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# Effect of Work-Related Musculoskeletal Disorders on Psychosocial Health and Well-Being

## A Qualitative Study

Musaed Z. Alnaser, PhD, OT

The present study investigated perceived psychosocial distress in young to middle-aged workers with work-related musculoskeletal disorders (WMSDs) in Miami, USA. Eight participants with work injuries were subjected to in-depth interviews to understand their psychosocial distress experiences. Phenomenological analysis was used to develop patterns, categories, and themes. Trustworthiness techniques were applied to ensure that data analysis was performed in an exhaustive method. Interview analysis revealed three themes: the materiality of work, development of psychosocial distress, and generating adaptive responses. Work injuries were reported to disrupt and challenge all aspects of the participants' lives, including work, home, family, and personally. When coupled with the significance of materiality of work, WMSDs potentially triggered psychosocial distresses and limited participation in daily activities at home and work. Participants with injuries encountered occupational challenges that created a press for mastery and initiated adaptive responses. Accordingly, successful adaptive responses reduced psychosocial distress and physical symptoms, promoted family stability, and facilitated expected roles and responsibilities to be performed by participants. Rehabilitation of occupational injuries education programs should emphasize the use of psychosocial interventions and the development of appropriate adaptive responses in conjunction with physical interventions while treating workers with WMSDs. *J Allied Health* 2021; 50(4):299–306.

**WORK-RELATED MUSCULOSKELETAL** disorders (WMSDs) have been a seriously investigated health issue since the turn of the century.<sup>(1–3)</sup> Prevalence, risk factors, effects, and interventions of the WMSDs are examined among various populations.<sup>(1–3)</sup> In 2016, more than 2.5 million Americans reported WMSDs, resulting in a loss of more than 1 million working days.<sup>(1)</sup>

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The continuing investigations reveal a mutual relationship between WMSDs and psychosocial distress. Considerably, psychosocial distress is showed to be a risk factor associated with WMSDs.<sup>(4–7)</sup> However, very few studies have examined the repercussion of WMSDs on the psychosocial health of workers with injuries.<sup>(8)</sup> The limited studies conclude that workers with injuries experience psychosocial symptoms. In addition, these psychosocial symptoms are more severe among individuals with occupational injuries than non-occupational injuries.<sup>(8–10)</sup> Thus, the psychosocial consequences of WMSDs or their impacts on injured workers' roles, responsibilities, participation, and performances require further investigation.

Understanding the psychosocial experience related to the work injury is required to improve the educational curriculum and the intervention in rehabilitation of occupational injuries. Education programs in rehabilitation of occupational injuries may have to include extensive training in psychosocial, psychological, and adaptive factors, strategies, and interventions. Professionals in the area of rehabilitation of occupational injuries need to be well-informed about the psychosocial distress associated with WMSDs, and they require to be educated and trained in handling and treating such arising health issue. Interpreting the effect of psychosocial distress on the life of workers with injuries is essential and of great value to the healthcare educational programs and healthcare providers.

## Background

The World Health Organization (WHO) recognizes mental health as a central component of health. WHO defines mental health as a state of well-being in which an individual realizes own abilities, adapts to life stresses, works productively, and contributes to the community.<sup>(11)</sup> However, mental health problems are health conditions that may include changes in emotions, thinking, behaviors, and interaction with others that interfere with school and work performances, family activities and relations, and social interactions.<sup>(12,13)</sup> Psychosocial distress is identified as a mental health problem.<sup>(14–16)</sup> Depending on the individual's position on the continuum of psychosocial

distress that ranges from normal adjustment to diagnosable mental disorders, an individual may experience moderate levels of fear and sadness to severe levels of anxiety, depression, social isolation, and spiritual crisis.<sup>(14,15,17)</sup>

Societies measure an individual's worth by the ability to contribute to the monetary needs of the family as well as being able to care for oneself.<sup>(18)</sup> Work is an avenue where people continuously strive to find the meaning of life.<sup>(19)</sup> Moreover, work provides individuals with a sense of identity, income, social relationships, recognition, and societal belonging, impacting the worker's wellbeing.<sup>(20-23)</sup> Through work, individuals seek a sense of balance and normalization between their needs and values to secure a feeling of satisfaction and belonging.<sup>(19,23)</sup>

Because of the centrality of work in people's lives, the inability to work due to injury may result in psychosocial distress. Work-related injuries, leading to restricted and limited participation in meaningful and purposeful activities, often or may result in significant strain and stress on an individual's psychosocial health.<sup>(20)</sup> Occupational injuries are often more severe and necessitate longer treatment than non-occupational injuries due to associated psychosocial distress, such as depression.<sup>(8)</sup> Studies on work-related injuries highlight that participants experience psychosocial distress, such as depression, anger, dissatisfaction, and low quality of life. These negative experiences are due to restricted participation in leisure and social activities, and limitations in performing activities of daily living.<sup>(21,24,25)</sup> Moreover, workers with WMSDs who suffer from psychological distress report greater pain intensity, as well as symptoms of depression, and fear of re-injury. Injured workers may avoid physical activities both within and outside the workplace, ultimately delaying their return.<sup>(26-28)</sup> Workers with WMSDs often attempt various adaptive responses to deal with the pain and adjust work activities with the motivation to continue working.<sup>(29-31)</sup> Understanding the adaptation process related to psychosocial distress is essential to ensure that workers with WMSDs receive the rehabilitation services required to achieve early adaptation. The purpose of the present qualitative research study was to investigate the assumption of psychosocial distress potentially experienced by workers with WMSDs from various occupations and the adaptive responses to maintain functioning.

**Research Questions:** The current study aimed to answer three questions based on workers with WMSDs: 1) What is the psychosocial health status of workers experiencing WMSD?; 2) What factors are associated with psychosocial health of workers experiencing WMSD?; and 3) What are the adaptive responses utilized by workers with WMSDs after encountering psychosocial health issues?

### Design

The phenomenological approach, utilized for this study, focuses on investigating how humans comprehend previous experiences. Data is gathered through in-depth interviews with individuals that directly experience specific events or phenomena. Phenomenological analysis is used to evaluate interviews and describe people's experiences.<sup>(32)</sup> Therefore, a phenomenological approach was selected and utilized to understand the individual experience of psychosocial distress among workers with WMSDs from a variety of occupations. Interviews were used to portray the participant's experience of life before and after their work injury. Data were collected through in-person and telephone interviews.

### Participants and Procedure

The present study was conducted in accordance with the Declaration of Helsinki. Approval was obtained from the Health Sciences Institutional Review Board of Florida International University (#18-0064). Participants were recruited through purposeful sampling with criterion sampling to provide information-rich cases for in-depth study.<sup>(32)</sup> Potential participants were identified from various rehabilitation of occupational injury centers around Dade County, Miami, USA. Individuals attending rehabilitation of occupational injury centers were invited to participate in the study. The target group for this study was individuals with WMSDs that received rehabilitation of occupational injuries. All eligible participants provided consent for both participation and recording of interviews. Eight participants were recruited and varied in age, gender, occupation, and injury. The average age was 43 years. The participants consisted of four males and four females (Table 1). Five interviews were conducted via telephone and three interviews in-person at the location requested by the participant. Pseudonyms were used to preserve the anonymity of participants.

### Instrumentation

An interview guide was used to ensure that the phenomena in question were collected and reliably followed.<sup>(32)</sup> The Adaptation Interview Guide, designed to elicit information from workers with hand injuries, was modified for general WMSDs.<sup>(25)</sup> The interview guide comprised of eight semi-structured, open-ended questions with prompts. Questions consisted of topics related to life prior to the injury, the importance and purpose of work, duties at work, cause of injury, significance of returning to work, elaboration on emotions and role difficulties during the injury, sources

**TABLE 1.** Participants' Demographics

Name	Age	Occupation	WMSD	Cause
Mike	50	TSA security	Shoulder impingement	Lifting heavy bags
Sarah	34	TSA security	Low back pain	Lifting heavy bags
Paul	48	Civil eng.	Low back pain	Fall down at work
Kathy	34	Nurse	Low back pain	Transfers, lifting, no breaks
Kate	58	Compliance specialist	Tendinitis	Typing
John	60	Marble maker	Carpel tunnel syndrome	Stirring mixtures and painting
Jenny	26	Secretary	Shoulder impingement and tingling in fingers	Typing
Allan	34	Asst. behavior analyst	Dupuytren's contracture and low back pain	Typing, prolonged sitting, playing sports with kids at work

of support, and changes as a result of the injury. To ensure data saturation, each interview question included two to three prompts to evoke further information and reach data saturation.<sup>(33)</sup> Researchers also employed additional prompts if data saturation was not attained for an interview question. Data saturation was achieved when no new information relating to psychosocial distress and adaptation was observed or detected in the data.

### Data Analysis

Phenomenological analysis was applied to guide the development of patterns, followed by categories and themes.<sup>(32)</sup> Interviews were recorded and transcribed verbatim. Transcripts were read, and coding was applied by placing a word or phrase in front of each participant's response that described its meaning. Similar codes in connotation were grouped to develop categories as related to the phenomenon under investigation. Themes emerged by combining the categories with relevant essences, such as work. Further, themes were interpreted to highlight the participants' experiences in the phenomenon of interest.

### Trustworthiness Techniques

Trustworthiness techniques applied in the study were suggested by Fusch and Ness, Korstjens and Moser, and Anney.<sup>(33-35)</sup> To ensure credibility and confidence in the study findings, member checks with participants and peer reviews with independent colleagues were employed to confirm accurate reflection and interpretation of the participants' experiences before and after work injuries. A dense description of the study, including experiences, behaviors, and contexts, was conducted to corroborate the consistency of the findings and to level the transferability and understanding of the conclusion to external readers. In addition, a confirmability audit was conducted to demonstrate the progression and validity of the findings by saving all documents and materials related to the research process, such as instruments, interviews, transcripts, data analysis, coding, the grouping of categories, and development of themes. The

confirmability audit was used to show that particular perspectives, viewpoints, and extrapolations in the study were developed from the data.

## Results

Three themes emerged following analysis of the interviews: the materiality of work, development of psychosocial distress, and generating adaptive responses.

### Theme 1. Materiality of Work

Although employment results in a steady income, income was not perceived as the most important aspect of work for participants. Each participant expressed that the materiality of work equated to a sense of meaning and self-worth. According to the participant John: "*Without work, I am useless; I am of no help to anyone.*" John was not the only participant with such strong emotions regarding work materiality. For example, Kathy and Allan expressed that work gave them a sense of value, worth, and importance. In addition to providing meaning to one's life, participants identified work as contributing a sense of belonging.

All participants expressed enjoyment association with work, as it enabled the individuals to provide for themselves, their families, and loved ones. Maintaining a certain amount of income was important to the participant Kate to secure her needs and "*to be responsible for myself financially.*" According to Kathy: "*It is very important that I remain employed; I have a family to support.*" As the sole earner for his family, Paul expressed that continuing to work was important for providing at the same level as before his injury.

### Theme 2. Development of Psychosocial Distress

Psychosocial distress emerged into two subthemes as a result of the injury: psychological distress and social distress.

#### Psychological Distress

**Depression, sadness, and hopelessness.** Most participants reported experiencing signs of depression and sadness as a result of their injuries. The participant Kate was often

depressed, stating, “*It was depressing because I had pain.*” In contrast, the participant Jenny frequently felt hopeless when returning to work because of the pressure to complete work duties on time. Although she was able to maintain her workload, Jenny missed several deadlines, resulting in feelings of hopelessness as she was aware of her previous work capabilities. Due to the injury, the participant Allan described feeling “*a little down.*” In addition, the participant John expressed feelings of hopelessness, uselessness, as well as feeling extremely overwhelmed and sad at his current situation, resulting in several crying episodes. John described how the removal of his independence, and the lack of improvement despite therapy resulted in depression. The participants Kathy, Paul, and Mike disclosed that their injuries led to feelings of great sadness, distress, and, at times, depression, particularly when attempting to conduct work and home responsibilities.

**Fears, worries, anxieties, and stress.** Following their injuries, several participants were anxious at the thought of potentially losing their job as a result of their absence or the quality of their work. The participant Sarah reported extreme fear and anxiety. In regard to financial management related to mortgage and a new car payment, Sara stated: “*Who is going to pay?*” and “*I could not afford not to work.*” In addition, Allan and John were worried about when they would recommence work. Both participants were extremely anxious about the progress of their recovery, with Allan voicing, “*I started wondering if I was ever going to improve or be able to walk properly, which resulted in anxiety.*” The participant Kathy was afraid that her injury would become permanent and limit her performance. Furthermore, the injury impaired the ability of Jenny and Paul to perform work duties, resulting in both worrying about meeting deadlines and performing at their usual level prior to the injury.

Several participants were also apprehensive of what their boss or staff may presume regarding their performance. As expressed by the participants, stress levels increased due to the continuous pressure to meet deadlines, perform work duties as expected, fulfill teamwork expectations, arrive at work independently, and contemplate the future with their injury. Participants explained that they felt stressed because they were required to be absent or were incapable of performing expected duties. For example, John was afraid of the opinion of his boss and/or staff in response to the impact of his injury: “*They will see me dropping things, and I will get fired as a result.*” Also, Kathy reported experiencing increased anxiety regarding her future, stating, “*I am at work to suffer an injury that would result in me getting fired and not be able to support my family.*”

**Frustrations.** All participants expressed frustration as a result of their injuries. These frustrations resulted from experiencing limitations in performing daily activities, duties, and responsibilities. The participant Kate

described her pain as “*frustrating because I was limited with what I could do,*” whereas Jenny highlighted the time away from work to relieve the pain as “*It’s just frustrating. I wish it would go away.*” In addition, the participant John expressed immense frustration because he was “*clumsy*” in the handling and manipulation of objects with his injured hand while washing and cleaning, opening sealed items, and buttoning his shirt. He became considerably upset, was morose, angry, and quite irritable. Kathy described how her lower back pain instigated constant fatigue and exhaustion as a nurse and handling patients, stating, “*I am truly frustrated.*” Similarly, Mike was unable to transport and carry items, in addition to reaching for objects located above his head. The participant Paul described himself as “*We do not let obstacles such as injuries keep us from being great,*” and he felt “*knowing that I could not perform at my best was frustrating.*”

### Social Distress

**Dependency.** Three participants voiced their concerns about their dependency on others due to the severity of their injuries. The participant John, who valued independence, working hard, and accomplishing things, dreaded dependency. He perceived that being dependent was a reason for being unworthy of living, stating, “*If I need to be fed, then I do not want to live.*” Allan reported feelings of unease and guilt due to his dependency on his wife. Accordingly, he increasingly consumed food and “*wanted to be more isolated.*” The participant Sarah started recounting her dependency by stating: “*When it comes to doing simple little things, I did not like feeling dependent on another individual.*” She resented her dependency on others for simple tasks, such as grasping objects from cabinets or reaching for items on high shelves.

**Disrupted roles and daily activities.** Five participants indicated that their injuries impacted their roles and daily activities at home. Allan explained that he previously spent 2–3 hours daily on house chores but was limited to a maximum of 60 minutes post-injury due to discomfort and pain. He described that his daily activities were increasingly difficult “*from going to the bathroom and taking a shower.*” The participant Sarah noted her restrictions in several household activities, such as cleaning, sweeping, and mopping. In addition, Sarah expressed that simple regular daily activities were challenging to complete, especially bathroom activities. John struggled with washing dishes without dropping and breaking them, handling and opening sealed cans and containers, and dressing and undressing. Kate stated, “*I was limited with what I could do throughout the day.*” She described how the pain interfered with her ability to perform daily activities and roles, explaining that completing simple activities required more time than expected. Furthermore, male participants expressed disruptions specific to gender roles. The participant Mike discussed feeling upset about the inability to perform certain household activities, which

**TABLE 2.** Adaptive Responses in Relation to the Distresses

Distress	Indicators	Adaptive Responses
Physical	Pain	Avoiding or cautious with lifting items, children and patients. Using proper lifting mechanics. Asking others for help. Taking medication and applying cold and heat packs. Getting massages. Taking frequent breaks. Taking days off. Working from home. Moving to a new job.
Psychological	Depression Sadness Hopelessness Fear Worries Anxieties Frustrations	Getting massages and aroma therapy. Taking days off. Utilizing relaxation techniques. Returning to former interests and hobbies. Reverting to praying and spirituality.
Social	Dependency Limited roles Limited daily activities Limited social activities Limited leisure activities	Returning to former interests and hobbies. Participating in social activities as possible. Participating in occupational and personal roles as possible.

were then required to be completed by his wife, “*I am the man of the house, and she should not have to take care of these things.*” He explained that he previously managed more strenuous activities, such as lifting items, mowing the lawn, and washing family cars. The participants’ John and Paul also expressed that the injury caused them to feel and think less of themselves, with John describing himself as a “*useless old man.*”

**Interrupted social and leisure activities.** Several participants expressed restrictions in social participation or interaction with others, particularly in family social activities. Paul explained that he did not participate in activities that required running with his children due to lower back pain. Similarly, the participant Kathy stressed that she ceased certain activities involving carrying her children, stating, “*The pain refrains me from spending time with them (children) and my husband, as I feel the need to take Ibuprofen and sleep.*” In addition, Paul voiced his distress, stating “*I was not able to perform any family activities planned.*”

Leisure activities were also restricted due to the participant’s injuries. The participant Mike expressed that he could not undertake many previously enjoyed leisure activities, such as painting, cleaning, and yard work. Kathy and Allan expressed feelings of anxiety as they were unable to complete tasks post-injury as pre-injury. Furthermore, Paul discontinued his favorite leisure activity, namely coaching his daughter’s basketball team.

### Theme 3. Generating Adaptive Responses

Many participants adapted how they completed their tasks to remain functional both at work and at home.

Sarah, Mike, Jenny, and Kathy were rather cautious with lifting items, children, or patients. Sarah and Mike, who were airport employees, stated that they made adjustments to how they completed job tasks using proper lifting mechanics. Both participants mentioned that they introduced measures, such as properly identifying heavier bags and asking for help where required. Kathy reported that she no longer transfers patients or lifts heavy equipment alone and asks for help where necessary.

Several participants resorted to medication and cold or heat packs to alleviate pain. Other participants preferred massage, aromatherapy, and relaxation techniques to relieve the mental and physical distress. Jenny, Kate, and Paul reverted to former interests and hobbies, such as training, stretching, exercising, and gardening to mitigate the distress. Other adaptive responses employed by the participants included taking frequent breaks during work, using free days from work for relief, becoming extremely cautious when performing tasks and activities, working from home, and praying as a source of spiritual strength. Of all participants, John only applied a more extreme adaptive response. He changed employment and became a janitor, which he was able to do the job without experiencing any pain (Table 2).

## Discussion

The study identified emerging themes of the materiality of work, development of psychosocial distress due to injury, and adaptation with life after a work injury. There was a consensus in the participants’ opinion about the value of work, which was considered to encompass more than merely an income. All participants had positive attitudes

about their jobs, placed high values on working, and held certain beliefs about work roles and responsibilities. Steady employment provided participants with feelings of a meaningful life. Alnaser and Pillemer et al. highlight that a society's value of working and independence is most likely to be inverted on its inhabitants.<sup>(21,36)</sup> In the present study, the participants resided in a developed country, such as the US, where high values, respect, and appreciation are placed on workers, as well as the importance of independence. Participants expressed that working provided them with a sense of self-worth and identity, fostering a perception of independence in providing for themselves and their families. The word "family" was mentioned on numerous occasions during the interviews. The continuing reiteration and coinciding of "work" with "family" suggest that work is a central part of family stability.

Although participants share similar values concerning their occupations, the materiality of work shifted following their injury. Consequently, most participants were concerned with financial hardships that potentially impact their familial situations. Participants expressed fear, worry, and anxiety about being absent from work for several days. Therefore, the financial insecurity imposed by the injury can affect the individual's current standard of living, ability to pay bills, and meet family needs.

Participants voiced frustration with the slow progress of their recovery and stress over their capacity to perform work-related duties. The longer the period of recovery or negative thoughts (catastrophic thinking), the greater the level of negative confidence in the person ability to perform and make appropriate decisions and execute actions. Kim concludes that longer-lasting rehabilitation of an occupational injury results in more persistent and intense depression and stressors.<sup>(8)</sup> Further, Harris and colleagues indicate that perceived stress is the single most important factor in predicting psychological distress and life satisfaction.<sup>(37)</sup> The participants perceived distress is due to the prospect of being unable to satisfy role fulfillment and meet role expectations, such as paying bills and providing for themselves and their families. Such concerns are warranted by the participants who worries about family stability, which was indicated to be of utmost priority. The results indicate that pessimistic thoughts (catastrophic thinking) of the financial future are among the main sources of psychological distress associated with the injury. The overwhelming desire and demand to regain family stability and meet personal and family needs may interrupt the rehabilitation process of returning to work.

An interrelationship exists between social and psychological distress. As participants experience increasing social distress, psychological distress intensifies, which, in turn, leads to the development of significantly worse psychosocial distress, such as isolation and depression.<sup>(8)</sup> Increased dependency level, limitations in

work duties and executing household roles, and the constraint in performing daily living activities can generate feelings of depression, sadness, and hopelessness. A sense of frustration appears to emerge with every failed attempt to perform occupations and activities at the level prior to the injury. In addition, such psychological distress increases when facing participation restrictions in family social activities and personal leisure activities.<sup>(38)</sup> Kim explains that limitation of functional activity is a risk factor for depression after an occupational injury.<sup>(8)</sup> Timmons and Fesko highlight that work is a crucial source of emotional health, and unemployment can generate feelings of anger, depression, loneliness, and a sense of unhappiness and uselessness.<sup>(39)</sup> Moreover, Dickie explains that unemployment threatens and challenges an individuals' work identity, thus creating psychological problems.<sup>(40)</sup>

The relationship between depression and pain was observed in this study when participants expressed that their depression symptoms lingered with physical symptoms, such as pain. Bair, Robinson, and Katon underline that depression and pain coexist in a positive relationship.<sup>(41)</sup> Sullivan et al. highlight that psychosocial distresses following an injury stimulates the disabling pain level.<sup>(27)</sup> Furthermore, Sullivan et al. emphasize the role of psychosocial interventions to minimize pain levels associated with disability and improve the success rate of returning to work. In addition, a scoping review study highlights that handling stress and other psychological demands as an intervention approach in rehabilitation of occupational injuries is utilized less than 8% of the time.<sup>(42)</sup> Therefore, current and future therapists specializing in rehabilitation of occupational injuries require education and training to apply psychosocial treatment in conjunction with physical treatment.

Adaptation is an ongoing daily process that allows an individual to adjust performance and meet environmental demands. According to the Occupational Adaptation Frame of Reference, adaptation is a process that commences with an occupational challenge and is impacted by the individuals' perception of internal and external occupational performance expectations.<sup>(43)</sup> Therefore, the individual generates a response to meet the occupational challenge, in which they evaluate outcomes, integrate feedback, and make adjustments. Successful occupational adaptation helps to generalize performance to other future occupational challenges. Based on the Occupational Adaptation Frame of Reference, injury is an occupational challenge that raises a desire and demand for mastery within the individual. The constant interaction between the individual with injury and their environment creates a press for mastery.<sup>(43)</sup> In addition to the present study, de Vries at al. and Passier and McPhail demonstrate that participants intentionally attempted various adaptive responses to control their environment, facilitate performing work and household duties, reduce

symptoms, and bring order to their lives.<sup>(30,31)</sup> Similarly, the results of this study indicate that the participants elicited different adaptive responses at work and at home to master their environment and to lessen the pain. At work, adaptive responses are initiated due to the fear of re-injury, to minimize the level of pain, to prevent future injuries, and to preserve employment and work identity. At home, adaptive responses are generated to increase and maintain functional independence, reduce the burden on significant others, and participate in household roles and responsibilities. Towards self, behaviors are adapted to ease psychosocial distresses, including stress, frustration, anger, and isolation, and to moderate physical distress, such as pain. Therefore, therapists in the area of specializing in rehabilitation of occupational injuries should attain the knowledge and skills to educate and teach adaptive response development to workers with injuries. Inclusion of adaptive strategies as part of the intervention plan will allow the client to adapt the activities and the environment both at home and work leading to a better perceived recovery. Walker and co-workers emphasize that integral therapeutic interventions of depression due to, for example, an illness, should include teaching adaptive responses.<sup>(44)</sup> Major and Vézina highlight that understanding workers' adaptive responses would help develop intervention plans.<sup>(29)</sup>

## Limitations

The generalizability of the findings may be limited to certain cultures, such as the US. Typically, qualitative research includes a small sample size, and the goal should be to attain saturation. If required, a larger number of participants should be studied to generate sufficient data to describe the phenomenon of interest. Participants of varying age, gender, socioeconomic status, marital status, family structure, ethnicity, length of employment, educational levels, occupations, positions, work injuries, and types of rehabilitative treatments are likely to yield more robust findings. Studying the phenomenon from the perspective of different cultures may produce a greater understanding of the materiality of work, attitude, value, and belief toward working, psychosocial distress, and adaptive response development.

## Conclusion

WMSD combined with the significance of materiality of work may instigate psychosocial distress. To reduce psychosocial distress and physical symptoms, bring balance to family stability, and perform expected roles and responsibilities, a worker with an injury may attempt different adaptive responses to regain control over the work and home environment.

The results of the present study add to the current body of knowledge on the effects of WMSD on the psychosocial health of workers. Education and work

institutions must be aware of the psychosocial distress associated with WMSDs and develop insight into contributing factors. Rehabilitation of occupational injuries and allied health education programs have the responsibility to emphasize the effect of WMSDs on the psychosocial health of the worker. Health professionals should emphasize psychosocial treatment and training in adaptive responses in return to work interventions. Employers must understand and realize that workers with injuries experience psychosocial distress and may require support and assurance when returning to the workplace.

Future research is required to address the outcome of work injuries on the well-being of workers. Investigating the relationship between the materiality of work and psychosocial distress is crucial since potential association exists between workers' attitudes, values, and beliefs concerning work and the magnitude of psychosocial distress. In this study, participants expressed positive attitudes, values, and beliefs regarding work and working. This may explain why participants expressed extreme psychosocial distress, such as depression and isolation. However, the notion of association requires further investigation to support this extrapolation and how the association between work injury and psychosocial distress varies in different cultures.

**Data Availability:** The data used to support the findings of this study are available from the corresponding author upon request.

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