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The Occupational Impact of Mass Shootings: A Qualitative Study of Survivor Accounts

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The Occupational Impact of Mass Shootings: A Qualitative Study of Survivor Accounts

Abstract

Background: As mass shootings continue to persist in the United States, their occupational impact on victims needs further understanding. The purpose of this study was to examine stories shared by survivors of mass shootings to determine whether changes in occupational participation, performance, and fulfillment of meaningful roles and performance patterns occurred following the incident.

Method: Unobtrusive methods were used to collect and analyze publicly accessible audiovisual and written records following a qualitative research design. Themes were developed through thematic analysis.

Results: Victims at varying degrees of association to the event experienced changes in their occupational performance, participation, and fulfillment of performance patterns. Eight themes encapsulated the common areas of concern expressed by individuals: (a) loss of occupations or independence, (b) reclaiming and “relearning” lost occupations, (c) adopting new occupations, (d) occupational participation as a coping mechanism, (e) contexts and environments facilitate or inhibit occupational participation, (f) change in relationship dynamics, (g) emergence of new performance patterns, and (h) shift in life narratives.

Conclusion: Occupational therapists require knowledge of the occupational impacts of mass shootings on their victims to ensure their receipt of appropriate care. Future research on occupational therapists’ roles in working with this population is needed.

Keywords

occupational therapy, mass casualty incidents, victims, survivors, qualitative research, unobtrusive methods

Cover Page Footnote

The authors declare that they have no competing financial, professional, or personal interest that might have influenced the performance or presentation of the work described in this manuscript.

Credentials Display

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There were 611 reported and verified mass shootings in the United States in 2020, according to the nonprofit organization Gun Violence Archive (2021). A single legal definition for a mass shooting does not exist. This study defines a mass shooting in accordance with Booty et al. (2019) as an event of any affiliation (i.e., drug or gang related) that occurs in any public or private location and results in four or more injuries or fatalities, not including the shooter. This encompassing definition is derived from analysis of and adjustment to the varying definitions used across organizations in their collection of data surrounding mass shooting events.

Impact on Populations

Because of their violent, often unexpected nature, mass shootings can be traumatizing events. Experience of a traumatic event is defined as “exposure to actual or threatened death, serious injury, or sexual violence” (Center for Substance Abuse Treatment [CSAT], 2014, p. 78). An individual may directly experience the traumatic event or be exposed secondhand in the form of a witness, of someone who has learned about a traumatic event happening to a family member or close friend, or as someone who has received “repeated or extreme exposure to aversive details of the traumatic event” through work, such as a first responder (CSAT, 2014, p. 78). Victims have been distinguished from one another through labels of “primary,” “secondary,” or “tertiary” victims based on their level of association to the event (Cowan et al., 2020; National Mass Violence Victimization Resource Center, 2018).

Those who are exposed to mass shootings are impacted in many ways. While many survivors of mass shootings show resilience, some experience chronic mental health concerns (Novotney, 2018). Mental health concerns may include post traumatic stress disorder (PTSD), anxiety, depression, or substance abuse (Novotney, 2018). These conditions may lead to social, occupational, or other functional impairments that reduce victims’ daily functioning and occupational performance (Torchalla et al., 2018).

From a psychosocial perspective, those impacted by mass shootings may no longer feel safe in their communities (Mazzei & Edelheit, 2019). Following a traumatic event, individuals may avoid stimuli associated with the event, such as people, places, or activities, as noted by a diminished interest in activities they previously enjoyed or detachment from others (CSAT, 2014). The impacts of mass shootings extend to populations further removed from the immediate event, as exemplified in a study that found one-third of adults in the United States refrained from going to certain places or events because of fear of a mass shooting (Bethune & Lewan, 2019).

In addition to potential mental health concerns, victims of mass shootings may also be impacted physically. Victims of the Sandy Hook shooting experienced headaches, physical sickness, and aching sensations (Cacciatore & Kurker, 2020), while survivors of the Columbine shooting reported feeling “numb” in the immediate aftermath of the event (Hawkins et al., 2004). Physical scars from gunshot wounds or injuries may impact movement patterns (Palmieri et al., 2003) and serve as reminders to survivors and community members (Ngaage & Aguis, 2018), potentially contributing to victim stigmatization and difficulties with emotional detachment (Harahap, 2000; Lawrence et al., 2004).

Despite the known psychological and physical impacts of mass shootings, there is currently a gap in the literature regarding the impact mass shootings have on a victim’s occupational participation and performance and performance patterns. Though not yet clearly defined, the significant physical and mental impacts that mass shootings have on victims may cause occupational deficits because of victims’ inability to participate in, or effectively participate in, meaningful activities because of their trauma. Based on these areas of presumed impact, the role of occupational therapy is apparent but needs further exploration.

The intent of this study was to address the gaps in the literature by examining the occupational impact that mass shootings have on victims of varying degrees of association with the event. To address these gaps, the authors conducted research to answer the question: What is the occupational impact of mass shootings on exposed individuals in the United States?

Method

The University of St. Augustine for Health Sciences' International Review Board reviewed this study and granted approval. Though this study did not require direct participation from human subjects, board approval was still sought, given the sensitive nature of this secondary human subject data. A qualitative, descriptive research design was employed.

Unobtrusive Methods

Recollecting and sharing traumatic experiences, such as involvement in a mass shooting, can be triggering and may have negative effects on an individual's healing process. To remain cognizant of the sensitivity of the topic to the populations involved, the authors collected data through unobtrusive methods. Unobtrusive methods of data collection lack the direct involvement of research participants and use a variety of readily available, written, and audiovisual records (i.e., documentaries, podcasts, interviews, news articles) to obtain information (Carpenter & Suto, 2008). Researchers can use existing data to answer important research questions in cases where the event or situation is unethical to manipulate (Liao et al., 2016).

Data Sources

The term "participants" is used in this study to refer to the victims of mass shootings who previously shared their stories through public outlets. Participants were not directly recruited or involved in data collection; therefore, recruitment procedures pertain to the acquisition of publicly accessible data sources. Sources of data were obtained from a variety of online public platforms and services. Generic search engines and academic databases, websites of different news agencies and organizations, social media platforms (i.e., Reddit, Instagram, Twitter), and streaming services (i.e., Spotify, YouTube, Netflix) were searched using variations of keyword combinations (e.g., mass shooting victims' stories, [event] survivor stories). In a few cases, public documents were also obtained from academic peers familiar with this study's purpose. Written and audiovisual records, including documentaries, podcasts, interviews, social media posts, and news articles, were acquired.

To meet inclusion criteria, the authors accessed publicly available records published between January 1, 2016, and April 30, 2021, and include stories and information obtained directly from victims of mass shootings that occurred in the United States. Criteria related to how each source defined a mass shooting were not set. Resources were not limited to any single mass shooting event and came from victims nationwide. Each record contained one or more stories from survivors and related to one or more mass shooting event(s). Because of the variability between records and how many participants shared in each, a sample size related to the number of stories analyzed was not predetermined. Data sources were analyzed until saturation occurred.

Procedures

Data were collected virtually using unobtrusive methods. Demographic data, including the speaker or victim's name, the name of the event, the type of record, and the record's title and publication date, were extracted from each source. Stories were transcribed verbatim into an Excel spreadsheet and later uploaded into the Dedoose software for coding. The primary researcher used Dedoose to establish and link codes based on Braun and Clarke's (2006) recommendations for thematic analysis. Codes were

applied to transcriptions through both closed- and open-coding procedures. Deductive analysis focused on aligning data to predetermined codes associated with Table 2 (Occupations) and Table 6 (Performance Patterns) in the *Occupational Therapy Practice Framework's* (OTPF) domain to ensure relevance to the research question (American Occupational Therapy Association [AOTA], 2020). Through inductive reasoning, the primary researcher created and assigned additional codes using terminology applicable to, but not directly from, the OTPF. Open codes were based on significant and recurring sentiments related to the research question expressed in the data set. Themes were developed to encompass common elements in the codes and served to answer the research question.

Because of the public accessibility of the data sources and this study's lack of first-hand, direct interaction with participants, informed consent was not required. Though all the collected data is publicly accessible, information specific to the participants' identities, including personal identifiers, was excluded from publication. Quotes directly stated by victims of mass shootings were not cited in the Results section of this study ("in-text") to add an extra level of anonymity (See Appendix for full rationale and list of original sources quoted).

To enhance the trustworthiness of the study, the researchers triangulated the data through the use of multiple data sources. Further, the researchers demonstrated reflexivity by acknowledging their positions and backgrounds related to the study by openly discussing their concerns and biases with peers. Based on their positions as occupational therapists, the researchers acknowledged the potential for bias in using the OTPF to guide coding procedures but found their credentials to be necessary for the understanding and application of the data. The primary investigator identified preconceptions and changes in perceptions noted with increased exposure to participants' stories over time using a reflection journal.

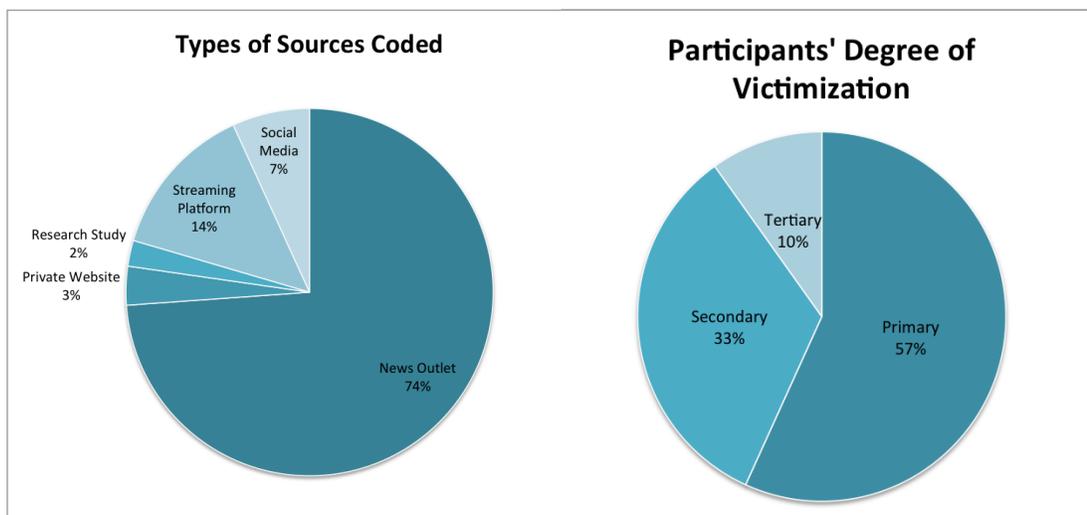
Results

Source and Population Demographics

Of the records collected and analyzed, 88 met inclusion criteria, contained information relevant to the research question, and were coded using Dedoose software. Source and population demographics (see Figure 1) were tracked using descriptor tags and codes that identified the type of source and the victim's degree of association with the mass shooting event (i.e., primary, secondary, or tertiary victim). Referenced events were tracked similarly.

Figure 1

Source and Population Demographics



Records (n = 14) containing multiple stories from victims of multiple events (e.g., a news article with stories from victim A of Event 1 and victim B of Event 2, and so on) were initially linked to a descriptor set for “multiple events” and later separated into individual codes for each event. Records pertained to 35 different mass shootings and included stories from over 220 different victims. Victim codes (i.e., primary, secondary, tertiary) were assigned based on the information provided in each record. All participants were assigned a numerical identifier for anonymity, and sources were checked for duplicates to ensure that each victim was only counted once. Some sources did not identify victims’ names (i.e., used numerical identifiers, pseudonyms, or general references); therefore, victims may have unknowingly been counted more than once; in these cases, victims’ stories were reviewed to check for similarities to ensure experiences were not inaccurately overrepresented in themes.

Themes

Using Braun and Clarke’s (2006) method of thematic analysis, coded data was organized into potential themes with Google Sheets. Themes were designed to reflect the research question and encompass shared ideas of occupational impact. To avoid overlap between final themes and to ensure all areas of interest identified by the research question were addressed, a concept map was generated to delineate the associations and differences between themes in relation to the research question.

Eight themes related to the occupational impact of mass shootings emerged from the data. See Table 1 for an overview of each theme and respective subthemes.

Table 1

Themes and Subthemes

Theme	Subtheme(s)
Loss of Occupations or Independence	<ul style="list-style-type: none"> • Loss by Choice • Loss by Force
Reclaiming and “Relearning” Lost Occupations	<ul style="list-style-type: none"> • Resiliency • Support from Rehabilitation Professionals
Adopting New Occupations	<ul style="list-style-type: none"> • Employment Interests and Pursuits • Advocacy • Play and Leisure Exploration
Occupational Participation as a Coping Mechanism	<ul style="list-style-type: none"> • Job Performance and Maintenance • Religious and Spiritual Expression
Contexts and Environments Facilitate or Inhibit Occupational Participation	None – Results explore environments and contexts as a whole, association with environments, and environmental factors
Change in Relationship Dynamics	<ul style="list-style-type: none"> • Supportive Relationships • Loss of Relationships • Exclusion from Society
Emergence of New Performance Patterns	<ul style="list-style-type: none"> • Roles • Habits • Routines • Rituals
Shift in Life Narratives	<ul style="list-style-type: none"> • Roles and Identities • A New Normal

Loss of Occupations or Independence

Participants overwhelmingly expressed a loss of occupational participation following their involvement in a mass shooting event. Occupational loss was often attributed to one of two factors: choice or force.

Occupational Loss by Choice. Choices to give up or quit occupations, such as jobs, were often accompanied by a changed sense of values, perspectives, and priorities. One couple (Participants 112 and 115) impacted by a mass shooting sought to illustrate this experience for other victims by sharing, “You

might find that what you have done for the last 20 years of your life—or 30 years of your life—has absolutely no meaning to you anymore. And that was certainly the case for us.”

Participants who chose to give up occupations did so to pursue other passions, to focus on their recovery, or to fulfill new roles related to their experience as a mass shooting victim, such as getting involved in advocacy or support groups. The choice to stop participating in an occupation was often conveyed by victims as taking a step toward positive change, though in one victim’s case, fear for their safety motivated their choice to give up an occupation.

Occupational Loss by Force. Victims of mass shootings expressed occupational loss in ways that communicated a lack of control over their situations. A lack of control over one’s symptoms can cause a chain reaction of impacts in other areas, as highlighted in the experiences of Participant 306, who said, “I lost my business. I lost my house. I lost my health, and I lost my daughter.” Self-perceived inabilities were seen as a force driving occupational loss. Participant 383 explained how “Her career as a waitress was over” after “it took neurological surgery and years of therapy to be able to hold a glass and lift it” (Fuller, 2021, para. 38).

External factors, such as environmental closures and changes, or choices made by others, also contributed to some victims’ occupational loss. After a mass shooting event, the location where the shooting occurred becomes a crime scene that is closed off to the public, sometimes temporarily, or, depending on the severity of the damage, sometimes permanently. Workplace mass shootings can therefore impact victims’ abilities to maintain or perform their job after the incident. Victims who did return to work immediately after experiencing a mass shooting (whether the event occurred at their workplace or elsewhere) often expressed an inability to manage their symptoms effectively enough to perform their jobs and were placed on medical leave or disability retirement. Barriers to returning to or maintaining participation in prior occupations resulted in occupational loss.

Some victims of mass shootings who suffered physical injuries lost their occupational independence. Physical injuries sustained from gunshot wounds or the environment’s response to the shooting (e.g., trampled in crowds, hiding in unsafe places) can cause functional deficits that limit an individual’s ability to perform occupations in traditional ways. Victims of mass shootings with physical injuries had difficulty completing activities of daily living (ADLs) independently. Participants who experienced a loss of independence often employed the phrase “I can’t,” a concept best exemplified by Participant 28:

I can’t type, I can’t put a bra on, I can’t cut a steak, I can’t drive, I can’t do laundry, I can’t wrap a present, I can’t put my shoes and socks on, I can’t do much walking or standing or sitting. I need help with everything.

Lack or loss of sleep was one of the most prominent areas of occupational impact among victims. Participants rarely discussed the ability to regain sleep and, because of the limitations of this study, this could not be assessed further.

Reclaiming and “Relearning” Lost Occupations

Many participants expressed the ability to reclaim, or “relearn,” lost occupations. Through learning new strategies or healing over time, victims were able to resume the occupations in which they once participated.

Resiliency. Survivors of traumatic events, such as mass shootings, who can recover their ability to participate in meaningful occupations despite their difficult circumstances, may best be defined as resilient. Participant 332 exemplified resilient healing when sharing, “While we still enjoy some of the activities that we used to do, those activities changed meaning. Being able to go camping, or go fishing, or go to picnic on the beach, have different meanings for us now.”

For many individuals, prior occupations were valued and tied to a sense of normalcy. Returning to a prior occupation was often viewed as returning to “normal life,” as Participant 215 exemplified: “Getting back to normal was my number one goal after that, and within two weeks, I was back throwing [a] baseball, back at practice. That was the best thing for me, just to get back to normal.”

Support from Rehabilitation Professionals. Various disciplines contributed to the healing processes that enabled victims of mass shootings to return to their prior occupations. Professionals in rehabilitation fields, such as physical therapy, occupational therapy, nursing, and psychology, were among those mentioned to support survivors in their newfound lives. As a survivor of a mass act of gun violence, one individual expressed concern with his ability to stand on the other end of a gun again to engage in an activity meaningful to him prior to the event: hunting. To prevent this victim from losing the ability to participate in a valued activity, a multidisciplinary team helped address his concerns and limitations. Newman (2018) observed this victim’s interactions with one specialist:

[Instructor] is helping [Participant 66] with his hand/eye coordination and physical stance as he gets used to using his left hand to squeeze the trigger. He also showed [Participant 66] different ways of loading and chambering the gun, as well as new techniques for sighting the target. (Impressive Progress Section)

Victims of mass shootings who sustained physical injuries often experienced problems in areas of functional mobility. Through therapeutic intervention, victims were able to relearn the performance skills necessary to move throughout their environments again. Participant 66 reflected on the progress he has made throughout his rehabilitation process, stating, “Three weeks ago, I couldn’t get down on the ground and get back up without crawling to something to get up. Now I can get down and back up on my own, and I’m happy about that.”

Adopting New Occupations

Involvement in a traumatic event is often perceived to be a negative experience. Despite their violent and often traumatizing nature, mass shootings can inspire and empower individuals to pursue new occupations.

Employment Interests and Pursuits. Value changes revealed through self-reflection motivated some victims to give up or quit occupations in which they previously participated and replace them with novel occupations that aligned with their newfound sets of values and priorities. In some cases, career choices were directly influenced by experiences with mass shootings. Participant 188 explained, “Now, even what I do with my job now, is because of what happened here. And what happened here gave me also a voice and a platform to be able to share some lessons learned.” Some victims of mass shootings went on to pursue jobs in health care fields, such as therapy, counseling, and nursing, with one victim admitting, “I definitely did become a nurse because of [event]” (Participant 274). Organizations that shared the same values as victims, such as nonprofits and support groups that offer help to various populations (e.g., mental health services, mass shooting survivor networks), were among the areas pursued by victims of mass shootings for employment.

Advocacy. While some victims of mass shootings harnessed their experiences through their jobs, others felt compelled to use their experiences as fuel to fight for their beliefs. Advocacy was the most commonly adopted occupation among victims of mass shootings. Advocates often expressed feelings of wanting to help or “do good” for others by working to prevent others from going through the same or a similar traumatic experience as they did.

Play and Leisure Exploration. Victims of mass shootings also explored and adopted new play and leisure-based occupations. Many playful and leisurely occupations provide participation opportunities for people with physical or mental injuries and stimulate their ability to cope. This was the case for one victim who was paralyzed after being struck by a bullet, who recalled, “That summer, I was sent to a camp in [state], and I did all these things I didn’t know you could do in a wheelchair. Ride a horse, climb a tree, water-ski” (Participant 353).

Occupational Participation as a Coping Mechanism

Participating in occupations can help victims of mass shootings cope with their traumatic experiences. Sentiments of “staying busy” often accompanied coping strategies for victims of mass shootings. Occupational participation may have served as an emotional outlet for victims, allowing them to redirect their cognitions away from their traumatic experience or to allay them by focusing on other causes.

Job Performance and Maintenance. Many mass shootings victims immediately returned to previous working roles, potentially out of hopes that keeping busy with familiar tasks would help them cope and achieve a sense of normalcy. For some, using work as a coping strategy may not have been immediately recognized, such as in the case of a police officer who shared, “I think, almost, I sought out more work that following week” (Participant 292). Despite the inclination, returning to work was not always an option for victims. After his workplace became the scene of a crime, Participant 229 disclosed, “The job itself was part of the recovery for me. Not being able to work was going to drive me stir-crazy.”

Religious and Spiritual Expression. Coping mechanisms can become spiritual as individuals find meaning or connection with themselves or others. Participant 108 described her own spiritual transformation as she engaged in an occupation to help manage her symptoms: “I had to figure out who I was now in this new metamorphosis. I had to learn who that person was. And Tai Chi helped me gain that recognition, and more importantly, that acceptance of who that person became.” Participation in leisurely occupations like Tai Chi, yoga, and dance, are examples of the various self-care and health management strategies victims employed.

Spiritual connection is a concept commonly rooted in religion, as noted by one participant who stated she “turned to God, whom she credits for teaching her to cope” (Knapp, 2016, para. 58). Spiritual expression may also take the form of giving back to others and contributing to a greater purpose, two ideas frequently expressed to motivate occupational participation by victims of mass shootings. Speaking on behalf of himself and others, Participant 124 asserted:

I would say that for a lot of us, this activism was a coping mechanism, and you know, it's what drove us to get out of bed every day—the fact that we were going to be "doing good" on the behalf of others.

Contexts and Environments Facilitate or Inhibit Occupational Participation

Victims perceived environments differently after a mass shooting, as locations become tied to new meanings about and associations with the traumatic event. Altered perceptions of safety and trust may be linked to the exact location of the shooting or to similar locations throughout the wider community, as exemplified by Participant 51, who stated, “I’m doing homeschooling now. I’m not sure when I’ll go back to school. I don’t want to; I don’t feel safe.” Negative perceptions of environments can restrict occupational participation unless contexts or environments are modified, or tasks are adapted to meet victims’ newfound needs. Unlike the student above, Participant 232 shared, “I love being a student. And that’s something I’ve kind of rekindled my love for since I moved away from [town] because I actually am able to learn where I am now.”

Barriers to occupational participation were also associated with environmental factors. Loud noises, such as fireworks, slamming doors, helicopters, or alarms, were auditory environmental triggers noted among victims of mass shootings. Physical triggers, including contexts or objects that reminded victims of the traumatic event, led to avoidant behaviors that restricted occupational participation. Crowded or triggering places often unsettled participants, such as Participant 386, who was “Once a bus driver and [location] promoter for one of [location’s events], [who] now drives for Uber and Lyft because he can no longer work in an office with a [facility]” (Contorno & Herndon, 2019, para. 6).

Change in Relationship Dynamics

There was a lack of cohesion among victims of mass shootings related to how they experienced relationships with others after the event. Despite the vast differences between many victims’ experiences, the general finding among victims’ stories was that social relationships changed after the impacting mass shooting event. Relationships were implied to change both positively and negatively, as reflected in relationships that were supported, lost, or resulted in exclusion.

Supportive Relationships. Victims continuously reported finding support from, and healing in, their interactions with other mass shooting victims. Participant 40 emphasized, “she found the most help from people who have been there, the survivors of other mass shootings, all members of a club no one willingly joins, but its membership continues to grow” (Cowan, 2017, 2:44). Many victims created or joined support groups that provided opportunities to connect with other mass shooting victims. Changed senses of values were also reflected in social relationships. The added value placed on supportive relationships with others contributed to changes in the dynamics of relationships, as noted by Participant 77, who stated, “I consciously take more time to check in with my family. We try hard now to make sure that we have dinner together. And then we always check in before somebody goes off to do something.”

Loss of Relationships. Loss of relationships with others can result from the fatalities related to the event or can be attributed to occurrences in the aftermath of the event. With the loss of life comes the loss of some relationships. After she lost her daughter from a mass shooter, one mother explained, “Your identity has been stripped from you—whether its mother, or daddy, or father, or sister, or brother. I no longer have that title. I no longer have that relationship” (Participant 112). Some relationships lost their symbolic meaning, as explained by Participant 316, who shared, “I have lost a few close friends who feel like we are doing this [publicly advocating] for personal gain or attention. It is a really hard thing to choose between helping the nation or your best friend.”

Exclusion from Society. Many victims expressed feeling “outcasted” or “alone” after the event. Participant 90 shared, “I felt people just stayed away from me because I was different.” Several victims detailed their encounters with others after the shooting, with one noticing, “everybody kind of looked at

you a little bit differently . . . not knowing how to react, to talk to you” (Participant 334). Though considered a secondary victim herself, one first responder lacked clarity on how to interact with other victims: “It’s just awkward when you walk around town, and you see the faces that you see maybe on TV of the parents, and it’s just, you know, what’s the social norm for that?” (Participant 16). People’s lack of knowledge of or experience with confronting others after traumatic situations may have contributed to victims’ sense of isolation.

Emergence of New Performance Patterns

Victims of mass shootings often acquired new roles, habits, routines, and rituals after the event. Mass shooting victims involuntarily obtain new roles in a “club” of survivors. Though members in this club have not collectively claimed a preferred, encompassing title, one member labeled herself as many others have, asserting, “I’m not no victim, I’m a survivor. That’s what I’m going with. I’m a survivor” (Participant 323).

New habits described by victims of mass shootings often revolved around safety and emergency maintenance. Victims elicited specific, automatic behaviors to ease their feelings of safety, such as scanning new environments for potential safety risks, as explained by Participant 359, who said, “I can’t sit in a restaurant with my back to the wall since then. I have to be facing the door, able to see everything in the room.” New routines were also incorporated into victims’ lives, such as having to participate in “monthly code-red drills” (Participant 52). Performance patterns may be intertwined, as portrayed by Participant 310, who shared,

I’ve changed my day-to-day routine. I don’t go to the movies. When we go out, I know where the exits are. I sit with my back to the wall. Sometimes it’s easier to just not deal with it and stay home.

Rituals were prominent in victims’ coping responses. Ritualistic behaviors frequently occurred around the time of anniversaries and commemorated loss. Many victims shared stories of returning to the site of the shooting or visiting memorials on the anniversary of the event, while others prepared themselves for the emotional response they knew would ensue. Others honored loss on a more frequent basis, such as the couple (Participants 302 and 389) who described visiting “the site to tidy the memorial, pour water into flower vases, and toss open beer cans that begin to rot and give off a foul odor,” every week (Valdez, 2020, “People are definitely more anxious” Section, para. 3).

Shift in Life Narratives

The term “life narrative” is used in this study to refer to victims of mass shootings’ life stories, including their roles and occupational performance and participation, while the term “shift” delineates the continuation of victims’ lives in a different direction. Mass shootings are life-changing events for those who fall victim to them, often creating a distinguishable point in which victims’ lives are no longer the same. These effects can spread to impact victims at the primary, secondary, and tertiary levels. Participant 316 communicated this marked a point of change and vast impact by saying:

All of our lives changed entirely... not only just the [victims] and the victims' families, but also just every person that was affected in just the tiniest way, something changed in their life, and that's kinda a time stamp on our lives now: Before and After the shooting.

While many victims described drastic changes throughout many realms of their lives, others experienced smaller shifts that allowed them to uphold aspects of their prior life under new lights. Shifts

in life stories happened secondary to shifts in cognitions, such as described by Participant 200, who stated, “The rest of my experience at [school] has not been ruined. It’s been altered. But most important, I have been altered. My aspirations, my beliefs, my perspectives, my lifestyle, even my fears in this life.” For those who are fortunate enough to call themselves survivors or for those victims further removed from the direct impact of the event (i.e., secondary and tertiary victims), life is expected to go on. Despite this, the event is not erased but rather becomes a part of each victim’s new story: “It’s always going to be a part of us. It’s a part of [victim’s] life, and it’s gonna be a part of his narrative as he grows and becomes a man” (Participant 337).

Roles and Identities. Mass shootings can impact both victims’ perceptions of their roles and their ability to fulfill certain roles. After losing her daughter in the mass shooting they were both involved in, Participant 306 shared how the incident impacted her identity and role as a mother: “Life is never the same. I had other kids at home that needed me and I was no longer the mom they needed. I used to be a very strong, very athletic, thin, fit person. I was a go-getter.”

On the other hand, victims with pre-existing roles and identities, whether physical or symbolic, who are targeted by mass shootings (i.e., hate crimes), may also experience shifts in their occupational participation. Individuals throughout society who identify with groups targeted by mass shootings may be impacted in their perceptions of safety, a dynamic described by Participant 268, who stated, “The people that are most fearful to go to work today in [location] are Asian American women. It’s not White women, it’s Asian American women. They’re fearful to go to their service jobs today because of what happened yesterday.” A complex, intertwined relationship exists between mass shootings, roles, and identities.

Discussion

Stories shared by survivors of mass shootings revealed changes in occupational participation, performance, and fulfillment of meaningful roles and performance patterns following the incident. This study adds to the available literature by providing insight into the occupational impact of mass shootings. Occupational therapists and other health care providers need to be aware of the occupational impact of mass shootings to make informed decisions when treating clients or referring clients to occupational therapy services.

This study’s findings reinforced the results found in Cacciatore and Kurker’s (2020) and Schildkraut et al.’s (2020) direct research with victims of the Sandy Hook and Columbine school shootings, respectively. Though these studies did not focus on the occupational impact of mass shootings, both studies revealed that victims experience changes in their social and interpersonal relationships and interactions, roles and identities, and environmental factors, complementing the findings of this study. In addition, Cacciatore and Kurker (2020) also noted changes in physiological processes, health management, and cognitions (e.g., values, worldviews). Participants embraced social support as a means of coping, in addition to participating in activities and rituals, spiritual practices, and social and political activism (Cacciatore & Kurker, 2020). These previous publications focused on victims of one specified event and produced similar results to those found in the present study, which analyzed the experiences of those from multiple mass shootings, revealing that many experiences are shared across events. Further, Cacciatore and Kurker (2020) and Schildkraut et al.’s (2020) direct interviews with victims of mass shootings yielded many of the same results as this study did using unobtrusive methods, reinforcing the dependability of this study’s methods and results.

Limitations

This study faced limitations from the use of unobtrusive methods. To collect data through unobtrusive methods, victims must have openly shared their experiences on outlets that could be publicly accessed. Experiences analyzed in this study may not accurately represent the experiences of all mass shooting victims, as each event and victim's situation differ (i.e., mass shootings targeting specific populations, age of victims, time elapsed since the event to reflect and recover, pre-existing conditions, comfort in sharing). To address differences in representation, the primary investigator collected data eclectically by searching multiple sources and analyzing multiple events over a recent but expansive, inclusion time frame until saturation was met. As stories continue to be shared over time, more data becomes readily available to analyze using unobtrusive means.

Limitations to data collection and analysis were present. The use of secondary sources limited the amount and type of information that was available, as the interviewers from those sources may not have prompted victims to share experiences related to occupational or performance-based impact. An inability to speak directly with victims of mass shootings limited the amount and type of information received and interfered with the ability to receive clarification on statements made. Degrees of victimization were unable to be confirmed by participants. Therefore, the statistics presented in Figure 1 were determined as best as possible, given the information provided in the records. In addition, the alignment of data to a predetermined set of codes based on the OTPF narrowed the focus of this research. The focus on aligning data to the research question prevented the recognition of other potential areas of impact.

Though mass shootings have occurred worldwide, this study focused only on incidents that occurred in the United States. Cultural differences, including laws and regulations, and values and beliefs, limit the ability of this study's results to be generalized across populations. Additional differences exist between how sources define a mass shooting, creating the potential for statistical discrepancies related to the severity of an event, which simultaneously influences classification as a mass shooting. This study's lack of restrictive definitional criteria allowed for a well-rounded collection of a greater sum of stories spanning more events.

Implications for Practice

The fourth edition of the OTPF newly recognizes human-caused events as a type of environmental factor that can "result in the disruption of day-to-day life" (AOTA, 2020, p. 36). Human-caused or "human-made," disasters, such as mass shootings, are believed to have more detrimental effects than natural disasters (Wilson, 2015). Results reveal that victims of mass shootings face many occupation- and performance-based challenges, and therefore, may benefit from occupational therapy services. In their various roles, occupational therapists can educate and treat victims of mass shootings while advocating for their health and well-being. By recognizing and addressing multi-level barriers, occupational therapists can help victims of mass shootings throughout their rehabilitation process to facilitate their performance and participation in meaningful activities and performance patterns.

Conclusion

Victims of mass shootings in the United States experience changes in occupational performance, participation, and fulfillment of meaningful performance patterns, including roles, routines, habits, and rituals. Increasing therapists' awareness of the occupation-based changes that victims of mass shootings may experience can ensure their receipt of appropriate care. This research study increases the body of knowledge of the occupational impact that victims of mass shootings experience and highlights the need for future research on occupational therapists' role in working with this population.

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Appendix

Quoted Sources References

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The original sources for all quoted materials included in this publication are referenced below. This is not an exhaustive list of all the records collected and analyzed in this study. Due to the publicly accessible nature of the sources and each participant's quote(s), it has been deemed appropriate to include their references in this Appendix. Quotes referenced with parenthetical in-text citations throughout this study's Results section were stated by the original source's author or host, in their own words, on behalf of the participant referenced. Original author quotes were cited in-text to avoid plagiarism. The remaining quotes found in the Results section were stated directly by the participant, as published in the original source, and are cited here, rather than in-text to provide an extra level of anonymity.

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