Journal of Traumatic Stress Disorders & Treatment

Review Article

A SCITECHNOL JOURNAL

Unintentional Killing: A Neglected Trauma

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Abstract

Each year, thousands of people unintentionally kill someone in car crashes, gun accidents, medical errors, and other accidents. COVID transmission is another form of unintentional killing.

Many unintentional killers experience great anguish, but there is a dearth of research about the psychological effects of unintentional killing. This paper begins to fill the gap through a review of relevant literature.

This paper defines unintentional killing as: (a) involvement in an incident that resulted in a fatality; (b) perceiving oneself as responsible for the fatality; and (c) having intended no harm. A distinction is drawn between causal responsibility, which does not indicate culpability, and moral responsibility, which indicates blameworthiness.

Those who unintentionally kill are at risk for posttraumatic stress disorder, major depression, and other mental health problems. Four factors distinguish unintentional killing from other traumas, with implications for research and treatment.

First, unintentionally causing a death often produces significant guilt and shame. Those who are morally responsible (i.e., blameworthy) may show signs of moral injury. Those who are considered blameless may experience non-moral or accident guilt.

Second, the predominant cultural narrative for managing trauma – the journey from "victim" to "survivor" – is a poor fit for those who unintentionally kill. They are more like perpetrators rather than victims; and although they are survivors, this is not an indication of personal growth. A different language is needed.

Third, those who grieve for or identify with the victim(s) may retalate against or ostracize the unintentional killer. Research in moral psychology suggests that emotionally stirring events such as unintentional killing can lead others to mistakenly assume intentionality or impose harsh judgments of blame.

Fourth, there is a near-complete lack of resources for those who unintentionally kill.

Future research should address the frequency of unintentional killing and characteristics of unintentional killers, psychological outcomes, and treatment.

Keywords

Unintentional killing; Moral injury; Trauma; Guilt; Blame; Intention; Responsibility; Accident; PTSD

Introduction

Each year, thousands of people unintentionally kill someone, mostly in car crashes but also in gun accidents, workplace mishaps, medical errors, and accidents around the home or recreational settings. As a result of the pandemic, thousands more have inadvertently killed others by transmitting the coronavirus.

Ample anecdotal evidence suggests that these people are at risk for severe, long-term psychological distress, including dysfunction in family and other interpersonal relations, loss of productivity, social isolation, depression, and the inability to find meaning or joy in life. Yet there is a dearth of research on their experiences and needs. This paper begins to fill this gap, through a review of relevant literature and by providing directions for future research.

Why Study Unintentional Killing?

People who unintentionally kill someone suffer. Many are anguished, hopeless, and in the grip of tremendous guilt, shame, fear, and grief. Some are suicidal. A lack of supportive resources, ignorance on the part of family and friends about how to help, along with blame, anger, and sometimes a desire for retaliation from those mourning the victim mean that unintentional killers often suffer alone. Comments posted to a public website, https://www.accidentalimpacts.org, provide vivid examples:

- *They all try to tell me, "We saw (the fatal crash), it's not your fault." Those words are nothing. Like giving someone with 3rd degree burns sugar water for pain.*
- *The guilt I am feeling is unbearable. This family lost their husband and father, someone they loved and cherished and now their life will never be the same. I can't live with myself. I don't think I will ever forgive myself. How could I?*
- *When I was 19 years old, under the influence of drugs and alcohol, I accidentally shot and killed my friend… I have hated myself ever since. I am 30 years old now. I live each day in a fog and… there is a deep pain inside that I don't know how to talk about. I have tried to self-medicate, tried to live sober, and have contemplated suicide. I seem to have ups and downs. But I have ultimately failed at being productive with relationships and jobs.*
- *I will never forget that day or the guilt, shame, and sorrow that has been with me since… After this accident, all other aspects of my life came to a halt… I was only able to hang on, to just survive. I lost all confidence in myself and my hopes for my life.*

In arguing for more attention to unintentional killing, I do not suggest that these individuals are victims or should be relieved of their distress. Accountability and guilt are appropriate when one's actions lead to a fatality. But when unintentional killers' psychological needs are unrecognized and untreated, the opportunities for them to cope, grow, relate to others, and make reparations or amends are constrained. Systematic study of the psychological consequences of unintentional killing may raise awareness about this experience and inform the development of resources for treatment.

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Received: April 29, 2021 **Accepted:** May 03, 2021 **Published:** May 10, 2021

Toward a Definition of Unintentional Killing

Our society lacks a generally accepted word or phrase for those who unintentionally kill someone. A Google search indicates that "accidental killer" is most frequently used but use of the word "accident" renders this phrase objectionable to many safety advocates. At least 30 states, along with the National Highway Traffic Safety Administration, no longer use the word "accident" in reference to car crashes or collisions [1]. One journalist explained that use of the word "presupposes a conclusion that no one bears responsibility" [2]. Thus the phrase "accidental killer" would needlessly alienate important audiences for this work.

I have chosen to use the phrase "unintentional killer" (UK). Some may object to the word "killer," which is generally associated with intentional crimes, but no better alternative has presented itself at this time.

The definition of unintentional killing underlying this paper includes both objective and subjective elements. First, an unintentional killer is someone who has survived an incident in which another person or persons were killed. Second, the UK must hold themself responsible for the fatality – that is, must perceive themself as the agent of another person's death. Third, the UK must have intended no harm. Some UKs were blameless; others were negligent; and often there is disagreement and ambiguity about the UK's responsibility and culpability.

There are three ways in which one can be "responsible" for unintentionally killing another person. First is causal responsibility; for example, a lightning strike can be responsible for a forest fire [3]. In the context of unintentional killing, it applies to someone who lacks the capacity to control, understand, or foresee the results of their actions – a toddler who fires a loaded gun, or a driver without any history of coronary problems who has a sudden heart attack. Causal responsibility can also apply to situations beyond the UK's control, as when a pedestrian hidden from view runs into traffic. Those who are causally responsible are not culpable for the fatality, even though they were the agent of another person's death.

Second, moral responsibility refers to acts for which an individual is considered either blameworthy (and therefore culpable) or praiseworthy [4,5]. Moral responsibility means that the individual had control over their behavior, acted freely, and was aware of their actions [3,5]. Moral responsibility also suggests that the UK could have or should have foreseen the consequences of their behaviour [3,4,6].

A third form of responsibility is legal responsibility. State of mind (mens rea) is integral to most legal codes, so that more serious charges and harsher punishments are typically assigned to purposeful violations of law compared to those that are unintended. In most jurisdictions this is the primary difference between manslaughter and murder. Justice Oliver Wendell Holmes wrote, "Even a dog distinguishes between being stumbled over and kicked" (7, p. 3). Intention is not always legally relevant, however; strict liability laws hold people legally responsible for their actions regardless of intention. For a fuller discussion of mens rea and unintentional killing, see [8].

Occupying a murky middle ground between those who kill unintentionally and those who kill on purpose are those whose recklessness is so extreme that it signals disregard for the value of human life. It might apply, for example, to someone "who throws a brick from a twentieth-floor balcony into a crowd of people" [8, p.123]. Due to this lack of concern for human life, regardless of intention, I exclude this group from the discussion that follows.

Unintentional killing, in the context of this paper, can encompass any combination of the three forms of responsibility. Both UKs who perceive themselves as causally responsible for a fatality and those who perceive themselves as morally responsible for a fatality are at risk of mental health problems, although logic suggests they are likely to have different experiences and face different challenges.

Frequency of Unintentional Killing

167,127 people died from preventable injuries in the U.S. in 2018, making this the third most common cause of death after heart disease and cancer [9]. Almost one quarter of these, or 39,404 deaths, occurred in motor vehicle crashes. These numbers tell us little, however, about the number of victims who were unintentionally killed by others. They span a variety of situations-car crashes, unintended shootings, medical mistakes, childhood drownings or other avoidable child fatalities, occupational health and safety mishaps, fatalities attributable to sports or recreational accidents, providing opioids or other substances to someone who then overdoses, and accidents around the home. COVID-19 transmission is likely adding thousands more UKs. Unintentional killing can include acts of commission and acts of omission, such as failing to adequately supervise a child. Data about unintentional killing are incomplete at best, but available information indicates that thousands of people become unintentional killers every year in the U.S. alone.

1. The Fatality Analysis Reporting System (FARS), a national database of traffic fatalities, indicates that in 2017, 27,840 drivers survived a crash in which at least one other person died [10]. The percentage of these drivers who would consider themselves to be UKs is unknown. At minimum, the 5,890 drivers who killed pedestrians and the 770 who killed bicyclists are likely to fall into this category [11,12]. Another FARS analysis of drivers who survived a car crash that led to at least one fatality indicated that, over the five-year period 2013-2017, 22% of this population was charged with a violation, ranging from serious offenses such as homicide or manslaughter (4% in 2017), reckless driving (3%), and driving under the influence (4%) to infractions such as driving without a valid license (2%) [13].
2. Estimates of fatalities from medical errors vary. one study [14] estimated that medical errors account for about 25,000 deaths in the U.S. per year. In contrast, [15,16] estimated that up to 98,000 Americans die each year due to medical mistakes. The number of providers who might perceive themselves to be UKs is entirely unknown, and deaths due to medical errors by non-medical professionals (such as people caring for family members) is similarly unknown.
3. Unintentional shootings kill an average of 487 people in the U.S. each year [17].
4. Between 2010 and 2014, an average of 686 children (under age 15) in the U.S. died of drowning each year; two thirds were younger than 5 years old [18]. In many of these situations the adults responsible for supervising the children are likely to consider themselves to be UKs.
5. On average two children in the U.S. die every day from burns, and another two die every day from accidental poisoning [19]. A significant percentage of their parents or caregivers are likely to consider themselves UKs.

6. Over the past 20 years, an average of 39 children per year in the U.S. die of heat stroke from being closed inside a hot car [20]. Most of the drivers would consider themselves UKs.

7. As of this writing, over 500,000 people have died of COVID-19 in the U.S. alone. Even if only a small percentage of those who infect others consider themselves UKs, this might be the most frequent type of unintentional killing in 2020-2021.

Psychological Impacts of Unintentional Killing

Unintentional killing fits the DSM-5 criteria for PTSD, including identification of a stressor, such as exposure to death; fear of one's own death; and actual or threatened severe injury to others or oneself [21]. Anecdotal data indicate that UKs are at high risk for PTSD and other psychological disorders, such as major depression, generalized anxiety, phobias (e.g., driving), and substance abuse. For example:

- *I have not been able to leave the house at all... I have no clue how to function normally… I replay the moment over and over and am finding it impossible to sleep.*
- *The feeling that the world might just be a place of uncontrolled chaos still lingers. I have not let the fear stop me from living, but I think about the accident daily and I cannot ever shake the feeling that anything can happen at any time.*

Only two empirical studies have focused specifically on UKs. First, [22] conducted ten case studies with UKs, each of whom were interviewed repeatedly over a two-year period. Subjects ranged from 15 to 58 years old; the fatalities they caused had occurred between 18 months and ten years prior to the case study. Circumstances of the fatalities included car crashes, child drowning, a hunting accident, and forgetting to unplug a coffee machine that caught fire. Later, [23] expanded the study to 200 UKs. Results indicated high levels of psychological distress among virtually all subjects in the immediate aftermath of causing a fatality, including an initial period of shock, followed by preoccupation with the fatality. Anger, guilt, depression, social tension, and family stress were also common reactions. Ultimately most of their subjects did achieve a level of "healing," although [23] concluded that such events have "lifelong repercussions" (p. xix).

UKs who were relatively young (in their teens or twenties at the time of the fatality), who unintentionally killed a child or someone they knew, or were in close proximity to the victim's body had generally worse outcomes [23]. The use of a convenience sample, inconsistent data collection procedures, and a lack of information about data analysis limit the extent to which findings can be generalized to the population of UKs.

Twenty years later, Hemenway and colleagues [24,25] analyzed results of the National Co-morbidity Survey Replication to study individuals who unintentionally injured or killed another person. This nationally representative survey of 10,000 U.S. adults used structured interviews and diagnostic tools to assess the prevalence and correlates of mental disorders, based on the DSM IV. Data were collected between 2001 and 2003 [26]. In an analysis of 5,692 survey responses from people who completed a series of PTSD questions, [25] found that 110 (2%) reported having unintentionally killed or severely injured another person. Two thirds of this group were male; their mean age at the time of the interview was 42, and their mean age at the time of the unintentional injuring or killing event was 21. These respondents were far more likely than the general population to have mental health problems. Mental health problems that began after the unintentional injuring or killing event included PTSD (14% for injurers compared to 2% for non-injurers), major depression (26% vs. 11%), generalized anxiety disorder (12% s. 4%), alcohol abuse (22% vs. 4%), or drug abuse (20% vs. 1%).

Over the last decade, there has been no further empirical research on unintentional injuring or killing. Since trauma does not inevitably lead to PTSD, research is needed to better understand why some UKs develop PTSD and others do not.

How Unintentional Killing Differs from Other Traumas

Anecdote and direct observation point to four factors that distinguish unintentional killing from other traumas and may complicate or exacerbate psychological distress. These are: the moral dimension of unintentional killing; problems with the language commonly used to discuss trauma; a lack of supportive resources; and harsh reactions to UKs from others. None of these are unique to UKs; for example, some sexual assault survivors are blamed for their victimization or treated harshly by others. Together, however, these factors create a distinctive set of challenges for UKs and those attempting to help and support them.

Moral Issues

Regardless of the circumstances, unintentionally causing a death often produces severe guilt and may lead UKs to question their moral worth. Although not in the DSM, moral injury is increasingly recognized as a form of psychological distress distinct from PTSD [27,28]. This is a relatively recent area of study, so there is limited empirical research and a lack of consensus about definitional and methodological issues [29]. The most cited definition of moral injury is the distress that follows "perpetrating, failing to prevent, bearing witness to, or learning about acts that transgress deeply held moral beliefs and expectations" [30, p. 700]. This transgression leads to "dissonance and internal conflict" [31-33, p. 998].

Moral injury symptoms overlap with PTSD but whereas PTSD is fear-based, moral injury is based on guilt and shame and represents a crisis of conscience [34]. The signs of moral injury include guilt, shame, hopelessness, depression, remorse, re-experiencing, withdrawal, and social isolation [28,29]. Addiction and suicidal ideation may also be outcomes of moral injury [35], as well as spiritual questioning or a loss of faith [31]. Three categories of moral injury symptoms have been described: self-injury (e.g., suicidality, substance abuse); demoralization (e.g., sense of worthlessness, despair, and meaninglessness); and self-handicapping (e.g., shutting down positive emotions, social isolation) [30,36,37].

Although moral injury emerges from and largely focuses on work with veterans, [28] identified studies that show moral injury among healthcare providers, educators, law enforcement, child protection workers, and refugees. Thus, it seems feasible that UKs may experience moral injury.

UKs who hold themselves morally responsible (i.e., who blame themselves) for a fatality are likely at highest risk for moral injury. In fact, the signs of self-injury, demoralization, and self-handicapping that [30] described are evident in first person accounts:

- *I have contemplated suicide many times (since falling asleep at the wheel and unintentionally killing three people). I use alcohol and I have episodes where I can "melt down" but it doesn't stop me from drinking… I feel like giving up. I feel like I sabotage my own happiness because I don't deserve it.*
- *I have by horrible negligence possibly caused the death of a person… The minimum requirement of an ok person (is) not to cause loss of life… It feels like too much to bear to be the author of such pain.*
- *I feel like I can never be happy again and that I must suffer for what I've done.*

Guilt is a reasonable reaction when one's mistakes, even though inadvertent, cause harm to others. (Indeed, we are more likely to raise concerns about individuals who do not feel guilt under such circumstances.) Therapeutic interventions that aim to relieve guilt may be a poor fit for those UKs who commit moral transgressions, albeit unintentionally, that lead to a fatality. Under such circumstances, "moral repair" may be needed rather than "moral reassurance" [38, p.385]. For example, the goal of Adaptive Disclosure for moral injury is to "facilitate perspective taking and to shift beliefs from blameworthiness (which may be objectively true) to forgiveness and compassion (which are nonetheless possible) and in doing so, to facilitate the potential for living a moral and virtuous life going forward" [38, p. 386]. Adaptive Disclosure has been found to be effective for active military and veteran populations [39]. In its forthright recognition that moral transgressions were committed and in balancing accountability with compassion, it may prove to be a useful framework and method for treating UKs as well.

Empirical research is needed to determine if or how moral injury manifests differently between those who feel morally responsible (i.e., at fault or blameworthy) and those who consider themselves only causally responsible (i.e., not culpable) for a fatality. Yet, in reality there is often a large measure of overlap, ambiguity, or uncertainty. A distracted driver, for example, may accept responsibility even while recognizing that many other drivers engage in the exact same behavior but are lucky enough to avoid a crash [40,41]. On the other hand, some UKs who are viewed as blameless might nonetheless blame themselves or wonder if another person in the same situation could have been able to avoid the accident. For example, one UK commented, "So many people told me, 'It was just an accident, it wasn't your fault.' I got so tired of hearing it. Because it was my fault, I believed." Blaming oneself even when not at fault may represent an attempt to restore a sense of control [42,43], but at the cost of increasing guilt and shame [44,45].

While moral injury is closely tied to moral responsibility (i.e., to UKs who were blameworthy due to negligence or error) many UKs who were not at fault also describe experiencing moral distress. For example, in a personal essay,[46] wrote:

"I hadn't been drinking or speeding at the time of the accident. But I knew what I did was wrong – evil, on some level. I had killed a woman. I knew there was nothing I could do to undo it. There was nowhere I could go to get away from the feeling that I was no longer good."

[47] referred to this as non-moral guilt. He argued that non-moral guilt is neither pathological nor irrational but rather an indication of human solidarity and a "fundamental moral posture toward the world" (p. 222). Similarly, referring to a hypothetical truck driver who ran over a child who darted into the street, [48] wrote:

"Even while acknowledging that he did nothing wrong or negligent," the driver is unlikely to be able to look on what happened from purely a spectator's perspective; he will likely regret not only what happened but also what he did. He is likely to experience a kind of guilt, but a guilt that is paired uneasily with the recognition that he himself was simply a victim of bad fortune". (p. 30)

Also refusing to dismiss non-moral guilt as irrational, [49] suggested it can reflect an "open question" about responsibility and a psychological process of working through or figuring out one's role in a fatality (p. 223). This "accident guilt" can be considered "reparation for harm done" and a sign of moral character, although also a source of anguish [50, p.96].

Regardless of blame or culpability, unintentional killing is often experienced as a profound failure to live up to one's moral standards [51]. The trauma of involvement in a fatal accident is compounded by guilt and moral injury. This crisis of conscience is congruent with the situation, but UKs may need assistance in accurately appraising their level of responsibility, in managing associated guilt, and in regaining a sense of worth, meaning, and belonging [30,36,38].

Victims, Perpetrators, and Survivors

- *I'm not the victim so I don't deserve help.*
- *When you're the victim of an accident (as in, you were injured by someone) or an assault or some other life-changing terrible experience, that can be hard to talk about just because of how terrible it is. But when you are the cause of something terrible, there's a whole other element to that.*

UKs find it difficult to identify with the predominant cultural narrative for managing trauma – the triumphant or redemptive arc from "victim" to "survivor." This narrative speaks to a painful but ultimately rewarding process of personal growth. Although originally applied to women who were raped or abused, today the language of "victim" and "survivor" has been applied to a wide array of traumas, including childhood abuse, violent crime, disease, injury, terrorism, natural disasters, mass shootings, combat, and human trafficking. Despite compelling critiques about the limitations and risks inherent in this narrative arc, it offers those suffering from acute or posttraumatic stress a vision of a better future and can motivate help-seeking and growth [52-54]. Neither "victim" nor "survivor," however, is an appropriate designation for UKs. They are more like perpetrators rather than victims; they are quite literally survivors, but this is not a source of pride or an indication of personal growth. A different language is needed.

Blame, Shame, and Judgment

Although some UKs receive compassion and social support, there are numerous anecdotal accounts of UKs being ostracized, shamed, or threatened, either through direct communication or via social media.

- *I was taunted, hit, laughed at, picked on, had things thrown at me, was called a murderer, on and on.*
- *After the accident, local newspapers villainized me… The trolls added further trauma which I will never fully recover from. People can say the cruelest things.*
- *I stayed in my room for three months. I couldn't go anywhere because I heard [the victim's] brothers were looking for me.*

Such experiences can lead to a variety of negative effects, including loneliness, lowered self-esteem, loss of control, and loss of meaning to life [55-58].

It is unsurprising and understandable that family and friends of the victim would want the UK to face punishment. Others in the community – those who witness, read about, or hear about the incident – may also identify with the victim and impose harsh judgments, regardless of the actual facts of the situation. A growing body of work underscores how moral appraisals are influenced by the horror of the events [59-61]. Specifically, those who witness, respond to, or learn about unintentional killings risk making two types of errors: first, ascribing intentionality to unintentional acts; and second, exaggerating the extent to which the outcome was foreseeable and therefore assigning overly high levels of blame.

Emotionally upsetting events can lead observers to assume intention despite a lack of confirmatory evidence [59,62]. For example [63] argued for the presence of a pervasive "intentionality bias," or the tendency to assume by default that behavior is intentional. When subjects were instructed to make snap judgements about actions that are generally but not always accidental (e.g., "He hit the man with his car" or "He set the house on fire," p. 774), they were more likely to judge the actions to be intentional than were subjects who were given more time to consider. Thus, community members or others may jump to the conclusion that an unintended fatality was murder.

Even when a fatality is recognized as unintentional, several factors can lead observers to assign more blame to a UK than an objective review of circumstances might indicate. First, [64] noted that emotional arousal can lead to error:

"An observer who blames a driver for killing a child in a car accident, for example, might slightly exaggerate the driver's causal role in the incident… and convince herself that the driver could possibly have foreseen the consequences…" (p. 564).

Insufficient information can also lead observers to harsh judgments. In a series of experiments, [65] asked subjects to read vignettes and then assign an amount of blame to the protagonist. After reading, "Ted accidentally hit a man with his car," most subjects assigned a high degree of blame to Ted, but they decreased their rating when told, "Even though they were properly maintained, Ted's brakes failed to work" (p.220). Thus, observers moderated their judgments as more information became available to them.

Perceptions of the agent's character is a third source of biased judgments. In another series of experiments, subjects were more likely to blame a driver for a car crash if they believed he was speeding home to hide some crack cocaine than if he was speeding home to hide a present for a family member [66,67].

Aditionally, [65] identified other factors that bias observers' moral judgments:

"When people confront extreme acts of harm, make a single isolated judgment about an outgroup member, or when their judgments are anonymous and unchecked, motivational blame processes likely take hold. For example, in cases of personal injury to a loved one, people may not want to let the perpetrator off the hook…. And they may give less weight to intentionality or preventability and be more guided by their own desire to see the person be punished." (p. 232-233).

An important caveat is that this literature relies almost entirely on subjects' responses to vignettes and scenarios, a methodology with limited ecological validity, and is also subject to methodological ambiguities such as subtle semantic cues [68]. The extent to which this research on moral decision making reflects real world conditions has yet to be demonstrated.

Absence of Resources or Organized Support

- *These past 7 months have been a living nightmare. One of the hardest things about dealing with this is the lack of resources… I just want to talk to someone who somewhat understands.*
- *Although I have been told by police it was not my fault I just feel very alone. There is absolutely no support for the driver in these cases.*
- *My husband accidentally hit a pedestrian, and she died 4 days later. I am having a hard time finding any information to help my husband through this… He doesn't talk very much, so I usually just give him space. I am hoping I can get advice on how to help him.*

Unlike those who experience many other traumas, UKs will not find self-help books, support groups, or other resources to help them cope. Therapists trained to treat PTSD and moral injury can and do serve this population well, but lack specific therapeutic protocols, case studies, research findings, or other professional resources. Thus, UKs, their family and friends, and professional support (therapists, social workers, clergy, etc.) are largely on their own, which can lead to loneliness as well as inefficiencies in treatment, coping, and recovery.

Discussion

Unintentional killing affects tens of thousands of people every year and is a major trauma that can lead to significant mental health problems. Despite the severity of this trauma, unintentional killing is almost entirely neglected in the psychological literature. There is only one quantitative analysis of the psychological consequences of unintentionally causing harm to another [25] and one qualitative analysis [23]. There are no data about the prevalence or frequency of unintentional killing and/or people who define themselves as UKs. There are no clinical studies to guide or inform the work of psychotherapists. Also absent are research and resources to support, inform, and assist UKs and the people who care about them. The neglect of unintentional killing in the psychological literature means that UKs and their families and friends largely struggle alone to understand their experience and manage their feelings.

Some may believe that UKs deserve their suffering. Certainly guilt is appropriate when one's actions, albeit inadvertent, lead to tragedy and death. Yet severe distress may interfere with UKs' abilities to work, parent, and relate to others. It may also hinder UKs' efforts to make amends or reparations. If so, families, friends, workplaces, and entire communities are deprived of the potential contributions a UK might otherwise offer.

What might explain the lack of attention to unintentional killing to date? First, we lack a generally accepted definition of UKs. This paper proposes the use of three criteria: surviving an incident in which another person is killed; perceiving oneself as responsible for the fatality; and having benign intentions.

Second, UKs are difficult to find. Only a single national survey [25] has asked if respondents had inadvertently injured or killed someone. National databases are of limited utility. There are no support groups or associations for UKs from which samples can be drawn.

Third, UKs may not appear sympathetic or deserving of support, particularly those who were negligent or made serious mistakes that resulted in fatalities. Guilt and distress, under these conditions, should not be dismissed. But the goal of psychotherapy is not to relieve the UK of all guilt but rather to reduce daily dysfunction and to help the UK develop the capacity to make amends [38]. Good deeds or other pro-social behaviors do not make up for taking a life, but when UKs choose to do something to make the world a better place, many regain a sense of agency and belonging.

Finally, the idea of becoming a UK is so frightening that some, perhaps many, people do not want to dwell on it. UKs are unwelcome reminders that people have limited control over their lives and that good people can make terrible mistakes.

Despite these difficulties and disincentives, this paper argues that attention to the plight of UKs is needed, both to assist those who are suffering and to create more compassionate communities.

Although UKs are difficult to find, they are not impossible to find. Population surveys offer the most efficient and systematic means of identifying UKs. Large sample sizes are required – for example, only about 2% of respondents to the National Co-morbidity Survey-Replication reported having unintentionally killed or seriously injured someone. A variety of national and statewide health status surveys could be modified to include relevant questions (in some cases through optional modules).

In addition, insurance companies and law enforcement may be able to provide some information about UKs. For example, police accident reports are not disclosed to the public, but with appropriate protections in place for privacy, some jurisdictions might enable review of accident reports for research purposes (with results presented in aggregate and without identifying information). Similarly, UKs can be identified via announcements or advertisements as well as outreach to counselors, clergy, and others who encounter them.

Future directions for research include the following.

1. Number and characteristics of UKs. Data are lacking on the frequency and prevalence of unintentional killing as well as the number of self-defined UKs. Demographic characteristics are similarly unknown. Although national or statewide health status surveys are the optimal approach to addressing this, web-based surveys and/or respondent recruitment through social media are feasible alternatives.

2. Psychological effects of unintentional killing and treatment. Ample anecdotal data suggest that UKs face significant mental health challenges, but the prevalence of PTSD, moral injury, or other diagnoses is unknown. We also do not know how the psychological effects of unintentional killing vary as a function of a UK's degree of responsibility (causal vs. moral), response from the community, individual characteristics, or circumstances of the fatality. In addition to survey data, in-depth qualitative research will also be useful.

3. Treatment. Research is needed on clinical treatment of UKs. Established PTSD treatments are undoubtedly helpful, but treatment focused on UKs specifically may improve efficiency.

4. Diversity. The experience of UKs, mental health outcomes, and community response may vary significantly as a function of age, race or ethnicity, gender, income, and nationality. In the U.S., for example, one might expect that systemic racism would affect law enforcement and community responses to unintentional killing, so that people of color would face harsher consequences than whites. Teenagers are likely to have fewer coping resources than adults. Males and females might also manifest different responses to unintentional killing. Thus, future research should explore the effects of diversity.

5. Perceptions of UKs and attributions of intention, responsibility and blame. Research in moral psychology suggests that judgments about intention and blame are influenced by the emotional impact of the event, but this literature is based largely on carefully designed vignettes presented to subjects. Unlike structured vignettes, which enable investigators to systematically vary relevant factors, real world examples are complex and ambiguous. They do, however, offer an opportunity to study how people make moral judgments in the context of their everyday lives. For example, community members could be asked to respond to incidents of unintentional killing based on different media accounts; or they might be asked to apportion responsibility and blame when different perpetrators make similar mistakes (e.g., when the UK is Black or white, male or female). A better understanding of how ordinary people respond to unintentional killing in real life will inform mental health treatment, media coverage, criminal and civil justice, and community life generally.

This paper, and any discussion of UKs at this time, is limited by the need to rely on anecdote and observation since the empirical research is so sparse. Other areas of research that are indirectly related may shed light on the experience and needs of UKs. Examples include research on stress among soldiers who killed in combat [33]; mental health outcomes of involvement in car crashes [69]; or self-blame following trauma [70]. These bodies of research may be most useful in generating hypotheses for future research on UKs or, when empirical data become available, for comparing or contrasting UKs with other populations.

Conclusion

In comparison to other traumatic events, unintentional killing is distinguished by its moral shading. Regardless of the circumstances, many UKs blame themselves and experience great anguish. Their family relations, work, friendships, and well-being suffer, and they face elevated risks of suicide and substance abuse. The aftermath of these fatalities can further exacerbate trauma if the UK faces ostracism and retaliation, based on erroneous conclusions that others may reach about intentionality, blameworthiness, and culpability.

Yet, despite the severity of this trauma, unintentional killing is almost entirely neglected in the psychological literature on trauma. The lack of attention to UKs reflects logistical challenges such as the difficulty reaching this population, conceptual challenges such as the lack of a generally accepted definition, and normative challenges, especially negative attitudes toward UKs.

To the extent that we default to blame, we may not be interested in supporting or studying UKs. In fact, responsibility and causality are often ambiguous, and many if not most UKs suffer. In neglecting the experiences and needs of UKs, allowing misperceptions to flourish, or turning away from them, we only compound the toll these tragedies take.

Acknowledgements

I am pleased to acknowledge and thank several colleagues

- Julie Tison (Preusser Research Group) & Randy Reifsnyder (State of Arizona) provided data from the Fatality Analysis Reporting System.
- Camille Wortman, Christine Dunkel-Schetter, Matthew Gray, Jill Waterman, Gail Zellman, Kim Rice, John Reiman, and Shane Snowdon provided helpful comments on earlier drafts of this manuscript.

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