in anything else? Right? Cause you totally think you're gonna be okay and then they do all that crap to you. (Jenny)

Her quote demonstrates the subversion of a worker's assumptions and the psychological impact it has (a loss of belief). The loss of trust in the system also extended to professionals employed within the compensation and healthcare systems; they no longer believe others will act in their best interest due to the mistreatment they have experienced.

A component of the loss of trust is the acquired belief that society as a whole does not care about injured workers and the internalization of their unimportance. An example of this is Henry's reaction to a cancelled news story on injured workers in Ontario.

I've had other reporters ask me, "where's- Where's the news in an injured worker getting screwed over by the board? It's just life" [...] this is how workers compensation treats the injured workers, not just in Ontario, but probably everywhere in the world. We're just a part of the cost of doing business [...] and that's sort of chilling, you know? When you start to accept it yourself.

Like Henry's statement that injured workers are a "cost of doing business," other participants expressed similar sentiments about how trivial they are made to feel as injured workers. For instance, "once I was injured, I was nothing" (Ruth), "he's not good for business" (Daniel),

“you’re just a number” (Jenny), and “that’s just life” (Clara). There was little trust in other people to care about them as an injured worker.

Overall, injured workers described a pattern of struggling with trust in social systems and the intentions of other people due to feeling failed by systems they had previously assumed would protect them. This loss of trust was also expressed as statements of personal triviality and beliefs that others do not care about injured workers.

Item Generation

Following the interviews, a pool of 60 initial scale items was developed. To keep with best practices of scale development described by Boateng and colleagues (2018), the identification of relevant and appropriate items to measure the construct was guided by deductive methods (item adaptation from internalized stigma scales and item generation guided by literature content) and inductive methods (item generation guided by interview content). See Appendix B for a list of the generated items.

The process of item generation was conducted primarily by LR between January and May 2024. Throughout the initial stages of the study, a deductive approach was taken. A list of relevant items from internalized stigma scales (namely the Self-Stigma Scale; Mak & Cheung, 2010) were identified and adapted to suit injured workers. Items were also generated based on the injured worker literature to include matters more specific to an injured worker population (e.g., “I would rather use vacation or sick days than file for Worker’s Compensation”). Following the qualitative interviews, inductive methods were used to generate additional items, based on the predominant turns of phrase, resulting themes, and codes developed during the thematic analysis of the study interviews. For example, financial pressures were emphasized by injured

workers so two items were added to reflect sentiments relating to finances “I feel undeserving of entitlement to support myself” and “As an injured worker I feel unworthy of financial aid.” Item generation based on interview content ensures that the resulting scale is anchored in lived experiences and perspectives of injured workers. However, there is high heterogeneity among injured workers (AWCBC, 2020). Therefore, the inclusion of scale items based in the broader stigma and injured worker literatures ensures that entire scale is not determined solely on the experiences of the six interview participants.

Once a broad list of potential items was created, the items were discussed between LR and KAM. Items that did not reflect themes observed in the interviews or injured worker literature were discarded from the pool. The remaining items were edited to finesse their phrasing and reduce common sources of potential confusion (such as multiple negatives, double-barreled questions, and ambiguous pronoun references; DeVellis & Thorpe, 2021). The resulting 60-item pool contains significant overlap between literature content and reported sentiments from injured workers. For example, an item on Mak and Cheung’s (2010) scale reads “My identity as a(n) _____ embarrasses me” and Jenny, an interview participant, repeatedly referred to being an injured worker as “embarrassing”. In this way, many of the items can be considered a mix of inductive and deductively derived content.

Scale Development and Content Validity Methods

To assess the initial pool of item’s content validity (the level of relevance and representativeness that the developed items have to the defined construct; Cohen & Swerdlik, 2009; Spoto et al., 2023), their relevance and clarity was assessed by an expert rating group knowledgeable about injured worker stigma. All questions were administered electronically through SurveyMonkey.

Participants

The expert rating group consisted of individuals who are highly knowledgeable about injured workers and the stigma they face that were not part of the interviews conducted during the process of domain identification and item generation. The expert rater group consisted of injured worker advocates, injured worker researchers, and professionals who work regularly with injured workers, namely lawyers. Many of the expert raters were also injured workers themselves. An initial list of nine experts was identified by the researchers and the potential participants were sent recruitment emails. Snowball sampling was used iteratively to identify other qualified individuals who were interested in participation. The experts had the option of a \$50 gift card as an honorarium for their participation in the study. The final expert rating group consisted of seven individuals. Based on guidelines in the literature, an expert rating panel should consist of 5-10 individuals to reduce the likelihood of chance agreement (Almanasreh et al., 2019), and thus this sample size was deemed sufficient.

Measures

Content Validity Questionnaire

Experts completed ratings of content validity. Each scale item was presented, along with a definition of internalized injured worker stigma, and experts rated the relevance and clarity of each item (arranged in a matrix-format). The response options were a four-point Likert-type ordinal scale with anchors as follows: 1 = *not at all*, 2 = *somewhat (needs major revision)*, 3 = *quite (needs minor revision)*, and 4 = *very or completely* (Wynd et al., 2003). To avoid the expert ratings being influenced by the item's order of appearance, the item sequence was randomized for each participant (Colquitt et al., 2019). To assess the scale representativeness, experts were

asked to leave qualitative feedback regarding how well they think the construct was captured by the items, whether there were aspects of the construct that were missed or should be more prevalent in the scale, and any other comments or concerns they may have. The content validity questionnaire is included in Appendix C.

Readability

In addition to the content validity, an important characteristic of a scale is its comprehensibility; the scale should be easily read and understood by its target population. Text complexity is traditionally predicted using an estimate of vocabulary difficulty and sentence lengths (Kotula, 2003). While complex linguistic and textual factors affecting readability are not easily measured, readability formulas are useful tools to give a general prediction of text complexity (Benjamin, 2012). There are over 50 readability formulas; among them Flesch's Reading Ease score is one of the most well-known and reliable (DuBay et al., 2007; Kotula, 2003). Therefore, during item development, the preliminary readability of the developed scale items was assessed with the Flesch Reading Ease formula. Flesch scores range from 0-100; higher scores reflect easier readability. A score of 70-80 corresponds to a Grade 6 reading level and is in line with the reading level required for comprehension of an average newspaper (DeVellis & Thorpe, 2021; DuBay, 2007). Therefore, the aim was for the scale to have a Flesch score greater than or equal to 80.

Statistical Analyses

Content Validity

The scale's content validity was assessed using the Content Validity Index (CVI), calculated for each scale item and the scale overall. To calculate the CVI the ordinal Likert scale

was collapsed into a dichotomous scale where a score of 1 or 2 indicates an item's content is invalid and a score of 3 or 4 indicates an item's content is valid (Wynd et al., 2003). All calculations were performed using IBM SPSS Statistics for Windows (version 29).

Item-Level Content Validity Index. The item-level content validity (I-CVI) represents the proportion of agreement about the validity of an item. It was calculated by dividing the number of experts who rated an item valid by the total number of expert raters (Almanasreh et al., 2019). These values were supplemented with Polit's modified kappa (κ^*), which adjusts each I-CVI for the chance agreement that an item is valid. Following guidelines by Polit et al. (2007), the probability of chance agreement (P_c) was calculated using a binomial probability based on the chance that the number of valid ratings by a given number of experts will be equal to the probability of a single valid rating (50%). The I-CVI values were then converted to κ^* values with the following formula: $\kappa^* = (I-CVI - p_c) \div (1 - p_c)$.

Scale-Level Content Validity Index. The Scale-Level Content Validity Index (S-CVI) represents the average proportion of items rated 3 or 4 (valid) by the experts. There are several methods of calculating the average-CVI, in this instance, S-CVI was calculated by averaging the proportions of items rated valid by each expert, which provides additional information about the responses of the experts (Almanasreh et al., 2019).

Item Clarity

The clarity of scale items was assessed by averaging the rating on the 4-point scale (1 = *not at all [clear]*, 2 = *somewhat [clear]*, 3 = *quite [clear]*, and 4 = *very or completely [clear]*). The percentage of experts who rated an item quite or completely clear is also reported.

Item Readability

The readability of the developed scale items was assessed using a Flesch Reading Ease Score. The score estimates the comprehension difficulty of a text based on word complexity (measured by the number of syllables in 100 words), and sentence complexity (measured by the average sentence length in number of words; Flesch, 1948).

Results

Missing Data

Ratings of one scale item were skipped by a single rater. To accommodate the missing relevance and clarity ratings, the I-CVI, κ^* , and clarity for this item were calculated using six expert ratings rather than seven. The average proportion of items rated valid by the expert who skipped the item was calculated based on 59 scale items rather than all 60 scale items.

Content Validity

Item-Level Content Validity

As shown in Table 2, the calculated I-CVI values ranged from .14 to 1.00. According to interpretation guidelines, items with an I-CVI of .78 or higher may be accepted for the scale, items with I-CVI scores of .5 or lower may be discarded from the scale, and items with an I-CVI ranging from .51 to .77 should be revised (Almanasreh et al., 2019; Polit & Beck, 2006). Following this rule of thumb means that seven scale items will be retained, 29 items need revision, and 24 items will be discarded. As shown in Table 2, the calculated κ^* values ranged from .09 to 1.00 ($M = .43$, $SD = .262$).

Table 2

Item-Level Content Validity

Scale Item	I-CVI	I-CVI Label ^a	Modified Kappa	Modified Kappa Label ^b
No employer will look past me being an injured worker	.57	Revise	.41	Fair
Taking injury related absences makes me an unreliable employee ^c	.83	Retain	.82	Excellent
I blame myself for my workplace injury	.71	Revise	.66	Good
I work harder than most to make up for being an injured worker	.71	Revise	.66	Good
If I do things outside of the house others will think I'm faking my injury	.71	Revise	.66	Good
I am scared others around town will judge me for being an injured worker	.57	Revise	.41	Fair
Being an injured worker means that I have no control in my life	.57	Revise	.41	Fair
Whenever I think about being an injured worker, I feel depressed	.86	Retain	.85	Excellent
As an injured worker I don't deserve to have a fulfilling social life	.29	Discard	.15	Poor
I hate myself for being an injured worker	.29	Discard	.15	Poor
I feel guilty for being an injured worker	.43	Discard	.21	Poor
People will think my work injury was my fault	.43	Discard	.21	Poor
Others are ashamed to be around injured workers	.14	Discard	.09	Poor
I need to be on guard, lie, or hide that I'm an injured worker	.43	Discard	.21	Poor
I could not confront a co-worker or acquaintance if they talked poorly about injured workers in front of me	.71	Revise	.66	Good
I feel disappointed in myself for being an injured worker	.29	Discard	.15	Poor
Being an injured worker makes my future look bleak and hopeless	.57	Revise	.41	Fair
Being an injured worker taints my life	.86	Retain	.85	Excellent
As an injured worker I cannot measure up to	.43	Discard	.21	Poor

Scale Item	I-CVI	I-CVI Label ^a	Modified Kappa	Modified Kappa Label ^b
others, no matter how hard working I am				
I lower my expectations toward life because I am an injured worker	.71	Revise	.66	Good
Being an injured worker makes me lose many opportunities	.71	Revise	.66	Good
Being an injured worker is embarrassing	.57	Revise	.41	Fair
As an injured worker I avoid interacting with others	.43	Discard	.21	Poor
Being an injured worker means that I am weak	.29	Discard	.15	Poor
I would rather use vacation or sick days than file for Worker's Compensation	.43	Discard	.21	Poor
As an injured worker my employer no longer values me	.86	Retain	.85	Excellent
I feel like I am playing the system	.14	Discard	.09	Poor
Injured workers are doomed	.29	Discard	.15	Poor
As an injured worker I feel constantly on edge	.71	Revise	.66	Good
As an injured worker I am a burden on society	.29	Discard	.15	Poor
I feel shame about being an injured worker	.71	Revise	.66	Good
As an injured worker I feel humiliated	.43	Discard	.21	Poor
Being an injured worker means I have to prove how my injury affects me	.71	Revise	.66	Good
I feel undeserving of entitlement to support myself.	.29	Discard	.15	Poor
As an injured worker I feel unworthy of financial aid	.29	Discard	.15	Poor
As an injured worker I feel invisible within the system	.71	Revise	.66	Good
Being an injured worker makes me feel trapped	.43	Discard	.21	Poor
Being an injured worker makes me feel vulnerable	.71	Revise	.66	Good
Being an injured worker makes me powerless	.57	Revise	.41	Fair

Scale Item	I-CVI	I-CVI Label ^a	Modified Kappa	Modified Kappa Label ^b
Others blame me for my work injury	.29	Discard	.15	Poor
Being an injured worker means I'm not the person I used to be	1.00	Retain	1.00	Excellent
As an injured worker, I feel less than others	.57	Revise	.41	Fair
As an injured worker, I am a burden to my loved ones	.57	Revise	.41	Fair
Others don't want me around because I am an injured worker	.29	Discard	.15	Poor
As an injured worker, I feel like just a number in the system	1.00	Retain	1.00	Excellent
Injured workers are just a cost of doing business	.57	Revise	.41	Fair
As an injured worker, I am useless	.57	Revise	.41	Fair
I shouldn't tell others that I'm an injured worker	.57	Revise	.41	Fair
Others don't understand what I'm going through as an injured worker	.71	Revise	.66	Good
Coworkers don't want to work with someone who is an injured worker	.71	Revise	.66	Good
Employers don't want to hire an injured worker	1.00	Retain	1.00	Excellent
Nobody cares about injured workers	.71	Revise	.66	Good
Being an injured worker isolated me from others	.43	Discard	.21	Poor
Being an injured worker makes me feel like a low life	.43	Discard	.21	Poor
Being an injured worker makes me feel like an inconvenience	.57	Revise	.41	Fair
I ignore my work injury to do what I need to do	.57	Revise	.41	Fair
As an injured worker I am afraid of losing what I have	.57	Revise	.41	Fair
If I tell people I'm an injured worker, they'll	.29	Discard	.15	Poor

Scale Item	I-CVI	I-CVI Label ^a	Modified Kappa	Modified Kappa Label ^b
think I am lazy				
Others think I am faking my work injury	.57	Revise	.41	Fair
People make me feel like a criminal for being an injured worker	.29	Discard	.15	Poor

^a I-CVI qualitative labels informed by Almanasreh et al. 2019.
^b Modified Kappa qualitative labels informed by Polit et al. 2007.
^c Item values calculated from 6 ratings.

Based on the I-CVI and κ^* values, seven of the scale items are suitable for retention without major modifications. These items include two modified from Mak and Cheung's (2010) scale of internalized stigma (Whenever I think about being an injured worker, I feel depressed; Being an injured worker taints my life), one item developed from the injured worker literature (Taking injury related absences makes me an unreliable employee), and four items developed from interview content (As an injured worker my employer no longer values me; Being an injured worker means I'm not the person I used to be; As an injured worker, I feel like just a number in the system; Employers don't want to hire an injured worker).

Of the items for retention, three had κ^* values of 1.00, indicating that all of the experts believed the item to be relevant. Of the three, "Being an injured worker means I'm not the person I used to be" performed the best with six *very relevant* ratings and one *quite relevant* rating. The other two items (As an injured worker, I feel like just a number in the system; Employers don't want to hire an injured worker) were rated *very relevant* by five raters and *quite relevant* by two raters.

Scale-Level Content Validity

The S-CVI represents the average proportion of items rated valid across the experts. It was calculated for the full scale (including all 60 scale items), a partial scale that included the 21 items with a κ^* of .6 or higher (considered good to excellent κ^* values), and for the seven items suitable for retention without major modifications. The average proportion of items rated valid by each expert ranged from .15 to .93 in the full scale, .33 to 1.00 in the partial scale, and .83 to 1.00 in the seven-item scale (see Table 3). This indicates that there was a wide range of opinions amongst the raters, especially in the full and partial scales. On average, 55% of the full-scale items and 78% of the partial scale items were rated valid across the experts. The expert opinions contained a considerable amount of disagreement and these S-CVI values fall short of guidelines in the literature that suggest a scale's S-CVI should be at least .90 (Polit & Beck, 2006). In contrast, the seven-item scale had an S-CVI of .93 and would be considered to have acceptable content validity.

Table 3

Scale-Level Indexes in the Full, Partial, and Seven-Item Scale

Scale	Average Proportion of Items Rated Relevant							S-CVI
	Rater 1	Rater 2	Rater 3	Rater 4	Rater 5	Rater 6	Rater 7	
Full	.20	.15	.93	.87	.46	.67	.57	.55
Partial	.43	.33	1.00	1.00	.90	.90	.90	.78
Seven-Item	.83	.67	1.00	1.00	1.00	1.00	1.00	.93

Scale Clarity

As shown in Table 4, The average item clarity ratings ranged from 2.71 (*somewhat clear*) to 4.00 (*completely clear*) and the standard deviation of the ratings ranged from .00 to 1.38. The clarity ratings of the seven items suitable for retention without major modifications ranged from 3.33 (*quite clear*) to 4.00 (*completely clear*) and the standard deviation of the ratings ranged from .00 to .82.

Of the 60 scale items, 18 were rated *quite clear* or *completely clear* by all of the raters. Of those 18, four items were among those suitable for retention without major modifications based on their I-CVI and κ^* values (Whenever I think about being an injured worker, I feel depressed; As an injured worker, my employer no longer values me; As an injured worker, I feel like just a number in the system; and Employers don't want to hire an injured worker). three items were unanimously rated *completely clear*, two of which were rated as suitable for scale retention (As an injured worker, I feel like just a number in the system; Employers don't want to hire an injured worker) and one of which was rated as needing major modifications (Others think I am faking my work injury).

Table 4*Item Clarity Ratings*

Scale Item	Average Clarity Rating	Standard Deviation	% Raters Rating Item Clear
No employer will look past me being an injured worker	3.00	1.15	71.43
Taking injury related absences makes me an unreliable employee ^a	3.33	.82	83.33
I blame myself for my workplace injury	3.43	.53	100.00
I work harder than most to make up for being an injured worker	3.29	.76	85.71
If I do things outside of the house others will think I'm faking my injury	3.57	.79	85.71
I am scared others around town will judge me for being an injured worker	3.14	.90	71.43
Being an injured worker means that I have no control in my life	3.71	.49	100.00
Whenever I think about being an injured worker, I feel depressed	3.57	.53	100.00
As an injured worker I don't deserve to have a fulfilling social life	3.00	1.00	57.14
I hate myself for being an injured worker	3.00	1.00	57.14
I feel guilty for being an injured worker	3.43	.79	85.71
People will think my work injury was my fault	3.29	1.11	85.71

Scale Item	Average Clarity Rating	Standard Deviation	% Raters Rating Item Clear
Others are ashamed to be around injured workers	2.86	1.21	57.14
I need to be on guard, lie, or hide that I'm an injured worker	3.57	.53	100.00
I could not confront a co-worker or acquaintance if they talked poorly about injured workers in front of me	3.00	1.15	71.43
I feel disappointed in myself for being an injured worker	3.29	.76	85.71
Being an injured worker makes my future look bleak and hopeless	3.86	.38	100.00
Being an injured worker taints my life	3.43	.79	85.71
As an injured worker I cannot measure up to others, no matter how hard working I am	3.43	.79	85.71
I lower my expectations toward life because I am an injured worker	3.57	.53	100.00
Being an injured worker makes me lose many opportunities	3.43	.79	85.71
Being an injured worker is embarrassing	3.43	.53	100.00
As an injured worker I avoid interacting with others	3.57	.53	100.00
Being an injured worker means that I am weak	3.29	.76	85.71
I would rather use vacation or sick days than file for Worker's Compensation	3.14	1.21	71.43
As an injured worker my employer no longer values me	3.71	.49	100.00
I feel like I am playing the system	3.00	1.29	57.14
Injured workers are doomed	2.71	1.38	57.14
As an injured worker I feel constantly on edge	3.29	.95	71.43
As an injured worker I am a burden on society	3.43	.79	85.71
I feel shame about being an injured worker	3.86	.38	100.00
As an injured worker I feel humiliated	3.43	.79	85.71
Being an injured worker means I have to prove how my injury affects me	3.57	.53	100.00
I feel undeserving of entitlement to support myself.	2.71	1.25	42.86
As an injured worker I feel unworthy of financial aid	3.14	1.07	57.14
As an injured worker I feel invisible within the system	3.57	.53	100.00
Being an injured worker makes me feel trapped	3.00	1.00	57.14
Being an injured worker makes me feel	3.57	.79	85.71

Scale Item	Average Clarity Rating	Standard Deviation	% Raters Rating Item Clear
vulnerable			
Being an injured worker makes me powerless	3.57	.53	100.00
Others blame me for my work injury	3.29	1.11	85.71
Being an injured worker means I'm not the person I used to be	3.57	.79	85.71
As an injured worker, I feel less than others	3.29	1.11	85.71
As an injured worker, I am a burden to my loved ones	3.57	.53	100.00
Others don't want me around because I am an injured worker	3.29	.76	85.71
As an injured worker, I feel like just a number in the system	4.00	.00	100.00
Injured workers are just a cost of doing business	3.57	.79	85.71
As an injured worker, I am useless	3.43	.79	85.71
I shouldn't tell others that I'm an injured worker	3.43	.79	85.71
Others don't understand what I'm going through as an injured worker	3.71	.76	85.71
Coworkers don't want to work with someone who is an injured worker	3.57	.79	85.71
Employers don't want to hire an injured worker	4.00	.00	100.00
Nobody cares about injured workers	3.71	.76	85.71
Being an injured worker isolated me from others	3.57	.79	85.71
Being an injured worker makes me feel like a low life	2.86	1.21	57.14
Being an injured worker makes me feel like an inconvenience	3.43	.79	85.71
I ignore my work injury to do what I need to do	2.86	1.35	71.43
As an injured worker I am afraid of losing what I have	3.14	1.21	71.43
If I tell people I'm an injured worker, they'll think I am lazy	3.86	.38	100.00
Others think I am faking my work injury	4.00	.00	100.00
People make me feel like a criminal for being an injured worker	3.14	1.07	57.14
^a Item values calculated from 6 ratings.			

Scale Readability

The study's target range of reading ease score is 70-80. The scale's items averaged 10 words per sentence and 149 syllables per 100 words. Therefore, the scale's Flesch Reading Ease score for the full scale was 70.3, which is within the study's target range of reading ease score. However, the seven items suitable for retention averaged 10 words per sentence and 159 syllables per 100 words. Therefore, the seven-item scale had a readability score of 62, corresponding to a Grade 7 or 8 reading level (DeVellis & Thorpe, 2021). The reading level of the seven items is outside of the study's target range of reading ease score.

In the qualitative feedback section of the content validity assessment form, 3 raters commented about the clarity or wording of items. One rater commented that many injured workers have limited literacy and/or are non-native English speakers; therefore, the wording of items should be modified to be written in plain language and to better resonate with injured workers. Similarly, another rater commented that they found some of the word choices in the scale items confusing as to what they were referring to. Overall, the findings suggest a review of the scale wording is needed to improve the scale readability and accessibility, especially within the items that were considered content valid.

Qualitative Feedback

Additional qualitative feedback included suggestions for additional topics to be covered and considerations for the scale moving forward. Topic suggestions included questions around treatment by the WSIB or employer, workplace accommodations, financial dependence on the WSIB's policies, and items relating to stereotypes such as injured workers are exaggerating, do not want to work, and are not trying hard enough. Considerations moving forward included that some of the items were derogatory, hurtful, or traumatizing for injured workers and should be trauma informed; that the items may get different responses at different times; and that there are

additional systemic barriers for non-native English speakers, migrant workers, undocumented individuals, and people who belong to ethnic minorities. Changes to the content validity assessment form may also be needed as one respondent reported that it was difficult to add their comments for rationale as to what was needed to make items more clear or relevant.

Other considerations included a mix of responses towards the topic of internalized stigma and the research approach. Some participants expressed gratitude that the research was being done, with hope it would bolster the credibility of injured workers. However, other respondents expressed concern about the emphasis on individual experiences. For example, one respondent stated that the approach “reinforces the dominant myth that stigma is deserved, that it’s the injured worker’s fault, or that these are isolated instances.” The respondent would prefer that the structural nature of stigma be addressed instead. In addition, they spoke to the value of lived experience and community-led perspectives rather than academic-led perspectives.

Discussion

The present study was designed to create a content-validated set of scale items to measure internalized injured worker stigma based on the injured worker and stigma literatures and lived experiences of injured workers. Interviews contributed knowledge to the scale development and conceptualization of internalized injured worker stigma, for example the impact of systemic inequities and their resulting harm were emphasized. The results of the content validity analysis showed that the item pool created contained seven scale items that met the criteria for retention without major revisions, 29 items that need revision, and 24 items that will be discarded. The scale as a whole did not meet the criteria needed for overall agreement between the experts. Several qualitative comments by the expert reviewers can inform the next steps to improve the scale as its development continues.

Experiences and Perceptions of Injured Worker Stigma

The interview portion of the study contributes to the injured worker literature by adding to the body of work that investigate injured worker's experiences and perceptions of stigma and its internalization. It also gave injured workers the opportunity to contribute to the development of a stigma scale. Many of the resulting themes from this study confirmed what was known from the literature. For example, *playing the system* reflected the most common stereotype that injured workers are faking or exaggerating their injury for gain. Previous studies (e.g., Lippel, 2007; Kirsh et al., 2012) found that injured workers are assumed to be illegitimately claiming compensation for personal benefit. The interview participants further described the emotional impact of having to explain their injury and need for compensation or accommodations in efforts to justify themselves.

The theme *shattered assumptions and worldview* adds to sentiments that have been voiced in other interview studies but have not been construed as an overarching theme. For instance, a participant in Kirsh et al. (2012) described feeling like “a number waiting to be replaced” as an injured worker. Injured workers experiencing a loss of trust and expressing feelings of personal triviality is a pattern that may merit further investigation from researchers.

The theme *structural mechanisms of control* emphasized the impact of systemic control that leads to vulnerability and internalized feelings of disempowerment and helplessness. The issue of structural control and power differentials is seen throughout the injured worker literature. It has been noted that stringent WCB policies reinforce exclusion from the work force and exacerbate the risk of living in poverty, ill-health and social marginalization (Ståhl et al., 2022). Injured workers face potential loss of income should they not comply with plans for rehabilitation and return to work put forth by WCBs and employers. Due to their disadvantaged

position, injured workers commonly report feeling trapped, helpless, and vulnerable (Beardwood et al., 2005; Lippel, 2007). Similar sentiments were noted in the interviews, where participants were fearful of living in poverty and losing access to their income.

Corrigan's progressive model of internalized stigma notes that stigma awareness precedes internalized stigma which is the acceptance and application of the stigma to the self (Corrigan et al., 2006). The interview participants discussed a pattern of awareness of the stigma injured workers face; all noted concerns about how they would be perceived by others and discussed common injured worker stereotypes. However, in comparison to the injured worker and stigma literatures, acceptance and application of internalized stigma did not appear as prominently as expected in the interviews. It is theorized that stigma internalization is dependent on an individual's identification with the stigmatized group and perceived legitimacy of the stigmatization (Corrigan & Watson, 2002). The participants gave the impression of identifying with the label of injured worker. It is possible that the low agreement and application of the stigma is due to low perceived legitimacy of the common injured worker stereotypes.

Despite the lower-than-expected prevalence of stigma agreement and application to the self, the interview participants described harm from stigma consistent with patterns of harm from internalized stigma (e.g., social withdrawal, reduced self-esteem and self-efficacy, behavioural futility, and severe mental distress). Similar to previous findings in the literature, the interview participants disclosed having experienced significant amounts of mental distress. In Lippel's (2007) interviews study, 40% of the participants disclosed having suicidal ideation. In the current study, 60% of the participants discussed historical suicidality related to their work injury and resulting discrimination. The progressive model of self-stigma focuses predominantly on the process of internalized stigma stemming from public stereotypes and attitudes, with little to no

mention of structural power differentials (Corrigan & Rao, 2012). The prevalence of structural mechanisms in injured worker's perceptions of stigma calls into question whether power inequities lead to internalization of the structural stigma.

Limits to the Scope of Transferability

Although the responsibility of deciding whether study findings are transferable to the context of another study resides with the reader (Yardley, 2015), there are some factors that may limit the transferability of the study findings. As previously discussed, ethnicity has been noted as a modifier of stigma; injured workers who are also marginalized based on their ethnicity tend to face increased levels of stigma and discrimination. As all of the interview participants are White, the intersectionality of injured worker identity and marginalized ethnicity was not captured by the current study. Another limiting factor is the geographical location of the participants, as all reside in Ontario. WCBs are provincially governed, therefore policies and procedures- and by extension the specifics of the stigma they cause- may differ in other provinces and countries.

Content Valid Items

The seven items that were identified by the raters as content valid include a mix of items that reflect the resulting interview themes, as well as emotions and cognitions associated with internalized stigma that are commonly seen in stigma measures.

Two of the seven content valid items (Whenever I think about being an injured worker, I feel depressed and Being an injured worker taints my life) do not directly map onto the themes described by injured workers. These items were adapted from existing scales of internalized

stigma. They were included in the developed item pool to reflect broad self-defeating cognitions that have been noted to be common in those that internalize stigma (Mak & Cheung, 2010).

Five of the seven content valid items (Taking injury related absences makes me an unreliable employee; As an injured worker my employer no longer values me; Being an injured worker means I'm not the person I used to be; As an injured worker, I feel like just a number in the system; and Employers don't want to hire an injured worker) reflect the themes developed based on the interview participant's perceptions of stigma. For example, the item "As an injured worker, I feel like just a number in the system" was developed to reflect the sentiments of insignificance voiced by workers and captured by the theme *Shattered Assumptions and Worldview*. The items that reflect internalized sentiments from stigma perpetrated by employers (Employers don't want to hire an injured worker; Taking injury-related absences makes me an unreliable employee; As an injured worker, my employer no longer values me) may fit thematically within the theme *Contribution as Value*. They reflect the change to an injured worker's "value" in the eyes of an employer. Similarly, the item "Being an injured worker means I'm not the person I used to be" was created to reflect the identity shift that accompanies the injury and devaluation, which was also encompassed by the theme *Contribution as Value*.

It is interesting to note that the content valid items do not reflect the theme *Playing the System*. Although the theme was described prominently in both interviews and the injured worker literature, items created to reflect the theme (perceived judgement of faking injuries, being questioned, feeling not understood, and injured workers having to prove or justify their injury) were not agreed upon by experts to be relevant to internalized injured worker stigma. According to Corrigan's model of internalized stigma, an individual is more likely to respond with righteous anger instead of internalization if the public stigma is not seen as legitimate (Corrigan et al.,

2002). Therefore, one possible interpretation is that such stereotypes (that injured workers are faking it, are lazy, or are malingering) may not be perceived as legitimate by injured workers, as they experience the real implications of their injury. Knowing that their injury is legitimate, and the public opinion is not, would mean that the sentiments are not internalized.

Focus on Internalization

The current study focused on internalized stigma as an aspect of the broader stigma that injured workers faces. This research decision was received with mixed feelings from the participants who completed the Content Validity Feedback Form. In particular, there was concern that the focus on the individual experience of stigma disregards the structural nature of policies and procedures that perpetuate the stigma in the first place. This criticism ties into a broader criticism of current stigma research and literature, in that stigma researchers do not place enough emphasis on the structural conditions of stigma and stigma as a social determinant of health (Hatzenbuehler et al., 2013). Indeed, a bibliometric analysis of the stigma literature found that between 1998–2018 an emerging trend was an increased focus on internalized stigma (Chen et al., 2020). The individualistic focus of stigma research has been criticized as facilitating misunderstandings that stigma is something that resides within an individual rather than a social phenomenon applied towards the stigmatized individual (Link & Phelan, 2001).

While internalized stigma could not exist without the influence of public and structural stigmas, internalized stigma frameworks could be expanded to include further context and emphasis on the relationships between these components of stigma. Corrigan's model explains the progression of stereotype internalization but does not address other structural and public components and contexts. Additionally, models such as Mak and Cheung's could be modified in their wording to clarify the nature of the components of internalized stigma. For example, rather

than “self-stigmatizing behaviours,” they could be conceptualized as behaviours associated with internalized stigma or “safety-seeking behaviours” (Wood et al., 2017).

Although the current study does fall into trends criticized within the stigma field, the importance of structural factors came through clearly in the interviews with study participants. Future research can incorporate these factors further into studies and work on bringing contextual pieces to the forefront.

Scale Content Concerns

Additionally, there were concerns that some of the scale items are potentially insulting for injured workers to complete, lack context, and are derogatory in nature. These criticisms are similar to criticisms of some internalized stigma measures, as items separate experiences from the latent construct in a way that does not always resonate with those who have lived experiences and has been called “dehumanizing” (Mathison, 2019).

In her criticism of stigma scales, Mathison suggested the value of lived experience as a potential solution. Having those with lived experience guide item creation in a way that resonates with them and allows for their full story to be measured should be the goal. An example of a researcher incorporating feedback from individuals with lived experience is the development of the *Self-Stigma of Mental Illness Scale—Short Form* by Corrigan and colleagues (2011). The scale was modified in accordance with feedback from individuals with lived experience to remove stereotypes included in the scale that were especially offensive. The importance of including qualitative perspectives of individuals with lived experience has been noted to be important in stigma research, as it provides insights and nuance that would otherwise be unbeknownst to researchers (Stutterheim & Ratcliffe, 2021). Although stigmatizing items are

insulting by their nature, quantitative measures should not exacerbate their insult. The inclusion of individuals with lived experience is thus essential.

Study Limitations

Limitations of Content Validity

The finding that the majority of the scale's items were below the recommended thresholds for agreement among experts is not unexpected, as scales often go through multiple rounds of feedback and revision for content validity to be determined (Almanasreh et al., 2019; Lynn, 1985). However, there are several influencing factors that may have impacted the content validity ratings including the study definition of internalized stigma and the composition of the expert rater group.

The quality of the content validity assessment is dependent on the definition of the construct that is being measured, as the definition provides experts with the context of the construct boundaries (DeVellis & Thorpe, 2022). The current study defined internalized injured worker stigma as “The negative attitudes, including internalized shame, that people with workplace injuries may have about being an injured worker.” The scope of the definition is rather broad in that it is not limited to injured workers with specific injuries. Similarly, it is not context-specific; the scale items could apply to an injured worker at any point during their claim, recovery, or return to work. While a broad definition does increase the potential applications of a scale, it does place a greater responsibility onto the expert raters to consider various populations and contexts when determining whether an item is relevant (DeVellis & Thorpe, 2022). Thus, the broad definition of internalized injured worker stigma may have contributed to the variation in expert responses.

The quality of the content validity assessment is also dependent on the composition and knowledge of the expert rating group. Based on recommendations in the literature, the group of raters included both those with knowledge about injured worker stigma (such as injured worker advocates and researchers) and members of the target population (i.e., injured workers; Boateng et al., 2018). Majority of the rating group had knowledge from positions in research or advocacy as well as lived experience and are considered very knowledgeable in the subject area. While this is a strength of the study, the overall representativeness of the group compared to the general population is unknown as demographic details (such as ethnicity and level of education) were not included in the content validity assessment form.

Dichotomization of Data

One limitation of the chosen content validity statistical measure is that the CVI involves dichotomizing scores by condensing its four-point Likert scale into a two-point scale. The dichotomization of variables results in lost information and reduced power of statistical tests (Streiner, 2002). In the context of the current study, the dichotomization creates hidden disagreements (i.e., *not at all* and *somewhat* are treated equally; *quite* and *very or completely* are treated equally) that inflate the chance of raters agreeing on the relevance of an item (Ibrahim et al., 2023; Wynd et al., 2003). The inclusion of modified kappa adjusts I-CVI values to control for chance agreement, however review of the original responses is also necessary to see the full picture of the expert rater opinions (if interested, see Appendix D for a summary of the undichotomized survey ratings in Tables D1 and D2).

Information Power

The information power of the study's interviews is likely lower than ideal and a possible limitation of the study. Malterud et al. (2016) posit that six to 10 participants would be sufficient

for a study with a narrow aim, specific sample, a strong theoretical background, focused dialogue, and case-study approach. In comparison, the current study had six participants, a moderate aim, limited specificity, an inductive approach, dialogue that was at times unfocused and ambiguous, and an exploratory analysis. Internalized stigma is also an abstract topic that is personal in nature and may be considered difficult to reflect on or awkward to discuss. Therefore, it is a possibility that more interviews were needed to draw a clearer picture of the stigma internalization (Morse, 2000). While the interviews were used to supplement the literature content by identifying some additional scale items, they are unable to capture the entire phenomenon of internalized injured worker stigma. Recruitment of more participants would have bolstered the information power of the study.

Study Strengths

A strength of the study is that it acknowledged and valued the expertise of those with lived experiences. Throughout the project, informal consultations were held with CIWA to review the study goals and interview guide from an injured worker perspective. The interviews and rating group feedback allowed researchers to work towards a shared understanding of injured worker stigma that uses both discipline-based knowledge and knowledge from lived experience.

Next Steps

The process of a scale development is broken down by Boateng and colleagues (2018) into three phases, containing three steps each. The current study completed the first phase of a scale development, which included domain identification, item generation, and content validation. While the content validity assessment resulted in seven items that met criteria for inclusion in the future scale, further revisions to the scale content are necessary to address rater

concerns about the language used, the scale content, and the potentially harmful phrasing of items. Next steps could also include holding focus groups with injured workers to include a broader range of perspectives from those with lived experience. Inviting further, in-depth, community feedback on the project will ensure any future scale will meet their needs and goals. Once modifications are made, it would be reasonable to then complete the second phase of scale development by doing a sample survey administration to test the item's internal consistency and factorial structure.

Language Complexity

Next steps include revision of scale items to use plain language that will resonate with injured workers. Although the study's measure of readability indicated that the scale items were suitable for a Grade 6 reading level, this may be an underestimation of the item complexity. A noted weakness of readability measures is that the estimation of text complexity is less accurate when the text samples use easy words to present complex ideas (Kotula, 2003). In addition, the rating group feedback reflected that the language of the scale items need modification to increase their clarity, especially for injured workers with English as a second language. In future work, it would be beneficial to lower the required reading level for scale items and seek additional consultation from those with lived experience or expertise in plain language writing.

Item Content

Based on the feedback from the rating group, the scale content will also require revision. To increase the representativeness of the scale, items concerning treatment by WCBs or employer, workplace accommodations, financial dependence on the WSIB's policies, and items relating to stereotypes such as injured workers are exaggerating, do not want to work, and are not trying hard enough will be added. Additionally, to ensure the scale does not cause harm, items

will be revised to reduce the potential that they will be invalidating or hurtful for injured workers to complete.

Content Validity Form

Should a content validity form be used again in the future, the format of the form should be modified, as it was noted by a participant that it was difficult to provide reasoning for the item ratings in the current form. A future form should clarify the intended rating scale metric, include a demographics section, have opportunities for participant feedback relating to each item, and explain the structure of the scale's theoretical foundation. To ensure that items fit within the intended theoretical framework, raters could also be asked to sort the potential items into given categories (i.e., cognition, emotion, or behaviour; Grant & Davis, 1997). Such improvements would facilitate understanding of the developed scale, allow raters to explain their reasoning for their ratings, and provide researchers with further guidance about what aspects of the scale to modify.

Conclusion

The purpose of a content validity analysis is to minimize the potential error variance of a developed scale (by ensuring it does not measure irrelevant, confounding constructs) and to potentially increase the scale's overall construct validity. Having a well-constructed measure that has been content validated is the first step in developing an accurate, valid, and reliable measure. Although the study's scale requires further refinement to best serve injured workers, future research can continue to work towards the development of a measure of internalized stigma for injured workers. The future scale will facilitate recognition of internalized stigma in the injured worker population as well as its use as a variable in research, intervention efforts, and theoretical models (Haynes et al., 1995). Given that 8-12% of the Canadian workforce is off work due to

injury at any moment (Statistics Canada, 2017), a measure of internalized injured worker stigma could support many people in advocating for further research, intervention programs, and policy changes.

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Appendix A

Interview Guide

Study: The Development and Content Validation of an Injured Worker Stigma Scale

Investigators: Dr. Amanda Maranzan, Lauren Reynolds.

1. Demographics (age, sex/gender, work sector, type of injury, time since injury, support received from agency, location i.e., current province of residence)
2. Can you tell me about your history and injury?
3. What has it been like to be an injured worker?
4. Have you experienced stigma because of your work injury?
 - Are there other ways you've experienced stigma?
5. How would you define injured worker stigma, what does it mean to you?
 - Do some examples of stigma come to mind?
6. Did your stigma experiences change the way you thought or felt about yourself?
 - How did it impact how you felt? How you thought? How you behaved?
 - How was your self-worth/self-esteem?
 - Did stigma experiences impact your relationships (family, friends, co-workers)?
 - Did stigma experiences impact your participation in hobbies or other activities?
7. If we were to measure self-stigma in injured workers, what do you think would be most important to include in a questionnaire? (interviewer can review definition of self-stigma, if needed).
8. Is there anything else you would like to add?

Appendix B
Developed Scale Items

Table B*Developed Scale Items*

Scale Item	Method of Construction
No employer will look past me being an injured worker	IND/DED
Taking injury related absences makes me an unreliable employee	DED
I blame myself for my workplace injury	DED
I work harder than most to make up for being an injured worker	IND/DED
If I do things outside of the house others will think I'm faking my injury	IND/DED
I am scared others around town will judge me for being an injured worker	IND/DED
Being an injured worker means that I have no control in my life	DED
Whenever I think about being an injured worker, I feel depressed	DED
As an injured worker I don't deserve to have a fulfilling social life	DED
I hate myself for being an injured worker	DED
I feel guilty for being an injured worker	IND/DED
People will think my work injury was my fault	IND/DED
Others are ashamed to be around injured workers	DED
I need to be on guard, lie, or hide that I'm an injured worker	DED
I could not confront a co-worker or acquaintance if they talked poorly about injured workers in front of me	DED
I feel disappointed in myself for being an injured worker	IND/DED
Being an injured worker makes my future look bleak and hopeless	DED
Being an injured worker taints my life	IND/DED
As an injured worker I cannot measure up to others, no matter how hard working I am	IND/DED
I lower my expectations toward life because I am an injured worker	DED
Being an injured worker makes me lose many opportunities	IND/DED
Being an injured worker is embarrassing	IND/DED
As an injured worker I avoid interacting with others	IND/DED
Being an injured worker means that I am weak	DED
I would rather use vacation or sick days than file for Worker's Compensation	DED
As an injured worker my employer no longer values me	IND/DED
I feel like I am playing the system	IND/DED
Injured workers are doomed	DED
As an injured worker I feel constantly on edge	DED

Scale Item	Method of Construction
As an injured worker I am a burden on society	IND/DED
I feel shame about being an injured worker	IND/DED
As an injured worker I feel humiliated	IND/DED
Being an injured worker means I have to prove how my injury affects me	IND/DED
I feel undeserving of entitlement to support myself.	IND
As an injured worker I feel unworthy of financial aid	IND
As an injured worker I feel invisible within the system	IND/DED
Being an injured worker makes me feel trapped	IND
Being an injured worker makes me feel vulnerable	IND
Being an injured worker makes me powerless	IND/DED
Others blame me for my work injury	IND
Being an injured worker means I'm not the person I used to be	IND
As an injured worker, I feel less than others	IND
As an injured worker, I am a burden to my loved ones	IND
Others don't want me around because I am an injured worker	IND
As an injured worker, I feel like just a number in the system	IND/DED
Injured workers are just a cost of doing business	IND/DED
As an injured worker, I am useless	IND
I shouldn't tell others that I'm an injured worker	IND/DED
Others don't understand what I'm going through as an injured worker	IND
Coworkers don't want to work with someone who is an injured worker	IND
Employers don't want to hire an injured worker	IND/DED
Nobody cares about injured workers	IND
Being an injured worker isolated me from others	IND/DED
Being an injured worker makes me feel like a low life	IND
Being an injured worker makes me feel like an inconvenience	IND
I ignore my work injury to do what I need to do	IND
As an injured worker I am afraid of losing what I have	IND
If I tell people I'm an injured worker, they'll think I am lazy	IND/DED
Others think I am faking my work injury	IND/DED
People make me feel like a criminal for being an injured worker	IND/DED

Note. IND= Item inductively constructed, DND= Item deductively constructed,
IND/DND= Item both inductively and deductively constructed

Appendix C

Content Validity Questionnaire

Study Information Letter

Study: The Development and Content Validation of an Injured Worker Stigma Scale Investigators: Dr.

Amanda Maranzan, Lauren Reynolds.

You are invited to participate in a study being conducted through the Department of Psychology at Lakehead University. Our study focuses on stigma that injured workers experience. Stigma is the negative judgement and discrimination of an individual based on a devalued trait, such as being an injured worker. Because stigma is common, people experience stigma frequently and from many sources. When this happens, the people facing stigma can believe the negative judgement and begin to apply it to themselves. The application of stigma to the self is called self-stigma or internalized stigma. Research shows that internalized stigma results in more mental health challenges, increased stress, lowered self-esteem, and reduced recovery for injured workers.

The overall goal of our project is to develop a scale that will measure internalized stigma in injured worker populations. This project will accomplish the initial stages of a scale development. Scale items have been created by analyzing themes within interviews and the injured worker literature. The next step is to ensure that the items have appropriate content validity. Content validity is the level of relevance and representativeness that developed items have to the construct being measured (internalized injured worker stigma). When a scale has good content validity, it should measure every characterizing facet of the construct and not measure another, irrelevant construct.

What will I be asked to do?

You are being invited to review the developed scale items and rate their relevance, accuracy, and clarity as well as provide feedback about how well the construct has been captured by the items and any other comments or concerns you may have.

To thank you for your time, you will receive a \$50 honorarium at the conclusion of the survey.

Do I have to participate?

No, you don't have to participate in this study. If you choose to participate, it is your own voluntary decision. You don't have to answer any questions that you don't want to. You can refuse to participate in any or all parts of the study. You can withdraw from the study at any time by contacting the researcher (email Lauren Reynolds: lereynol@lakeheadu.ca or Dr. Maranzan: kamaranz@lakeheadu.ca).

What are the risks and benefits?

Risks are minimal for involvement in this study. Confidentiality can be guaranteed by the research team. We acknowledge that the scale items may include potentially distressing topics; please note that mental health resources are provided at the end of this letter, should you experience distress during or after the survey completion. This study will benefit society through knowledge building and understanding of the experiences of stigma in injured worker populations. The planned scale will allow for future research to quantify stigma and investigate it as an

outcome or variable of interest in studies, ultimately increasing the knowledge about stigma's impacts and potential opportunities for intervention.

How will my information be handled?

Please note that the online survey tool used in the study, (SurveyMonkey), is hosted by a server located in the USA. The US Patriot Act permits U.S. law enforcement officials, for the purpose of anti-terrorism investigation, to seek a court order that allows access to the personal records of any person without the person's knowledge. In view of this we cannot absolutely guarantee the full confidentiality and anonymity of your data. With your consent to participate in this study, you acknowledge this.

Once completed, the survey data will be downloaded and deleted from SurveyMonkey. All data will be stored securely by Amanda Maranzan at Lakehead University for a minimum of 7 years. Secure storage will consist of the information being kept on a password-protected USB, in a locked filing cabinet, in a locked room, and accessible only by the PI.

How will the research findings be shared?

To share overall project findings, we will prepare a project summary report describing the project implementation process and project outcomes that will be shared with participants upon request.

What if I want further information?

If you want further information about this study, you can contact the Principal Investigator, Dr. Amanda Maranzan (Email: kamaranz@lakeheadu.ca) or co-investigator, Lauren Reynolds (Email: lereynol@lakeheadu.ca)

This research study has been reviewed and approved by the Lakehead University Research Ethics Board. If you have any questions related to the ethics of the research and would like to speak to someone outside of the research team please contact Sue Wright, Lakehead University Research Ethics Board, at (807) 343-8010 ext. 8283 or research@lakeheadu.ca.

Thank you for considering participating in this study.

On behalf of the research team,

Dr. Amanda Maranzan, Ph.D., C. Psych.

Associate Professor; Director of Clinical Programs Department of Psychology, Lakehead University

Lauren Reynolds
Graduate Student

Department of Psychology, Lakehead University

*** 1. Consent Statements**

By signing below, I agree that:

1. I have read and understood the information provided to me about this study.
2. I agree to participate.
3. I am a volunteer and can withdraw from the study at any time and may choose not to answer any question in the survey.
4. The data I provide will be securely stored at Lakehead University for a minimum of seven years.
5. I will remain anonymous in any publication/public presentation of the research findings.

First name

Last name

2. If you would like to receive an emailed summary about the research findings (once the study is complete) please provide your preferred email here:

Email address

3. Would you like to receive a \$50 gift card as an honorarium for your participation?

- Yes
- No

4. If you would like to receive a \$50 gift card as an honorarium, please include your name and email address below

Name

Email Address

5. What type of gift card would you prefer to receive?

- Amazon
- Walmart
- Indigo Books

6. Internalized injured worker stigma definition: The negative attitudes, including internalized shame, that people with workplace injuries may have about being an injured worker.

Based on this definition and your experiences with injured workers, please rate the following item:

No employer will look past me being an injured worker

	Not at all	Somewhat (needs major revision)	Quite (needs minor revision)	Very or Completely
The item is relevant	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The item is clear	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

7. Internalized injured worker stigma definition: The negative attitudes, including internalized shame, that people with workplace injuries may have about being an injured worker.

Based on this definition and your experiences with injured workers, please rate the following item:

Taking injury-related absences makes me an unreliable employee

	Not at all	Somewhat (needs major revision)	Quite (needs minor revision)	Very or Completely
The item is relevant	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The item is clear	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

8. Internalized injured worker stigma definition: The negative attitudes, including internalized shame, that people with workplace injuries may have about being an injured worker.

Based on this definition and your experiences with injured workers, please rate the following item:

I blame myself for my workplace injury

	Not at all	Somewhat (needs major revision)	Quite (needs minor revision)	Very or Completely
The item is relevant	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The item is clear	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

9. Internalized injured worker stigma definition: The negative attitudes, including

internalized shame, that people with workplace injuries may have about being an injured worker.

Based on this definition and your experiences with injured workers, please rate the following item:

I work harder than most to make up for being an injured worker

	Not at all	Somewhat (needs major revision)	Quite (needs minor revision)	Very or Completely
The item is relevant	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The item is clear	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

10. Internalized injured worker stigma definition: The negative attitudes, including internalized shame, that people with workplace injuries may have about being an injured worker.

Based on this definition and your experiences with injured workers, please rate the following item:

If I do things outside of the house others will think I'm faking my injury

	Not at all	Somewhat (needs major revision)	Quite (needs minor revision)	Very or Completely
The item is relevant	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The item is clear	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

11. Internalized injured worker stigma definition: The negative attitudes, including internalized shame, that people with workplace injuries may have about being an injured worker.

Based on this definition and your experiences with injured workers, please rate the following item:

I am scared others around town will judge me for being an injured worker

	Not at all	Somewhat (needs major revision)	Quite (needs minor revision)	Very or Completely
The item is relevant	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The item is clear	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

12. Internalized injured worker stigma definition: The negative attitudes, including

internalized shame, that people with workplace injuries may have about being an injured worker.

Based on this definition and your experiences with injured workers, please rate the following item:

Being an injured worker means that I have no control in my life

	Not at all	Somewhat (needs major revision)	Quite (needs minor revision)	Very or Completely
The item is relevant	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The item is clear	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

13. Internalized injured worker stigma definition: The negative attitudes, including internalized shame, that people with workplace injuries may have about being an injured worker.

Based on this definition and your experiences with injured workers, please rate the following item:

Whenever I think about being an injured worker, I feel depressed

	Not at all	Somewhat (needs major revision)	Quite (needs minor revision)	Very or Completely
The item is relevant	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The item is clear	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

14. Internalized injured worker stigma definition: The negative attitudes, including internalized shame, that people with workplace injuries may have about being an injured worker.

Based on this definition and your experiences with injured workers, please rate the following item:

As an injured worker I don't deserve to have a fulfilling social life

	Not at all	Somewhat (needs major revision)	Quite (needs minor revision)	Very or Completely
The item is relevant	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The item is clear	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

15. Internalized injured worker stigma definition: The negative attitudes, including internalized shame, that people with workplace injuries may have about being an injured worker.

Based on this definition and your experiences with injured workers, please rate the following item:

I feel guilty for being an injured worker

	Not at all	Somewhat (needs major revision)	Quite (needs minor revision)	Very or Completely
The item is relevant	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The item is clear	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

16. Internalized injured worker stigma definition: The negative attitudes, including internalized shame, that people with workplace injuries may have about being an injured worker.

Based on this definition and your experiences with injured workers, please rate the following item:

People will think my work injury was my fault

	Not at all	Somewhat (needs major revision)	Quite (needs minor revision)	Very or Completely
The item is relevant	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The item is clear	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

17. Internalized injured worker stigma definition: The negative attitudes, including internalized shame, that people with workplace injuries may have about being an injured worker.

Based on this definition and your experiences with injured workers, please rate the following item:

Others are ashamed to be around injured workers

	Not at all	Somewhat (needs major revision)	Quite (needs minor revision)	Very or Completely
The item is relevant	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The item is clear	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

18. Internalized injured worker stigma definition: The negative attitudes, including

internalized shame, that people with workplace injuries may have about being an injured worker.

Based on this definition and your experiences with injured workers, please rate the following item:

I feel the need to be on guard, lie, or hide that I'm an injured worker

	Not at all	Somewhat (needs major revision)	Quite (needs minor revision)	Very or Completely
The item is relevant	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The item is clear	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

19. Internalized injured worker stigma definition: The negative attitudes, including internalized shame, that people with workplace injuries may have about being an injured worker.

Based on this definition and your experiences with injured workers, please rate the following item:

I could not confront a co-worker or acquaintance if they talked poorly about injured workers in front of me

	Not at all	Somewhat (needs major revision)	Quite (needs minor revision)	Very or Completely
The item is relevant	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The item is clear	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

20. Internalized injured worker stigma definition: The negative attitudes, including internalized shame, that people with workplace injuries may have about being an injured worker.

Based on this definition and your experiences with injured workers, please rate the following item:

I feel disappointed in myself for being an injured worker

	Not at all	Somewhat (needs major revision)	Quite (needs minor revision)	Very or Completely
The item is relevant	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The item is clear	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

21. Internalized injured worker stigma definition: The negative attitudes, including

internalized shame, that people with workplace injuries may have about being an injured worker.

Based on this definition and your experiences with injured workers, please rate the following item:

Being an injured worker makes my future look bleak and hopeless

	Not at all	Somewhat (needs major revision)	Quite (needs minor revision)	Very or Completely
The item is relevant	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The item is clear	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

22. Internalized injured worker stigma definition: The negative attitudes, including internalized shame, that people with workplace injuries may have about being an injured worker.

Based on this definition and your experiences with injured workers, please rate the following item:

Being an injured worker taints my life

	Not at all	Somewhat (needs major revision)	Quite (needs minor revision)	Very or Completely
The item is relevant	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The item is clear	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

23. Internalized injured worker stigma definition: The negative attitudes, including internalized shame, that people with workplace injuries may have about being an injured worker.

Based on this definition and your experiences with injured workers, please rate the following item:

As an injured worker I cannot measure up to others, no matter how hard working I am

	Not at all	Somewhat (needs major revision)	Quite (needs minor revision)	Very or Completely
The item is relevant	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The item is clear	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

24. Internalized injured worker stigma definition: The negative attitudes, including

internalized shame, that people with workplace injuries may have about being an injured worker.

Based on this definition and your experiences with injured workers, please rate the following item:

I lower my expectations toward life because I am an injured worker

	Not at all	Somewhat (needs major revision)	Quite (needs minor revision)	Very or Completely
The item is relevant	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The item is clear	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

25. Internalized injured worker stigma definition: The negative attitudes, including internalized shame, that people with workplace injuries may have about being an injured worker.

Based on this definition and your experiences with injured workers, please rate the following item:

Being an injured worker makes me lose many opportunities

	Not at all	Somewhat (needs major revision)	Quite (needs minor revision)	Very or Completely
The item is relevant	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The item is clear	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

26. Internalized injured worker stigma definition: The negative attitudes, including internalized shame, that people with workplace injuries may have about being an injured worker.

Based on this definition and your experiences with injured workers, please rate the following item:

Being an injured worker is embarrassing

	Not at all	Somewhat (needs major revision)	Quite (needs minor revision)	Very or Completely
The item is relevant	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The item is clear	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

27. Internalized injured worker stigma definition: The negative attitudes, including

internalized shame, that people with workplace injuries may have about being an injured worker.

Based on this definition and your experiences with injured workers, please rate the following item:

As an injured worker I avoid interacting with others

	Not at all	Somewhat (needs major revision)	Quite (needs minor revision)	Very or Completely
The item is relevant	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The item is clear	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

28. Internalized injured worker stigma definition: The negative attitudes, including internalized shame, that people with workplace injuries may have about being an injured worker.

Based on this definition and your experiences with injured workers, please rate the following item:

Being an injured worker means that I am weak

	Not at all	Somewhat (needs major revision)	Quite (needs minor revision)	Very or Completely
The item is relevant	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The item is clear	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

29. Internalized injured worker stigma definition: The negative attitudes, including internalized shame, that people with workplace injuries may have about being an injured worker.

Based on this definition and your experiences with injured workers, please rate the following item:

I would rather use vacation or sick days than file for Worker's Compensation

	Not at all	Somewhat (needs major revision)	Quite (needs minor revision)	Very or Completely
The item is relevant	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The item is clear	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

30. Internalized injured worker stigma definition: The negative attitudes, including

internalized shame, that people with workplace injuries may have about being an injured worker.

Based on this definition and your experiences with injured workers, please rate the following item:

As an injured worker my employer no longer values me

	Not at all	Somewhat (needs major revision)	Quite (needs minor revision)	Very or Completely
The item is relevant	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The item is clear	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

31. Internalized injured worker stigma definition: The negative attitudes, including internalized shame, that people with workplace injuries may have about being an injured worker.

Based on this definition and your experiences with injured workers, please rate the following item:

I feel like I am playing the system

	Not at all	Somewhat (needs major revision)	Quite (needs minor revision)	Very or Completely
The item is relevant	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The item is clear	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

32. Internalized injured worker stigma definition: The negative attitudes, including internalized shame, that people with workplace injuries may have about being an injured worker.

Based on this definition and your experiences with injured workers, please rate the following item:

Injured workers are doomed

	Not at all	Somewhat (needs major revision)	Quite (needs minor revision)	Very or Completely
The item is relevant	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The item is clear	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

33. Internalized injured worker stigma definition: The negative attitudes, including

internalized shame, that people with workplace injuries may have about being an injured worker.

Based on this definition and your experiences with injured workers, please rate the following item:

As an injured worker I feel constantly on edge

	Not at all	Somewhat (needs major revision)	Quite (needs minor revision)	Very or Completely
The item is relevant	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The item is clear	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

34. Internalized injured worker stigma definition: The negative attitudes, including internalized shame, that people with workplace injuries may have about being an injured worker.

Based on this definition and your experiences with injured workers, please rate the following item:

As an injured worker I am a burden on society

	Not at all	Somewhat (needs major revision)	Quite (needs minor revision)	Very or Completely
The item is relevant	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The item is clear	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

35. Internalized injured worker stigma definition: The negative attitudes, including internalized shame, that people with workplace injuries may have about being an injured worker.

Based on this definition and your experiences with injured workers, please rate the following item:

I feel shame about being an injured worker

	Not at all	Somewhat (needs major revision)	Quite (needs minor revision)	Very or Completely
The item is relevant	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The item is clear	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

36. Internalized injured worker stigma definition: The negative attitudes, including

internalized shame, that people with workplace injuries may have about being an injured worker.

Based on this definition and your experiences with injured workers, please rate the following item:

As an injured worker I feel humiliated

	Not at all	Somewhat (needs major revision)	Quite (needs minor revision)	Very or Completely
The item is relevant	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The item is clear	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

37. Internalized injured worker stigma definition: The negative attitudes, including internalized shame, that people with workplace injuries may have about being an injured worker.

Based on this definition and your experiences with injured workers, please rate the following item:

Being an injured worker means I have to prove how my injury affects me

	Not at all	Somewhat (needs major revision)	Quite (needs minor revision)	Very or Completely
The item is relevant	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The item is clear	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

38. Internalized injured worker stigma definition: The negative attitudes, including internalized shame, that people with workplace injuries may have about being an injured worker.

Based on this definition and your experiences with injured workers, please rate the following item:

I feel undeserving of entitlement to support myself

	Not at all	Somewhat (needs major revision)	Quite (needs minor revision)	Very or Completely
The item is relevant	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The item is clear	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

39. Internalized injured worker stigma definition: The negative attitudes, including

internalized shame, that people with workplace injuries may have about being an injured worker.

Based on this definition and your experiences with injured workers, please rate the following item:

As an injured worker I feel unworthy of financial aid

	Not at all	Somewhat (needs major revision)	Quite (needs minor revision)	Very or Completely
The item is relevant	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The item is clear	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

40. Internalized injured worker stigma definition: The negative attitudes, including internalized shame, that people with workplace injuries may have about being an injured worker.

Based on this definition and your experiences with injured workers, please rate the following item:

As an injured worker I feel invisible within the system

	Not at all	Somewhat (needs major revision)	Quite (needs minor revision)	Very or Completely
The item is relevant	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The item is clear	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

41. Internalized injured worker stigma definition: The negative attitudes, including internalized shame, that people with workplace injuries may have about being an injured worker.

Based on this definition and your experiences with injured workers, please rate the following item:

Being an injured worker makes me feel trapped

	Not at all	Somewhat (needs major revision)	Quite (needs minor revision)	Very or Completely
The item is relevant	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The item is clear	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

42. Internalized injured worker stigma definition: The negative attitudes, including

internalized shame, that people with workplace injuries may have about being an injured worker.

Based on this definition and your experiences with injured workers, please rate the following item:

Being an injured worker makes me feel vulnerable

	Not at all	Somewhat (needs major revision)	Quite (needs minor revision)	Very or Completely
The item is relevant	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The item is clear	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

43. Internalized injured worker stigma definition: The negative attitudes, including internalized shame, that people with workplace injuries may have about being an injured worker.

Based on this definition and your experiences with injured workers, please rate the following item:

Being an injured worker makes me powerless

	Not at all	Somewhat (needs major revision)	Quite (needs minor revision)	Very or Completely
The item is relevant	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The item is clear	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

44. Internalized injured worker stigma definition: The negative attitudes, including internalized shame, that people with workplace injuries may have about being an injured worker.

Based on this definition and your experiences with injured workers, please rate the following item:

Others blame me for my work injury

	Not at all	Somewhat (needs major revision)	Quite (needs minor revision)	Very or Completely
The item is relevant	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The item is clear	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

45. Internalized injured worker stigma definition: The negative attitudes, including

internalized shame, that people with workplace injuries may have about being an injured worker.

Based on this definition and your experiences with injured workers, please rate the following item:

Being an injured worker means I'm not the person I used to be

	Not at all	Somewhat (needs major revision)	Quite (needs minor revision)	Very or Completely
The item is relevant	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The item is clear	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

46. Internalized injured worker stigma definition: The negative attitudes, including internalized shame, that people with workplace injuries may have about being an injured worker.

Based on this definition and your experiences with injured workers, please rate the following item:

As an injured worker, I feel less than others

	Not at all	Somewhat (needs major revision)	Quite (needs minor revision)	Very or Completely
The item is relevant	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The item is clear	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

47. Internalized injured worker stigma definition: The negative attitudes, including internalized shame, that people with workplace injuries may have about being an injured worker.

Based on this definition and your experiences with injured workers, please rate the following item:

As an injured worker, I am a burden to my loved ones

	Not at all	Somewhat (needs major revision)	Quite (needs minor revision)	Very or Completely
The item is relevant	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The item is clear	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

48. Internalized injured worker stigma definition: The negative attitudes, including

internalized shame, that people with workplace injuries may have about being an injured worker.

Based on this definition and your experiences with injured workers, please rate the following item:

Others don't want me around because I am an injured worker

	Not at all	Somewhat (needs major revision)	Quite (needs minor revision)	Very or Completely
The item is relevant	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The item is clear	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

49. Internalized injured worker stigma definition: The negative attitudes, including internalized shame, that people with workplace injuries may have about being an injured worker.

Based on this definition and your experiences with injured workers, please rate the following item:

As an injured worker, I feel like just a number in the system

	Not at all	Somewhat (needs major revision)	Quite (needs minor revision)	Very or Completely
The item is relevant	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The item is clear	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

50. Internalized injured worker stigma definition: The negative attitudes, including internalized shame, that people with workplace injuries may have about being an injured worker.

Based on this definition and your experiences with injured workers, please rate the following item:

Injured workers are just a cost of doing business

	Not at all	Somewhat (needs major revision)	Quite (needs minor revision)	Very or Completely
The item is relevant	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The item is clear	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

51. Internalized injured worker stigma definition: The negative attitudes, including

internalized shame, that people with workplace injuries may have about being an injured worker.

Based on this definition and your experiences with injured workers, please rate the following item:

As an injured worker, I am useless

	Not at all	Somewhat (needs major revision)	Quite (needs minor revision)	Very or Completely
The item is relevant	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The item is clear	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

52. Internalized injured worker stigma definition: The negative attitudes, including internalized shame, that people with workplace injuries may have about being an injured worker.

Based on this definition and your experiences with injured workers, please rate the following item:

I shouldn't tell others that I'm an injured worker

	Not at all	Somewhat (needs major revision)	Quite (needs minor revision)	Very or Completely
The item is relevant	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The item is clear	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

53. Internalized injured worker stigma definition: The negative attitudes, including internalized shame, that people with workplace injuries may have about being an injured worker.

Based on this definition and your experiences with injured workers, please rate the following item:

Others don't understand what I'm going through as an injured worker

	Not at all	Somewhat (needs major revision)	Quite (needs minor revision)	Very or Completely
The item is relevant	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The item is clear	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

54. Internalized injured worker stigma definition: The negative attitudes, including

internalized shame, that people with workplace injuries may have about being an injured worker.

Based on this definition and your experiences with injured workers, please rate the following item:

Coworkers don't want to work with someone who is an injured worker

	Not at all	Somewhat (needs major revision)	Quite (needs minor revision)	Very or Completely
The item is relevant	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The item is clear	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

55. Internalized injured worker stigma definition: The negative attitudes, including internalized shame, that people with workplace injuries may have about being an injured worker.

Based on this definition and your experiences with injured workers, please rate the following item:

Employers don't want to hire an injured worker

	Not at all	Somewhat (needs major revision)	Quite (needs minor revision)	Very or Completely
The item is relevant	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The item is clear	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

56. Internalized injured worker stigma definition: The negative attitudes, including internalized shame, that people with workplace injuries may have about being an injured worker.

Based on this definition and your experiences with injured workers, please rate the following item:

Nobody cares about injured workers

	Not at all	Somewhat (needs major revision)	Quite (needs minor revision)	Very or Completely
The item is relevant	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The item is clear	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

57. Internalized injured worker stigma definition: The negative attitudes, including

internalized shame, that people with workplace injuries may have about being an injured worker.

Based on this definition and your experiences with injured workers, please rate the following item:

Being an injured worker isolated me from others

	Not at all	Somewhat (needs major revision)	Quite (needs minor revision)	Very or Completely
The item is relevant	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The item is clear	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

58. Internalized injured worker stigma definition: The negative attitudes, including internalized shame, that people with workplace injuries may have about being an injured worker.

Based on this definition and your experiences with injured workers, please rate the following item:

Being an injured worker makes me feel like a low life

	Not at all	Somewhat (needs major revision)	Quite (needs minor revision)	Very or Completely
The item is relevant	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The item is clear	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

59. Internalized injured worker stigma definition: The negative attitudes, including internalized shame, that people with workplace injuries may have about being an injured worker.

Based on this definition and your experiences with injured workers, please rate the following item:

Being an injured worker makes me feel like an inconvenience

	Not at all	Somewhat (needs major revision)	Quite (needs minor revision)	Very or Completely
The item is relevant	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The item is clear	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

60. Internalized injured worker stigma definition: The negative attitudes, including

internalized shame, that people with workplace injuries may have about being an injured worker.

Based on this definition and your experiences with injured workers, please rate the following item:

I ignore my work injury to do what I need to do

	Not at all	Somewhat (needs major revision)	Quite (needs minor revision)	Very or Completely
The item is relevant	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The item is clear	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

61. Internalized injured worker stigma definition: The negative attitudes, including internalized shame, that people with workplace injuries may have about being an injured worker.

Based on this definition and your experiences with injured workers, please rate the following item:

As an injured worker I am afraid of losing what I have

	Not at all	Somewhat (needs major revision)	Quite (needs minor revision)	Very or Completely
The item is relevant	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The item is clear	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

62. Internalized injured worker stigma definition: The negative attitudes, including internalized shame, that people with workplace injuries may have about being an injured worker.

Based on this definition and your experiences with injured workers, please rate the following item:

If I tell people I'm an injured worker, they'll think I am lazy

	Not at all	Somewhat (needs major revision)	Quite (needs minor revision)	Very or Completely
The item is relevant	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The item is clear	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

63. Internalized injured worker stigma definition: The negative attitudes, including

internalized shame, that people with workplace injuries may have about being an injured worker.

Based on this definition and your experiences with injured workers, please rate the following item:

Others think I am faking my work injury

	Not at all	Somewhat (needs major revision)	Quite (needs minor revision)	Very or Completely
The item is relevant	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The item is clear	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

64. Internalized injured worker stigma definition: The negative attitudes, including internalized shame, that people with workplace injuries may have about being an injured worker.

Based on this definition and your experiences with injured workers, please rate the following item:

People make me feel like a criminal for being an injured worker

	Not at all	Somewhat (needs major revision)	Quite (needs minor revision)	Very or Completely
The item is relevant	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The item is clear	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

65. Overall, how well do you think internalized injured worker stigma was captured by the scale items?

66. If there is any aspect of internalized injured worker stigma you think was missed or should be more prevalent in the scale, please let us know (you may leave a brief explanation, if you would like)

67. Do you have any additional feedback, questions, or considerations about the scale items?

Appendix D

Un-Dichotomized Content Validity Survey Ratings

Table D1

Undichotomized Relevance Ratings

Item	Number of Relevance Ratings			
	Not at all	Somewhat	Quite	Very or completely
No employer will look past me being an injured worker	0	3	2	2
Taking injury related absences makes me an unreliable employee	0	1	4	1
I blame myself for my workplace injury	0	2	5	0
I work harder than most to make up for being an injured worker	2	0	4	1
If I do things outside of the house others will think I'm faking my injury	0	2	3	2
I am scared others around town will judge me for being an injured worker	1	2	4	0
Being an injured worker means that I have no control in my life	1	2	2	2
Whenever I think about being an injured worker, I feel depressed	0	1	3	3
As an injured worker I don't deserve to have a fulfilling social life	3	2	2	0
I hate myself for being an injured worker	3	2	2	0
I feel guilty for being an injured worker	1	3	3	0
People will think my work injury was my fault	0	4	2	1
Others are ashamed to be around injured workers	2	4	1	0
I need to be on guard, lie, or hide that I'm an injured worker	1	3	2	1
I could not confront a co-worker or acquaintance if they talked poorly about injured workers in front of me	2	0	2	3
I feel disappointed in myself for being an injured worker	2	3	2	0
Being an injured worker makes my future look bleak and hopeless	2	1	2	2
Being an injured worker taints my life	0	1	5	1

Item	Number of Relevance Ratings			
	Not at all	Somewhat	Quite	Very or completely
As an injured worker I cannot measure up to others, no matter how hard working I am	2	2	2	1
I lower my expectations toward life because I am an injured worker	1	1	3	2
Being an injured worker makes me lose many opportunities	0	2	3	2
Being an injured worker is embarrassing	1	2	2	2
As an injured worker I avoid interacting with others	0	4	1	2
Being an injured worker means that I am weak	4	1	1	1
I would rather use vacation or sick days than file for Worker's Compensation	2	2	1	2
As an injured worker my employer no longer values me	1	0	3	3
I feel like I am playing the system	3	3	1	0
Injured workers are doomed	1	4	2	0
As an injured worker I feel constantly on edge	1	1	4	1
As an injured worker I am a burden on society	1	4	1	1
	2	0	2	3
I feel shame about being an injured worker				
As an injured worker I feel humiliated	1	3	1	2
Being an injured worker means I have to prove how my injury affects me	0	2	3	2
I feel undeserving of entitlement to support myself.	1	4	2	0
As an injured worker I feel unworthy of financial aid	2	3	1	1
As an injured worker I feel invisible within the system	0	2	2	3
Being an injured worker makes me feel trapped	1	3	2	1
Being an injured worker makes me feel vulnerable	0	2	2	3
Being an injured worker makes me powerless	2	1	3	1
Others blame me for my work injury	1	4	1	1
Being an injured worker means I'm not the person I used to be	0	0	1	6
As an injured worker, I feel less than others	0	3	3	1
As an injured worker, I am a burden to my loved ones	0	3	2	2
Others don't want me around because I am an injured worker	0	5	2	0

Item	Number of Relevance Ratings			
	Not at all	Somewhat	Quite	Very or completely
As an injured worker, I feel like just a number in the system	0	0	2	5
Injured workers are just a cost of doing business	1	2	1	3
As an injured worker, I am useless	3	0	3	1
I shouldn't tell others that I'm an injured worker	1	2	2	2
Others don't understand what I'm going through as an injured worker	0	2	2	3
Coworkers don't want to work with someone who is an injured worker	0	2	2	3
Employers don't want to hire an injured worker	0	0	2	5
Nobody cares about injured workers	1	1	2	3
Being an injured worker isolated me from others	0	4	0	3
Being an injured worker makes me feel like a low life	3	1	3	0
Being an injured worker makes me feel like an inconvenience	0	3	2	2
I ignore my work injury to do what I need to do	1	2	3	1
As an injured worker I am afraid of losing what I have	0	3	1	3
If I tell people I'm an injured worker, they'll think I am lazy	0	5	0	2
Others think I am faking my work injury	0	3	0	4
People make me feel like a criminal for being an injured worker	1	4	1	1

Table D2*Undichotomized Clarity Ratings*

Item	Number of Clarity Ratings			
	Not at all	Somewhat	Quite	Very or completely
No employer will look past me being an injured worker	1	1	2	3
Taking injury related absences makes me an unreliable employee	0	1	2	3
I blame myself for my workplace injury	0	0	4	3
I work harder than most to make up for being an injured worker	0	1	3	3
If I do things outside of the house others will think I'm faking my injury	0	1	1	5

Item	Number of Clarity Ratings			
	Not at all	Somewhat	Quite	Very or completely
I am scared others around town will judge me for being an injured worker	0	2	2	3
Being an injured worker means that I have no control in my life	0	0	2	5
Whenever I think about being an injured worker, I feel depressed	0	0	3	4
As an injured worker I don't deserve to have a fulfilling social life	0	3	1	3
I hate myself for being an injured worker	0	3	1	3
I feel guilty for being an injured worker	0	1	2	4
People will think my work injury was my fault	1	0	2	4
Others are ashamed to be around injured workers	1	2	1	3
I need to be on guard, lie, or hide that I'm an injured worker	0	0	3	4
I could not confront a co-worker or acquaintance if they talked poorly about injured workers in front of me	1	1	2	3
I feel disappointed in myself for being an injured worker	0	1	3	3
Being an injured worker makes my future look bleak and hopeless	0	0	1	6
Being an injured worker taints my life	0	1	2	4
As an injured worker I cannot measure up to others, no matter how hard working I am	0	1	2	4
I lower my expectations toward life because I am an injured worker	0	0	3	4
Being an injured worker makes me lose many opportunities	0	1	2	4
Being an injured worker is embarrassing	0	0	4	3
As an injured worker I avoid interacting with others	0	0	3	4
Being an injured worker means that I am weak	0	1	3	3
I would rather use vacation or sick days than file for Worker's Compensation	1	1	1	4
As an injured worker my employer no longer values me	0	0	2	5
I feel like I am playing the system	1	2	0	4
Injured workers are doomed	2	1	1	3
As an injured worker I feel constantly on edge	0	2	1	4
As an injured worker I am a burden on society	0	1	2	4

Item	Number of Clarity Ratings			
	Not at all	Somewhat	Quite	Very or completely
I feel shame about being an injured worker	0	0	1	6
As an injured worker I feel humiliated	0	1	2	4
Being an injured worker means I have to prove how my injury affects me	0	0	3	4
I feel undeserving of entitlement to support myself.	1	3	0	3
As an injured worker I feel unworthy of financial aid	0	3	0	4
As an injured worker I feel invisible within the system	0	0	3	4
Being an injured worker makes me feel trapped	0	3	1	3
Being an injured worker makes me feel vulnerable	0	1	1	5
Being an injured worker makes me powerless	0	0	3	4
Others blame me for my work injury	1	0	2	4
Being an injured worker means I'm not the person I used to be	0	1	1	5
As an injured worker, I feel less than others	1	0	2	4
As an injured worker, I am a burden to my loved ones	0	0	3	4
Others don't want me around because I am an injured worker	0	1	3	3
As an injured worker, I feel like just a number in the system	0	0	0	7
Injured workers are just a cost of doing business	0	1	1	5
As an injured worker, I am useless	0	1	2	4
I shouldn't tell others that I'm an injured worker	0	1	2	4
Others don't understand what I'm going through as an injured worker	0	1	0	6
Coworkers don't want to work with someone who is an injured worker	0	1	1	5
Employers don't want to hire an injured worker	0	0	0	7
Nobody cares about injured workers	0	1	0	6
Being an injured worker isolated me from others	0	1	1	5
Being an injured worker makes me feel like a low life	1	2	1	3
Being an injured worker makes me feel like an inconvenience	0	1	2	4
I ignore my work injury to do what I need to do	2	0	2	3
As an injured worker I am afraid of losing what I have	1	1	1	4
If I tell people I'm an injured worker, they'll	0	0	1	6

Item	Number of Clarity Ratings			
	Not at all	Somewhat	Quite	Very or completely
think I am lazy				
Others think I am faking my work injury	0	0	0	7
People make me feel like a criminal for being an injured worker	0	3	0	4