Synthese (2023) 202:1
https://doi.org/10.1007/s11229-023-04222-2

ORIGINAL RESEARCH

Epistemic agency and the generalisation of fear

Katherine Puddifoot[1] · Marina Trakas[2]

Received: 12 May 2022 / Accepted: 4 June 2023
© The Author(s) 2023

Abstract

Fear generalisation is a psychological phenomenon that occurs when fear that is elicited in response to a frightening stimulus spreads to similar or related stimuli. The practical harms of pathological fear generalisation related to trauma are well-documented, but little or no attention has been given so far to its epistemic harms. This paper fills this gap in the literature. It shows how the psychological phenomenon, when it becomes pathological, substantially curbs the epistemic agency of those who experience the fear that generalizes, limiting their ability to respond to evidence, and substantially limiting their epistemic horizons. It is argued that when these epistemic harms are caused by wrongful actions and decisions of individuals or institutions, because the fear is elicited in response to a traumatic experience inflicted by them, the harms should be considered epistemic wrongs. The epistemic wrongs are closely akin to agential epistemic injustice, a variety of distributive epistemic injustice, and sometimes also involve epistemic exclusion. The paper thereby identifies a previously underexplored psychological mechanism that can be a vehicle through which both individuals and institutions can epistemically wrong others. The argument has implications for how both epistemic wrongs and epistemic injustice should be conceived, suggesting that both can occur without being caused by primarily epistemic flaws or errors, or a bad epistemic character. Finally, it highlights the advantage of taking a victim-centred approach to understanding epistemic harm.

Keywords Fear generalization · Trauma · Epistemic harms · Epistemic wrongs · Epistemic injustice · Epistemic exclusion

---

Katherine Puddifoot and Marina Trakas have contributed equally to the paper.

✉ Marina Trakas
marina.trakas@conicet.gov.ar

Katherine Puddifoot
katherine.h.puddifoot@durham.ac.uk

[1] Durham University, Durham, UK

[2] Instituto de Investigaciones Filosóficas (IIF), Consejo Nacional de Investigaciones Científicas y Técnicas (CONICET) & Lab Sueño y Memoria, Instituto Tecnológico de Buenos Aires (ITBA), Buenos Aires, Argentina

Published online: 17 June 2023

1 Introduction

Fear generalisation occurs when a person has a fear response that generalises from a particular frightening object (aversive stimuli) to similar or related stimuli (people, places, events) which may not be dangerous. Fear generalisation can lead to avoidance behaviour, with some or all of the stimuli that elicit the fear response being avoided. Fear generalisation brings substantial practical harms to the person who experiences the fear but the primary goal of this paper is to show how these practical harms can be accompanied by, and can be accentuated by, epistemic harms for that same individual.

Under one lens, the epistemic harms associated with fear generalization can be viewed as the result of the operation of ordinary and extremely useful cognitive mechanisms. In the ever-changing environment that our world is, stimuli rarely repeat with exactly the same physical properties with which they were first encountered, so the ability to recognize that a newly encountered object is similar to a previously encountered one that lacks some of the same features, and to generalise observations about the latter to the former, is important and useful (Dunsmoor et al., 2009; Shepard, 1987). The spread of fear from an object that triggered the original fear response to other related or similar items could be viewed as either a product of, or part and parcel of, cognitive mechanisms that support this useful form of generalisation.

Viewed under another lens, though, many cases of fear generalisation can be seen as the product of something far more pernicious. This paper focuses on cases of fear overgeneralisation, where fear due to the wrongful actions of others becomes pathological. Examples of this type include cases where a person experiences fear in response to certain stimuli due to trauma such as a sexual assault. In this paper we argue that fear generalisation that occurs due to the wrongful action of one person or group of people towards another person can be not only ethically but also epistemically wrong and unjust (Fricker, 2007), and can constitute epistemic exclusion and oppression (Dotson, 2014). We show that the act of inflicting trauma on another person can bring substantial epistemic as well as practical harms to them, and argue that these harms that affect the person's ability to engage as epistemic agents should be considered *epistemic wrongs* as they are the epistemic aspects of non-epistemic wrongdoing. That the epistemic harms should be considered to be epistemic wrongs will be especially clear once it is shown how they are related to existing categories of epistemic wrong such as *agential epistemic injustice*, *distributive epistemic injustice*, and *epistemic exclusion*. Our main aim in this article is thus to show how the harmful actions of individuals and institutions that lead to fear generalisation can not only cause practical, psychological, and emotional wrongs to an individual, but can also wrong them as epistemic agents. Until these epistemic wrongs are acknowledged, progress towards tackling both the epistemic and non-epistemic harms involved in fear generalisation and trauma will be limited.

The structure of the paper is as follows. In Sect. 2, we describe fear generalisation in more detail. In Sect. 3, we describe epistemic harms suffered by people who experience fear that overgeneralises. In Sect. 4, we argue that when the fear is experienced due to the actions and decisions of other people, as in the case of rape and sexual assault, the epistemic harms can constitute epistemic wrongs that take the form of distributive epistemic injustices, sometimes involve epistemic exclusion, and are significantly

similar to agential testimonial injustice. In Sect. 5, we outline upshots of our argument discussion for how epistemic wrongs and epistemic injustice should be conceived.

2 Introducing fear generalisation

Let us begin, then, by exploring in more detail the phenomenon of fear generalisation. Fear-generalisation is a conditioned fear response. It occurs when fear elicited in response to a specific frightening stimulus spreads and generalises to similar or related stimuli (Lashley & Wade, 1946). Take an early study of fear-conditioning, that of Little Albert (Watson & Rayner, 1920). After being exposed to a pairing of a white rat with the sound of the stroke of a strong steel bar, an eleven-month-old baby developed a fearful reaction when faced not only with the white rat but also with a rabbit, a dog, a fur coat, cotton wool, and even a Santa Claus mask. The baby had a conditioned fear response that spread to other items that resembled in various ways the original object of fear—i.e., the white rat.

Whereas fear responses of healthy individuals are in general measured and appropriate to the context, individuals who have experienced traumatic events and suffer from PTSD exhibit increased sensitization to neutral stimuli related to the aversive event, and this occurs even in presence of cues that convey safety (Kheirbek et al., 2012). This tendency to overgeneralise the range of objects or situations that pose a threat is also a common characteristic of other mental health disorders, such as specific phobias, panic disorders, and other anxiety disorders (Dunsmoor & Paz, 2015; Lis et al., 2020). In all these cases, fear generalisation can interfere with daily life and become maladaptive for those who experience it. In this paper, we focus primarily on fear generalisation that has become pathological and is ultimately caused by paradigmatic traumatic experiences, such as rape, sexual assault, and experiences of war.

Two main kinds of fear generalisation have been distinguished in contemporary research: perceptual based and non-perceptual based (Bennett et al., 2015; Dunsmoor & Murphy, 2015; Dymond et al., 2015). Perceptual based fear generalisations occur when fear spreads from one stimulus to another based on their physical resemblance. Non-perceptual based fear generalisation occurs when fear spreads across stimuli due to conceptual or symbolical similarities between them. A terrifying encounter with a particular big dog, a Rottweiler, may lead to a general fear of all big dogs that are alike, such as other Rottweilers but also Pitbulls and Dobermans. This would be a case of perceptual based fear generalisation. But the same fearful encounter could also transfer fear to other stimuli that are significantly different in physical form to the Rottweiler but belong to the same category. For example, fear could transfer to other dogs that are not similar in body build or color, such as Labradors and Dalmatians. Whereas fear generalisation in non-human animals transfers from one context to another based on sensory cues, in humans the spread depends on complex symbolic networks and feelings that are generally unpredictable (Marks, 1987), as has been shown in little Albert's case. The terrifying encounter with the Rottweiler in my friend's balcony can explain instances of fear that occur, for example, when I see a picture of a Rottweiler on pet food packaging at the supermarket, when I am in balconies or other small

spaces with only one way out, and even when I am in contexts where loose dogs can be encountered, such as public parks. Networks of connected concepts, knowledge, and inferential reasoning also provide a route for fear generalisation (Dunsmoor & Murphy, 2015).

In fact, because of human capacity to abstract and relate meanings in novel ways, research focused on either perceptual or non-perceptual fear generalisation may perpetuate a false dichotomy. It is likely that real life instances of fear generalisation involve perceptual, conceptual and symbolic elements (Bennett et al., 2015; Dymond et al., 2018). Human fear generalisation is very complex, because real-world fear situations involve complex stimuli with multiple dimensions (Morey et al., 2020). Myriad cues can trigger an intense fear response. As a victim of rape explains,

> this is what rape is all about. It is a fear that to me has not died as the years roll by but becomes more intense and fearful. A face in a crowd—a program on T.V.—something someone says—a smell—for me it's rotten oranges—the way a stranger or a friend looks at you—holding my baby daughter—seeing my husband naked—going to the beach— talking to my best friend—a song—for me all these things and one more—the knife—cutting up vegies for my children's dinner or just making a sandwich—makes me being raped [number] years ago an everyday nightmare." (Easteal, 1994, p. 167)

As this example shows, in many cases, the trigger stimuli do not even have a strong conceptual relationship to the traumatic event, but are simply cues that were temporally associated with it, especially those present shortly before or during the traumatic event, such as smells and objects, specific phrases said in a certain tone of voice, etc. (Ehlers & Clark, 2000).

Many practical harms that pathological fear generalisation can produce for those who experience it are well documented in the psychological literature as well as in personal memoirs. In PTSD, for example, overgeneralisation leads to hypervigilance, exaggerated startle response, and problems with concentration due to the inability to filter safety cues. These disturbances generally cause significant distress and impairment in social, occupational, or other important areas of functioning (American Psychiatric Association, 2013). Alcoff (2018) describes how after being raped several times at 9 years old by a neighbor, she could not play any physical games, like hide-and-go-seek and frozen-statue-tag, and did not stand to be chased even in sports: "I would go for the person's face with my fingernails" (p. 22). Even today she still cannot bear to be chased or stalked or watched from behind; and if it happens, her "reaction is so immediate and neurological it cannot be argued with or rationalized away. The only thing I can do is to get out of the situation, immediately" (Alcoff, 2018, p. 22). As Brison (2002) explains when talking about survivors of trauma, many responses that were once under voluntary control become involuntary and uncontrollable reactions. So fear generalisation can involve a decrease of the individual's autonomy. What is more, disturbances in sexual life are a usual after-effect of rape and are related to fear-generalisation mechanisms. Avoidance of sexual intercourse–even with established partners–is common, because rape survivors frequently reencounter not only specific stimuli that produce disturbing flashbacks but also a more general feeling of being

pressured or coerced that acts as a reminder of the rape (Herman, 1992; van Wijk & Harrinson, 2014).[1]

Fear overgeneralisation can be harmful not only because it produces these practical harms to those who experience it, however. Often fear generalisation can also bring about distinctively *epistemic* harms to them. In the next two sections we explain, respectively, how fear generalisation can produce epistemic harms to those who experience the fear, and why at least some of these harms should be counted as epistemic wrongs.

3 The epistemic harms of fear generalisation

The practical harms associated with fear generalisation are extremely important and deserve attention, then, but our aim in this section is to emphasise that these practical harms are intertwined with significant epistemic harms that could easily go unappreciated given the nature of the practical harms that they accompany. To properly understand the problems faced by those who experience fear generalisation, and to make progress towards addressing the problems, one must appreciate that people undergoing fear generalisation often experience these epistemic harms.

Epistemic harms, as we understand them here, are harms that a person suffers in their capacity as an epistemic agent. An ideally well-functioning epistemic agent, who is well placed to acquire knowledge, would be responsive to evidence that they encounter in their environment. They would have the capacity to update their beliefs and judgements in response to evidence, either increasing the credence that they place in a belief if it is supported by new evidence, or reducing the credence they place in a belief if counterevidence is encountered. They would be able to gain, produce, and communicate knowledge. If a person is impeded from being a well-functioning agent, prevented from displaying these attributes or manifesting these tendencies, they are epistemically harmed. They are prevented from being a well-functioning epistemic agent. They may be denied access to information, denied the opportunity to convey that information to others, denied the opportunity to form coherent and well-formulated beliefs. They can be denied access to reliable informants, or treated by those informants as if they are not worthy of being informed. Being excluded from a situation in which they can receive, produce or distribute knowledge may epistemically harm a person. Epistemic harm is not an all-or-nothing thing, a person can display some aspects of good epistemic agency while at the same time displaying shortcomings that are the result of them being harmed. Let us begin, then, to reflect on how people who undergo fear generalisation can thereby suffer epistemic harms.

The first thing to note about the epistemic situation of people who undergo fear generalisation is that beliefs that they have formed about traumatic experiences that they have undergone are likely to be poorly fitted to their other existing beliefs and

[1] Although the lab-based study of behavioral or "instrumental" avoidance has regained interest only in the last decade among the scientific community (Beckers and Craske, 2017), recent results also confirm the evidence of the practical harms related to fear generalisation that has been already provided in clinical studies and personal anecdotes. As an example, in the laboratory study done by van Meurs et al. (2014), avoidance due to excessive fear-generalisation compromised the successful performance of a task.

resistant to change in response to evidence. There is reason to think that people who have undergone trauma can have trouble accessing and linking together significant details of the traumatic event (Brewin, 2007, 2016; Ehlers et al., 2004; Foa et al., 1995). Because of this, recall of traumatic events may be poorly organized, fragmented, and not integrated into the autobiographical memory base.[2] Sensory imagery can continue to be re-experienced even if other information that contradicts the imagery, suggesting it is false, has already been encoded in memory (Ehlers & Clark, 2000). Furthermore, traumatic memories are less likely than other memories to be quickly updated in response to information pertaining to the event that is encountered after the event (Ehlers et al., 2004) undergoing what has become known as the post-event information effect (see, e.g., Loftus, 2005).

Human memories tend to be malleable. When memories are retrieved they can be updated, through the process of reconsolidation, with new information about the event that is remembered or encountered. This process explains the well-known misinformation effect (Hardt et al, 2010; Loftus, 2005; Schacter & Loftus, 2013). This effect occurs, for example, when eyewitnesses to a crime form false beliefs about an event that they have witnessed because their recollection of the event is updated to reflect false information provided to them by others (e.g., other eyewitnesses, suggestive police questioning) after the event (Loftus, 2005). Reconsolidation provides the opportunity for false information to influence how an event is remembered but it can also bring epistemic benefits, allowing people to form more accurate representations of the past if the information that updates the memory is accurate and the initial memory is partial, blurred, or includes elements of inaccuracy (Puddifoot & Bortolotti, 2019; Trakas, 2019). However, traumatic memories seem not to be as malleable as (at least some) other memories (Ehlers et al., 2004). This means that one important aspect of good epistemic agency—i.e., responsiveness to evidence—seems to be impeded by the experience of fear and the formation of the traumatic memory.

Where a fearful belief about past trauma is poorly responsive to evidence in these ways, and then is activated in response to a new object, leading the new object to be feared, any judgement that the new object is fearful is also poorly supported by the evidence. Take, for example, a man who was confused about the temporal order of the events in a fight and initially fails to recall that he was the first to be violent (Ehlers et al., 2004, p. 409). He falsely recollects that he was attacked first by a person of a particular ethnic group other than his own. He develops a fear of being attacked by people of that ethnic group. His fear, which generalises beyond the individual to their whole ethnic group, is completely unsupported by the evidence. Not only is there good reason to deny that his fear should generalise from one member of an ethnic group to another, there is no evidence that a member of the ethnic group has attacked him on which to base this inadvisable (and morally unjustifiable) generalisation. The evidence

[2] The idea that memories of traumatic experiences are fragmented and poorly organized continues to be the object of debate among psychologists (see Brewin 2007; Brewin, 2016; Rubin et al, 2016; and more recently, McNally, 2021; McNally, 2022). Even if memories of traumatic experiences do not result to be fragmented after all and thus, different from other significative memories or memories of everyday experiences, our argument still holds. This is because first, there is reason to think that trauma memories are less likely than others to be updated in response to new evidence; and second, because the mechanism of fear generalisation itself can bring epistemic harms, independently of the accuracy and integration of the traumatic memory that originated it, as we develop next.

presented by the event is that he was the first to engage in violence but his generalised fear judgement does not reflect this evidence. He is unable to access encoded information that could successfully update the representation of the event because of the resistance and fragmentation characteristic of traumatic memories. If we suppose he does not update the representation in response to new evidence that he encounters, so he retains an inaccurate representation that fails to reflect relevant evidence, this inaccurate representation is the foundation of his fear, which then generalises to other objects. The fearful responses to other objects are extremely poorly supported by the available evidence. Similarly, consider the example of a man who was caught in a fight between football hooligans and the police, formed a false image of the police smashing up his car, and subsequently developed extreme anxiety when seeing police officers (Ibid., p. 410). The anxiety that he experiences, and judgements that he subsequently makes about police officers and the threat that they pose, are completely unsupported by the available evidence. They will be especially poorly supported by the evidence if the man has encountered evidence that the police officer did not smash up his car but his fear memory is not updated as a result. One significant epistemic harm of fear generalisation, then, is that memories that are poorly supported by the evidence are allowed to easily influence judgements of and attitudes towards new objects, leading to judgements of and attitudes towards these objects that are not well supported by the evidence.

In the types of cases just described, the principal source of the epistemic harm is the false or distorted memory from which the fear generalisation originates. In other cases, the epistemic harms are directly the result of the process of generalisation rather than due to the nature of the memory that leads to the generalisation. As already indicated in Sect. 2, when fear generalisation involves overgeneralisation it produces pathological behaviors by contributing to avoidance of stimuli, people and situations that are associated with a feared outcome (Dunsmoor & Paz, 2015). The avoidance of certain people and contexts limits the epistemic horizons of the rememberer, preventing them from entering into situations where they could gain knowledge, and thereby preventing them from gaining knowledge that they could acquire in these contexts. The information that is missed can be of two types: (i) information about or only to be gained from specific new individuals and circumstances, and (ii) information pertaining to how far it is appropriate for their fear to generalize, including information that disconfirms negative expectations about particular individuals, groups, and circumstances.

The avoidance of certain people and circumstances may prevent those experiencing fear generalisation from getting information about individuals and contexts that can only be gained by meeting those individuals and entering those contexts. Avoidance of specific places, such as pubs and parties, may prevent people from accessing information both about what it is like to engage in activities that happen in these places but also information that tends to be gained in such contexts, e.g., information about social networks. Fear of a specific ethnic group may prevent a person from discovering a large amount that they could find out about that ethnic group from speaking to them. It may also prevent the person from gaining vast swathes of other information that can be provided by members of that ethnic group, from information about trivial matters, such as the time a train leaves or the outcome of a sporting event, to more crucial matters, such as the outcome of a medical test conducted by a member of that ethnic

group. Fear and loss of trust in men and difficulty developing friendships with men are a common outcome in some women after being raped. This may prevent women who have been raped from gaining information that they might otherwise acquire by engaging in conversations with men. One need not be committed to the idea that men have some specific knowledge that women lack to see that avoiding developing friendships with men will lead to missed opportunities to acquire knowledge. All that is required is recognition that sometimes friendships, including between men and women, involve the transmission of information from one friend to the other.

One might still be tempted to think that while it is a shame that fear generalisation leads knowledge to be missed by the person who undergoes the fear, that there is no *significant* epistemic harm. The thought might be developed along the following lines: there is a large amount of knowledge to acquire, all contexts and all people with whom we might communicate have the potential to provide knowledge, but everyone can only occupy some contexts and engage with some people, therefore we are all limited with respect to the information we can acquire. How, it might be asked, is there a qualitative difference between the person who undergoes fear generalisation and everyone else? We all, after all, can only acquire the knowledge available in some contexts and from some people.

Here are some reasons why this objection does not work. In comparison with the general population, there are far more contexts that people undergoing fear generalisation cannot enter, therefore significantly more epistemic loss. Compare, for example, a non-racist and open-minded person living in a multicultural society, a racist and closed-minded person in a multicultural society, and someone who suffers from fear generalisation towards a particular ethnic group due to a previous traumatic experience with a member of that group. The person who suffers fear generalisation will experience significantly more epistemic loss than both of the others.

An overtly racist person may have a reduced circle of friends and voluntarily decide to not visit certain neighbourhoods and places. This limits the information that the person can acquire in comparison with a non-racist and open-minded person who befriends people from different cultures: the latter has more opportunities to gather knowledge about different beliefs, practices and perspectives than the former. Nonetheless, an overtly racist person may sporadically speak with someone from a different ethnic group at work or in a party. He may distrust them but not fear them in the same way as someone who suffers from fear generalisation after a traumatic experience. He may even accept an invitation to go to a place he would not normally go on his own, if he is compelled to do so: he may go to a colleague's party that is celebrated in a restaurant in a neighbourhood predominantly populated by an ethnic minority group, for example. Such a variety of choices may not be available to someone who undergoes fear generalized to all or many members of a specific ethnic group after a traumatic experience. The person who experiences fear generalisation may refuse to go not only to a party celebrated in a certain neighborhood but to any kind of party because, for example, she is afraid of being noticed and looked at (Kate in Kappler, 2012, p. 121). She may even refuse to go out at night. She may not only be unable to sporadically speak to men of an ethnic group whom she fears at work, but even quit her job. As Herman (1992) explains, because traumatized people can never be assured that they will not encounter some reminder of the trauma, safe environments

may come to feel dangerous. In an attempt to experience safety and to control their fear, they restrict their life, especially activities outside the home. Fear and distrust can sometimes lead to social distance and even social isolation (see, e.g., Elaine in Kappler, 2012). Because the avoidance behavior is greater, and far more contexts and interactions are avoided, the epistemic loss of a person who undergoes fear generalisation after a traumatic event is greater even than the epistemic loss suffered by an overtly racist and close-minded person. It is much greater than the average epistemic loss that follows from the normal limitations of contexts and people that non-racist and open-minded people can encounter in their limited human existence.

Sometimes the information that is lost is quite specific in nature but of a type that is normally accessible to most people who do not experience fear generalisation. For example, being sexually harassed, abused or raped at school or college can have negative educational and academic implications (Duffy et al., 2004; Hill & Silva, 2005), preventing people from gaining the basic education that is available to most in their society. In a survey on sexual harassment on campus in the US (Hill & Silva, 2005), almost half of the participants avoided the person who harassed them. This may be particularly harmful from an epistemic perspective when that person is a teacher or professor. As one student reported, sexual harassment affects her education because "it affects my willingness to accept the advice or lectures offered by professors" (Ibid., p. 27). Almost 30% stayed away from specific buildings and places on campus, 10% stopped attending a particular activity or sport, and 10% skipped a class or dropped a course. In fact, a recent study has shown that sexual harassment and abuse is strongly associated to decreases in the grade point average (GPA) (Mengo & Black, 2016). In some cases, the person may change or even leave school or college. Because the avoidance behavior spreads to many places and contexts, access to normally accessible information in educational settings is restricted, producing important epistemic harms.

Here is another concrete example: in non-coercive situations, our sexual subjectivity develops in consensual sexual practices with others. Engaging in these practices provides knowledge about one's own sexual pleasure and desires that is necessary to have sexual agency in our lives (Alcoff, 2018). Rape victims, especially those who were virgin when raped, do not have access or have difficulties accessing this information about themselves. Because fear leads many of them to avoid sexual encounters for a long time, this "shocking introduction to men and sexuality" (unnamed victim/survivor in Easteal, 1994, p. 165) prevents them from gaining knowledge about their own sexual pleasure and sexual self, which at the same time, impairs the development of their autonomy as sexual agents. As in the previous example, the difficulties accessing information that in normal conditions is relatively easy to access produce significant epistemic harms, in this case, to self-knowledge.

It is also important to note that victims of sexual assault may develop problems communicating with people who are in positions of authority over them (Easteal, 1994), for example, at work. People who are in positions of authority are often men, and women who have experienced sexual assault by a man may develop problems communicating with all men. Men who are in positions of power and authority are sources of a good deal of insider knowledge. The loss of this specific knowledge is a serious epistemic loss. Due to the fear of communicating with a superior at work, a victim of sexual assault may fail to get information that is essential for them to perform

well, including feedback about their own work. They might be at a disadvantage in comparison with their colleagues who can communicate openly with their superiors and get more information or information of a better quality. Not socialising outside the workplace, due to fear of either one's colleagues or the setting in which the socialising occurs, and not forming informal relationships with people in positions of authority, can also bring tangible epistemic harms such as not getting promotion and progression and the markers of credibility that these bring.

The kind of information that is lost is not only information about particular individuals and contexts, information that could be gained via education, information useful in certain contexts such as the workplace, or information about oneself. The avoidance of certain people and circumstances also brings a significant epistemic harm that perpetuates and accentuates the person's symptomatology, including the impairment of their epistemic agency: it prevents the person who suffers fear generalisation from getting information that can disconfirm their negative expectations and limit how far their fear generalises (Dunsmoor & Paz, 2015).

Repeated exposure to corrective information (also known as "extinction training" in laboratory protocols) is standardly considered to be an essential condition for reduction of fear generalisation (Foa & Kozak, 1986). To overcome an overgeneralised fear response, a person must be confronted with a feared situation. The situation must present information that activates the generalized fear memory but is incompatible with it. Having an agreeable talk with an understanding and supportive male superior at work, going back to school and being warmly welcomed by friends and teachers, talking and socialising with friendly and respectful men—each of these experiences would provide information incompatible with the fear memories mentioned in our previous examples. Because the information disconfirms the person's negative expectations, the physiological fear response decreases and this interoceptive information about the absence of physiological arousal can update the original memory trace, weakening the pre-existing links between the stimulus and the fear response. Alternatively, the new information can create a new "safety" memory that can finally inhibit the original one (Bonilla et al, 2021; Bouton, 2014; Kheirbek et al., 2012; Lonsdorf et al, 2017; Schiller et al., 2012).

Although not all who suffer from fear overgeneralisation benefit from repeated exposure, it in many cases reduces how far fear generalizes. By repeated exposure, the person has more opportunities to learn to discriminate between the stimulus that occurred in the context of trauma and the harmless stimuli in the present context, which are simply reminders of the past event but do not indicate danger now (Ehlers et al., 2004). These disconfirmatory experiences seem to be significant for rape victims: empirical studies have shown that women rape survivors who had intimate and loving relationships with men were the least symptomatic and had a faster recovery (Herman, 1992, p. 63). Disconfirmatory experiences also allow those who experience generalised fear to gain information about the nature of their anxiety itself, disconfirming the idea that anxiety only decreases through escape or avoidance (Foa & Kozak, 1986).

As Herman (1992) explains, in avoiding contexts, people and situations reminiscent of past trauma, those people who suffer from fear generalisation deprive themselves of those new opportunities that can help them gain disconfirmatory information and mitigate the effect of the traumatic experience. There are multiple epistemic harms

of this avoidance: not only is the fear generalisation not modulated, continued avoidance behaviour is likely, bringing an associated loss of opportunities to acquire other knowledge.

It is now clear that there are several significant epistemic harms associated with fear generalisation. When people form fearful beliefs due to trauma these are often not fitting with or malleable in response to evidence, so can be poorly supported by the evidence. When this fear is generalised to new objects (e.g., people/animals/places), and the new objects are judged to be fearful, the judgement is poorly supported by the evidence. Fear generalisation can also limit people's epistemic horizons, so they miss out on the opportunity to gain knowledge that could only be gained in contexts that they avoid. Some of the information that can be missed by people undergoing fear generalisation could modulate their fear, preventing future overgeneralisation. Their limited exposure to this information sustains a situation in which they have limited epistemic horizons. These are all epistemic harms because they are all ways that the epistemic agency of the person undergoing fear generalisation is curbed. They are prevented, within certain domains or contexts, from being a well-functioning epistemic agent, who can seek out and respond to information, forming beliefs and judgements that are fitting with good quality evidence, and gaining and being able to communicate knowledge.

4 Fear generalisation, epistemic wrongs and epistemic injustice

We are now in a good position to understand the nature of the epistemic harms that result from the pathological activation and spreading of fear. This section argues that some of these harms constitute epistemic wrongs. We argue that the epistemic harms that occur when fear spreads and overgeneralises are sometimes wrongful; they are the epistemic aspects of wrongful actions. We also argue that the epistemic harms are importantly similar to those previously described as *agential epistemic injustice*, but also constitute forms of *distributive epistemic injustice* and, in some cases, *epistemic oppression.* Each of these points suggests that actions that induce fear that spreads can epistemically wrong others. We thus call attention to how epistemic wrongs can occur in cases of trauma while being the consequence of actions that are likely to primarily be characterised as non-epistemic wrongs. The epistemic wrongs are not primarily caused by the bad *epistemic* character of the wrongdoers, but, we would argue, they are nonetheless significant epistemic wrongs that deserve recognition as such.

Establishing that there is an epistemic wrong involves showing that there are epistemic harms that are wrongful, or, as Steup and Neta (2020) put it, "Obstructing an agent's cognitive success constitutes an epistemic harm. *Wrongly* obstructing an agent's cognitive success constitutes an epistemic wrong" (emphasis added). Some cases of fear generalisation are not directly caused by any wrongful behaviour on the part of either any individual agent, collective moral agent, or social structure. Take, for instance, a person who experiences trauma and fear generalisation as a result of a natural disaster such as a tsunami. The person happened to be near the beach when the tsunami took place. The government had invested funds in research and cutting-edge technology to try to accurately predict tsunamis, but this tsunami was unpredictable

due to the limitations of human knowledge. In this case, there is no agent who is acting wrongfully, and there seems to be no social structure or institution to which fault can be attributed. The victim of the tsunami experiences fear generalisation that is the result of bad luck rather than an injustice. Something similar may be said about some cases where people experience fear generalisation as a part of a broader mental health condition, such as some phobias, if the mental health condition is not a result of anyone else's behaviour, they have received appropriate treatment, and so forth. Other cases of fear generalisation are not like this. An individual agent, collective agent, or social structure is directly implicated in the creation of the fear that becomes generalised. We focus here specifically on cases where an agent—an individual or institution—makes some decisions and performs certain actions that inflict trauma on another person and this leads to fear that spreads and overgeneralises. In these types of cases, we argue, specifically when it seems uncontroversial that the agent does something wrong, the epistemic harms of fear generalisation can correctly be considered as epistemic wrongs.

A range of cases in which a specific fear-inducing experience is the result of wrongful behaviour of an individual agent were described in Sect. 3: cases of sexual assault and rape. Collective agents like social institutions can also be causally responsible for wronging people, and thereby inducing fear that spreads through generalization.[3] Consider, for example, how sexual assault and rape are not only committed by a single person or group of people–known or not known by the victim–but are a strategy deliberately used by armed forces and armed groups as a tool of genocide, expulsion, revenge, or obedience. In these cases, rape becomes a weapon of war that aims to destabilise and destroy communities' bonds and culture for tactical purposes (Card, 1996; Glass et al., 2012). As Alcoff (2018) explains, in numerous wars "rape camps" were set up, organized and maintained by military institutions, so rape was not the result of social chaos but part of a calculated and strategic campaign to produce political chaos in the targeted communities. People who were raped in these circumstances can generalize their fear to military personnel, and even to people of certain nationality or ethnicity whose country or group was involved in the war. These cases of fear generalisation are at the same time caused by the actions of individuals and by the decisions of armed groups, military institutions, and governments. Another example is that of asylum seekers. Asylum seekers can experience trauma within asylum systems, due to being separated from their family, placed in detention centres, denied the right to work, and so forth (see, e.g., Souter, 2011). If an asylum seeker experiences a fear response to some aspect of the asylum system (e.g., the UK Home Office Presenting officers), and this fear spreads (e.g., to other government officials, officials in the UK, the UK in general), the generalisation of the fear could reasonably be said to be the result of both the institution of the asylum system and asylum policy making. When decisions are made about how asylum seekers will be treated within the asylum system, and those decisions place these human beings in foreseeably fear-inducing situations, there is reason to think that the asylum seekers are wronged by the decisions.

[3] Following Haslanger (2021), we take social institutions to be social systems and structures "created by design and governed by an explicit set of rules" where "institutional power involves authority distributed by the rules of the organisation". Institutions include policy makers, legal systems, education systems, medical organisations, welfare systems and military organisations.

In such cases, where fear generalisation is caused by harmful actions of individuals or institutions, it might be tempting to say that there is a wrong committed but identify the wrong with the psychological, emotional, and practical harms associated with the fear, rather than the epistemic harms. But there seems to be little reason to deny that the epistemic harms also constitute wrongs. Take the example of young people who are assaulted, and consequently experience anxiety and fear that spreads. They withdraw from social and educational situations, choosing not to attend school. They miss out on educational opportunities and no longer pursue a prestigious career that they had previously intended to pursue. It seems arbitrary to deny that the severe epistemic harms that accompany the psychological and emotional impacts of their assault are a part of the wrong of the assault. To be consistent, it seems one is required to acknowledge that the epistemic harms are part of the wrong of the assault alongside other psychological, emotional, and practical harms. If a survivor of assault has a fear response that is resistant to counterevidence, closes themselves off to certain experiences, narrowing their epistemic horizons, and is therefore restricted in the knowledge that they can gain, including knowledge about how far their fear should generalise, then this is because of the actions of the agent, and part of the wrongs inflicted by the agent. These are epistemic harms that are wrongful. Therefore, they are *epistemic wrongs*.

It might be objected at this point that people who induce fear that generalises in others rarely intend or foresee the epistemic harms, and that epistemically wronging someone requires knowingly or intentionally epistemically harming them. For example, it might be objected that a military official who makes a decision that leads a woman to be raped, or a policy maker who selects asylum policy that inflicts trauma, is unlikely to be considering the epistemic harms that follow. One way to develop this thought might be to stipulate that epistemically wronging a person requires being responsible for epistemically harming them, and a person is only responsible for those consequences of their actions that they intend or could reasonably be expected to foresee.

Here are some responses to this objection. First, it does not fit with what we take to be standard moral intuitions, such as the intuition that if a young person is assaulted and this brings a loss of educational opportunity, this epistemic loss constitutes part of the wrong of the assault regardless of whether the assailant is aware of it. To the extent that our philosophical conceptions should match our intuitions about cases, this counts against restricting the application of the term 'epistemic wrong' in this way. Second, this approach substantially weakens the normative force of the term epistemic wrong. Consider, e.g., how Fricker (2007) uses the notion of epistemic wrong to capture how prejudiced individuals can dismiss the testimony of members of groups whose social identity they associate with being insincere or unreliable. A restrictive notion of what it is to epistemically wrong someone would imply that epistemic wrong (in this type of case testimonial injustice) could not happen if the person who dismisses the testimony is not aware of the epistemic harm that they are causing. This would mean that anyone who is prejudiced in a way that means that they are not aware of the harm their prejudice causes would not epistemically wrong another person. Anyone who dismisses testimony unconsciously, without being aware of doing so, would not count as epistemically wronging the person whose testimony is dismissed.

In an extreme case of this sort, a person may be so prejudiced against people with a certain social identity (e.g., older people or those with learning disabilities) that they do not recognise them as epistemic agents, who can be harmed as such. To deny that there is epistemically wrongdoing in such cases, because of the lack of awareness of the epistemic harm caused, would be to substantially weaken the notion of epistemic wrong by significantly reducing the scope of its application. To avoid this undesirable result, it is necessary to accept that people can wrong others in their capacity as knowers without being aware of the epistemic harms that they inflict. Our suggestion here is that cases where a person induces fear in another, through their wrongful actions, are cases where the former can epistemically wrong the latter, even if the former is completely unaware of the epistemic harms that follow from their wrongful action. The intention of the agent, as well as the knowledge and awareness that they had when he performed the action, might or might not be criteria to determine the responsibility of the agent, but it does not determine the practical and epistemic wrongs that a person suffers as a consequence of the action.

With this initial case in support of the conclusion that the epistemic harms of fear generalisation sometimes constitute epistemic wrongs in place, we can consider in more detail the nature of the epistemic wrongs. In doing so, we will see that some of the epistemic harms associated with fear generalisation can be classified alongside other epistemic wrongs as forms of, or as importantly similar to, *agential epistemic injustice*, *distributive epistemic injustice*, and *epistemic exclusion.* Articulating how fear generalisation relates to these existing categories of epistemic wrong will strengthen the claim that the epistemic harms of fear generalisation are epistemic wrongs.

Let us begin, then, by considering how the epistemic harms described in Sect. 3 relate to agential epistemic injustice. *Agential epistemic injustice* occurs when a person has their epistemic agency curbed, stymied or subverted away from their epistemic goals (Lackey, 2021; Medina, 2021). Jennifer Lackey (2021), for example, describes how eyewitnesses in criminal cases can be coerced into providing false testimony that incriminates specific suspects. They are only believed when they provide false testimony. She describes how eyewitnesses can be made, through coercive techniques, to prioritise their practical goals, such as escaping a stressful situation, avoiding punishment, or gaining a promised or implied reward, over their epistemic goals. The eyewitness does not have the opportunity to fully express their epistemic agency by providing a true account of what they witnessed. They are instead forced to use their epistemic agency primarily to discern what would be the right thing to say to achieve their practical goals. There are significant differences between cases of agential epistemic injustice and the epistemic harms of fear generalisation discussed here. For example, in agential testimonial injustice (as described by Lackey), there is an epistemic exchange that occurs, in which a speaker is required to provide testimony. The injustice occurs when the speaker is only believed if they speak untruths (cf. Medina, 2021). However, there is one important similarity between the two types of case: in agential epistemic injustice the epistemic agency of the testifier is curbed and stymied and they are required to direct their energies towards achieving their practical rather than their epistemic goals. Similarly, in some cases of fear generalisation, a person is effectively forced to withdraw from contexts in which they could gain knowledge, due to fear-inducing actions of others. They have their epistemic agency curbed and

stymied. To the extent that they can make a conscious choice about whether they should enter these contexts, they are forced to prioritise their practical goal of avoiding the fear-inducing situation over their epistemic goals of, for instance, gaining an education or information that would be useful for progression in their career. If it is an epistemic wrong that an eyewitness is forced by coercion to prioritise practical goals over the goal of being a good epistemic agent, then it is also an epistemic wrong that those who experience generalised fear are forced to prioritise the practical goal of avoiding the fear-inducing situation over their epistemic goals.

The primary epistemic wrong of fear generalisation can be understood, then, as the curbing of the epistemic agency of the person who experiences the fear. The main problem is not that there is a finite set of epistemic goods—access to processes of knowledge acquisition, production, and communication—that has been distributed unfairly when people experience fear generalisation. However, one consequence of fear generalisation is that some people, due to fear-inducing experiences, in many cases imposed by others, will have less access to epistemic goods than the average member of the general population who did not suffer from fear generalisation. Therefore, it will be an unequal distribution of opportunities to acquire epistemic goods. What we identify here is what Coady (2010) and Fricker (2013) have described as *distributive epistemic injustice*: "the unfair distribution of epistemic goods such as education or information—which is an important kind of social injustice" (Fricker, 2013, p. 1318). As we saw in Sect. 3, those who have experienced fear generalisation are far more limited than the general population in their epistemic horizons. They do not have the same access as others to education or information. By curbing the epistemic agency of those who experience fear generalisation, perpetrators of fear-inducing actions contribute to the uneven distribution of opportunity to acquire epistemic goods. Our suggestion is that by producing this situation of inequality, perpetrators are epistemically wronging those in whom they induce fear.

The epistemic wrongs of some cases of fear generalisation will also include a form of epistemic oppression (Dotson, 2014; Fricker, 1999). Epistemic oppression occurs when people undergo epistemic exclusion:

> Epistemic exclusion, here, will be understood as an unwarranted infringement on the epistemic agency of knowers. Epistemic agency, in this analysis, refers to the ability to utilize persuasively shared epistemic resources within a given community of knowers in order to participate in knowledge production and, if required, the revision of those same resources. (Dotson, 2014, p. 115)

Dotson's epistemic exclusion is described as a form of epistemic oppression where epistemic oppression is "a persistent and unwarranted infringement on the ability to utilize persuasively shared epistemic resources that hinder one's contributions to knowledge production" (Ibid., p. 116). Epistemic oppression can take two forms. It can be reducible to, or fall out from, social and political oppression without any specific epistemic element to the oppression. Alternatively, the oppression can be due to, or sustained because of, the inadequacies of the epistemic resources within the community to address the epistemic oppression.

A person who experiences fear overgeneralisation, modifying their behaviour to avoid fear-inducing situations, becomes excluded from acquiring epistemic

resources—knowledge, sometimes common knowledge—from within a community. They may become marginalised, for example, via exclusion from education, the workplace or certain formal or informal social settings, and thereby be unable to contribute to the shared understanding found within a community. Epistemic exclusion can therefore be a consequence of fear generalisation.

The epistemic exclusion found when fear generalisation occurs can sometimes be due to features of oppressive social and political structures, and therefore fall under Dotson's first category of epistemic oppression. To see this point, consider Iris Marion Young's (2011) five faces of social and political oppression: exploitation, marginalisation, powerlessness, cultural imperialism or violence. Fear generalisation can be the result of many if not all these forms of oppression. A specific fear-inducing incident, and the generalised fear that follows, can be a part of a general pattern of violence, and the threat of violence, that people experience due to their social identity. This can be seen in cases of sexual assault, which are a part of a general pattern of violence and threat of violence that are experienced by women and other marginalised groups due to aspects of their social identity. Where trauma is inflicted on people (e.g., via rape or sexual assault) as a tool of war, the trauma and the fear it produces are exploitative. Furthermore, the example of asylum seekers provides an illustration of how powerlessness and marginalisation can make people vulnerable to fear and its generalisation. When people experience epistemic exclusion due to fear generalisation, the exclusion can therefore be a result of oppressive social and political structures—structures that are oppressive because they provide a threat of violence, exploitation, marginalisation, and powerlessness. In this regard, the epistemic oppression can be understood as resulting from social and political structures, as in the first sense of epistemic oppression described by Dotson, and not due to specific epistemic norms of the community.

It is crucial to focus on the epistemic element of the epistemic exclusion, however. This will allow us to properly identify the full impact that the exclusion can have on people undergoing fear generalisation, and to better understand how they are going to lack the chance to fully express their epistemic agency. Focusing on the distinctively epistemic element of the exclusion points towards problems likely to sometimes be faced when addressing the exclusion. Wherever individuals and groups of people who experience generalised fear are excluded from contexts in which they can acquire, generate and contribute to knowledge, our understanding of their experiences, the fear generated, and the way that the fear brings epistemic as well as non-epistemic harms is likely to continue to be restricted. The exclusion that can be experienced by people who undergo fear generalisation creates a barrier to them contributing to a wider understanding of the full impact of trauma, other fear-inducing phenomena, and the social and political backgrounds in which they operate. Here the epistemic exclusion can be understood as bringing something akin to *contributory injustice* (Dotson, 2012): those who have experienced fear generalisation risk facing barriers that others do not face to contributing their stories, narratives and self-understandings to the collective hermeneutical resources available to use to understand aspects of social and political life. They are likely to be inhibited in ways others are not, due to the fear-inducing experiences that they have undergone, from contributing to a better understanding of the very type of experiences that induce generalised fear, and the consequences of experiencing this fear.

In sum, then, fear generalisation is a vehicle through which distributive epistemic injustice, epistemic exclusion and oppression, and something closely akin to agential epistemic injustice, can occur. By exposing people to fear-inducing experiences, agents (individuals and institutions) harm others in ways that significantly curb their epistemic agency, leading to a less fair distribution of epistemic goods, and in some cases epistemic exclusion. We are not suggesting that epistemic wrongs are the worst injustices that occur when people endure fear-inducing experiences and the fear spreads. But it is nonetheless important to recognise that these phenomena can occur as a result of fear being induced. Without recognising and addressing these epistemic wrongs, further progress towards understanding both the epistemic and the non-epistemic harms that accompany fear generalisation due to trauma will be limited. This is in large part because the stories, narratives and self-understandings of those who experience fear generalisation will not be properly integrated into social understanding of the phenomenon.

5 Implications for conceptions of epistemic wrong and epistemic injustice

There are some significant upshots of the claim that cases of pathological fear generalisation due to trauma can constitute epistemic wrongs for how we should conceive of both epistemic wrongs and epistemic injustice. Epistemic injustice is often defined in terms of epistemic wrongs, as wronging someone in their capacity as a knower. But the epistemic wrongs are often also characterised as involving epistemic flaws or errors on the part of the wrongdoer. In many cases of epistemic injustice, the wrongdoer either responds poorly to evidence, for example, of a testifier's competence, or lacks cognitive or hermeneutical resources that they need to understand a situation. In Miranda Fricker's work on epistemic injustice, for example, both interpersonal epistemic injustice (2007) and institutional epistemic injustice (2010,2013,2020) are described as being *epistemic vices*, that is, persistent and stable failures of *epistemic* character. For instance, Fricker (2020) describes institutional epistemic vice in the following way: "institutional epistemic vices are displayed—either in thinking or, where persistent, also at the level of institutional character— whenever there are culpable lapses in the institution's epistemic ethos and/or in the implementation of its ends". What we describe is not a first and foremost a lapse in the *epistemic* character or *epistemic* ethos of the assailant in a sexual assault, the asylum system, or the military. It is a lapse of a primarily non-epistemic sort, which brings significant epistemic harms to others. If one were to characterize the behaviour as the result of a vice, it would likely not be primarily as an epistemic vice, but instead a non-epistemic vice like cruelty or callousness. It may be that in some cases the non-epistemic wrongdoing has an explicit epistemic aim as a component, e.g., part of the cruelty displayed by an attacker may be intimidation, and one aim of the intimidation may be to silence the victim. In other cases, it may be that the epistemic aim is tacit, and the perpetrator has no awareness of it, but it nonetheless exists. In further cases, it may be that the wrongdoer has no tacit or explicit epistemic aim, but they nonetheless significantly epistemically harm their victim through their wrongdoing. To accommodate each of these types of case,

our argument in this paper calls for an expansion to the application of the terminology of epistemic injustice to recognise how people can be epistemically wronged without this being via actions that reflect primarily the epistemic character or ethos of the individual or institution responsible for wronging. Our move here is consistent with Fricker's affirmation that "The category of epistemic injustice should be considered an umbrella concept, open to new ideas about quite which phenomena should, and should not, come under its protection" (Fricker, 2013, p. 1318).

In arguing that epistemic wrongs and injustices can occur without their source being epistemic errors, epistemic flaws, or poor epistemic character, we have presented reasons to adopt a victim-centred approach to epistemic wrongs and epistemic injustices. Victim-centred approaches have previously been used to understand, for example, racism (Philips, 1984) and micro-aggressions (Freeman & Stewart, 2018).[4] They focus on the experiences of those who are the victims of wrongdoing to understand the wrong itself. What we advocate here is an approach according to which epistemic wrongs are attributed on the basis of observations about the nature of the harms that are experienced by victims of wrongdoing. If the harms that are experienced are *epistemic* harms, then they can be understood as constituting epistemic wrongs even if they are not primarily the result of epistemic errors or flaws of the wrongdoer. By taking this type of approach to epistemic wrongs, it is possible to label and identify as undesirable a more comprehensive set of cases where people are epistemically harmed through the wrongful actions of other individuals and institutions.

Taking a victim-centred approach and broadening the category of epistemic wrongs and epistemic injustices in this way raises a set of questions about which other cases of primarily non-epistemic wrongs should count as epistemic wrongs and injustices.[5] Suppose that someone violently attacks another person, preventing them from attending trials at a professional football team, and from gaining associated knowledge that comes from training as an elite sportsperson. Or suppose that a person lives in a country where corrupt politicians ruin the economy, so they are forced to leave to seek employment abroad. In this new country the person, as a non-native speaker, is in many contexts not treated as credible, and because the country is both racially and culturally homogenous, they lack the opportunity to interact with and learn from a diverse population. Finally, consider a case where someone is killed by a dangerous driver, and therefore misses out on future opportunities to acquire knowledge. In each of these cases, a person misses out on knowledge due to the wrongdoing of other people. Our account invites theorists interested in identifying epistemic wrongdoing and epistemic injustice to consider whether a broad range of cases of this type should be classified as such.

A complete answer to the question of when primarily non-epistemic wrongs constitute epistemic wrongdoing and epistemic injustice is beyond the scope of the current discussion. We can only gesture towards the types of factors that may distinguish between cases that should and should not count as epistemic wrongdoing.

[4] Faucher (2016) also argues for an approach to moral responsibility for discrimination that partially reflects the victims' perspective.

[5] We thank an anonymous reviewer for encouraging us to consider their thought-provoking examples.

It may be that the kinds and scope of the epistemic harms that are experienced determines whether there is epistemic wrongdoing. In this case, Sect. 3 may shed some light on the matter. In Sect. 3, we emphasised that people who undergo fear that overgeneralises in a pathological way can experience significant and wide-ranging epistemic loss. In the case of a person suffering from fear overgeneralisation due to trauma, the epistemic loss is often not restricted to a particular type of information but can spread to many kinds of information, including information that is available to most people. Someone who has been sexually abused by a teacher who experiences fear overgeneralisation may not only fail to gain knowledge about their own sexual pleasure and sexual self, they may also fail to gain information provided by a basic education. They may experience a loss of the ability to communicate to other people in positions of authority, and thereby miss out on information that is crucial to their success at university or in the workplace. They may restrict their social life in a way that avoids most social interactions, which would place significant restrictions on the types of social knowledge that they acquire. In addition to this, people experiencing pathological fear generalisation may consequently withdraw from situations in which they could receive information that would disconfirm their fear, leading to a continuation and even an accentuation of the fear overgeneralisation and related epistemic harms. Given this discussion, it may be that we deny that there is epistemic wrongdoing in cases like that of the failed football player because the epistemic loss in that case is localised. For the footballer the epistemic loss is specifically related to the sports knowledge that could have been acquired via training as an elite sportsperson in the absence of the physical injury. There is not a wide-ranging restriction to the knowledge that can be acquired by the footballer, and they are not denied the opportunity to acquire knowledge to which most people have access, like the knowledge that is available through a basic education. The specific epistemic loss does not reinforce, accentuate, or perpetuate the mechanism that leads to the epistemic harm, producing further epistemic harms downstream, as happens with people who experience fear overgeneralisation. It will be worth considering in future research, then, whether the kind and the scope of the epistemic harms experienced is the main or only factor that determines if a specific non-epistemic wrongdoing that brings epistemic harms constitutes an epistemic wrongdoing and injustice.[6]

[6] Other factors that might determine whether a non-epistemic wrongdoing that brings an epistemic harm should be considered an epistemic wrongdoing are the chain of causes of the epistemic harm, and the consequences of viewing the harm as an epistemic wrongdoing.For example, in the case of the migrant who endures epistemic harm due to being forced to move abroad as a result of politicians' corruption, the corruption may be viewed as too far removed in the chain of causation from the epistemic harms for there to be epistemic wrongdoing to the migrant caused by the politician's corruption. It may be argued that the epistemic harm cannot be viewed as a part of the non-epistemic wrongdoing of the corruption, and thereby an epistemic wrongdoing, because of the distance between the two events (i.e. the corruption and harm) in the causal chain.The consequences of treating epistemic harms as epistemic wrongs may also be significant, e.g., the implications for the legal domain. It may be that certain epistemic harms are fruitfully described as cases of epistemic wrongdoing because doing so captures the extent of the harm inflicted by a criminal act. It may be useful to label the epistemic harms of rape and sexual assault as epistemic wrongdoing, for instance, because acknowledging the epistemic harms as parts of the non-epistemic wrong, and as types of wrongdoing themselves, will provide an augmented understanding of the severity of the harms inflicted via the wrongdoing of the perpetrators or the acts. In contrast, in the case of someone who is killed by

These are just preliminary thoughts on the topic, however. What we hope to have achieved in this article is to give strong and convincing reasons for thinking that some cases of primarily non-epistemic wrongdoing—i.e., some cases where people experience overgeneralized fear due to the wrongdoing of others—constitute epistemic wrongdoing and epistemic injustice. We leave it to future research to more fully determine the boundaries between those cases of non-epistemic wrongdoing that do and those that do not constitute epistemic wrongdoing and epistemic injustice.

6 Concluding remarks

Our focus in this paper has been on how people can be epistemically harmed and wronged when they undergo a traumatic experience or a number of experiences that lead to fear that spreads. We have shown how people who experience pathological generalised fear due to traumatic experiences can be 'epistemically vulnerabilised' (Carel & Kidd, 2021), that is, made vulnerable as epistemic agents, due to the trauma that they experience. We have argued that they can experience distributive epistemic injustice, epistemic exclusion and epistemic oppression, and something akin to agential epistemic injustice. Many of the main epistemic harms that are endured by people who experience fear generalisation involve their epistemic horizons being limited. Their epistemic agency is curbed and subverted to achieve non-epistemic goals while they avoid people and settings that may trigger a fear response. Because people's epistemic horizons are restricted by the generalised fear they experience, they are denied the opportunity to gain, produce and communicate knowledge, including knowledge about their experience of trauma and generalised fear. What we find in the case of fear generalisation is, then, a clear case where epistemic harms bring further practical harms. As long as people who experience trauma have their epistemic horizons limited, and are thereby prevented from communicating knowledge about their trauma and subsequent hardships that they have endured, attempts to address the trauma and its consequences are likely to be inadequate.

Our central claim, that fear generalisation is a psychological mechanism through which epistemic wrongs can occur, presents a challenge to those who would argue for a narrow conception of epistemic wrongs or epistemic injustice, according to which they always happen as a result of the expression of poor epistemic motivations or a poor epistemic character. We have suggested that by engaging in an action that is not primarily epistemic—inflicting physical, psychological, emotional and social harms—one can cause significant epistemic harms that constitute wrongs and epistemic injustice. Until these wrongs and injustices are tackled progress towards addressing both the epistemic and non-epistemic harms of fear generalisation will be limited.

Acknowledgements We extend our gratitude to Santiago Echeverri and Miguel Angel Sebastián for kindly inviting us to present this work at the online seminar of the Red Iberoamericana de Filosofía de la Mente (Universidad Nacional Autónoma de México—UNAM, 04/2022), and to its attentive audience. We would also like to thank the audience of the panel "In Dialogue with Trauma" during the Week of Virtual Events organized by the Memory Studies Association (MSA, 07/2022).

Footnote 6 continued
a dangerous driver, reflecting on the epistemic harms that they have suffered is unlikely to change our understanding and the severity of our judgment of the wrongdoing.

Funding This work was partially supported by the Agencia Nacional de Promoción de la Investigación, el Desarrollo Tecnológico y la Innovación (PICT 2020-SERIE A-03444).

Declarations

Conflict of interest No potential competing interest was reported by the authors.

Open Access This article is licensed under a Creative Commons Attribution 4.0 International License, which permits use, sharing, adaptation, distribution and reproduction in any medium or format, as long as you give appropriate credit to the original author(s) and the source, provide a link to the Creative Commons licence, and indicate if changes were made. The images or other third party material in this article are included in the article's Creative Commons licence, unless indicated otherwise in a credit line to the material. If material is not included in the article's Creative Commons licence and your intended use is not permitted by statutory regulation or exceeds the permitted use, you will need to obtain permission directly from the copyright holder. To view a copy of this licence, visit http://creativecommons.org/licenses/by/4.0/.

References

Alcoff, L. M. (2018). *Rape and resistance: Understanding the complexities of sexual violation*. Polity Press.

American Psychiatric Association. (2013). *Posttraumatic stress disorder: In diagnostic and statistical manual of mental disorders* (5th ed.). APA.

Beckers, T., & Craske, M. G. (2017). Avoidance and decision making in anxiety: An introduction to the special issue. *Behaviour Research and Therapy, 96*, 1–2.

Bennett, M., Vervoort, E., Boddez, Y., Hermans, D., & Baeyens, F. (2015). Perceptual and conceptual similarities facilitate the generalization of instructed fear. *Journal of Behavior Therapy and Experimental Psychiatry, 48*, 149–155.

Bonilla, M., Jorge, C. I., Moyano, M. D., & Forcato, C. (2021). Modificación de memorias maladaptativas durante el sueño y la vigilia: Una visión interdisciplinaria. *Revista De Psicología-Tercera Época, 20*(1), 221–242.

Bouton, M. E. (2014). Why behavior change is difficult to sustain. *Preventive Medicine, 68*, 29–36.

Brewin, C. R. (2007). Autobiographical memory for trauma: Update on four controversies. *Memory, 15*(3), 227–248.

Brewin, C. R. (2016). Coherence, disorganization, and fragmentation in traumatic memory reconsidered: A response to Rubin et al. (2016). *Journal of Abnormal Psychology, 125*(7), 1011–1017.

Brison, S. (2002). *Aftermath: Violence and the remaking of the self*. Princeton University Press.

Card, C. (1996). Rape as a weapon of war. *Hypatia, 11*(4), 5–18.

Carel, H., & Kidd, I. J. (2021). Institutional opacity, epistemic vulnerability, and institutional testimonial justice. *International Journal of Philosophical Studies, 29*(4), 473–496.

Coady, D. (2010). Two concepts of epistemic injustice. *Episteme, 7*(2), 101–113.

Dotson, K. (2012). A cautionary tale: On limiting epistemic oppression. *Frontiers: A Journal of Women Studies, 33*(1), 24–47.

Dotson, K. (2014). Conceptualizing epistemic oppression. *Social Epistemology, 28*(2), 115–138.

Duffy, J., Wareham, S., & Walsh, M. (2004). Psychological consequences for high school students of having been sexually harassed. *Sex Roles, 50*(11), 811–821.

Dunsmoor, J. E., Mitroff, S. R., & LaBar, K. S. (2009). Generalization of conditioned fear along a dimension of increasing fear intensity. *Learning & Memory, 16*(7), 460–469.

Dunsmoor, J. E., & Murphy, G. L. (2015). Categories, concepts, and conditioning: How humans generalize fear. *Trends in Cognitive Sciences, 19*(2), 73–77.

Dunsmoor, J. E., & Paz, R. (2015). Fear generalization and anxiety: Behavioral and neural mechanisms. *Biological Psychiatry, 78*(5), 336–343.

Dymond, S., Bennett, M., Boyle, S., Roche, B., & Schlund, M. (2018). Related to anxiety: Arbitrarily applicable relational responding and experimental psychopathology research on fear and avoidance. *Perspectives on Behavior Science, 41*(1), 189–213.

Dymond, S., Dunsmoor, J. E., Vervliet, B., Roche, B., & Hermans, D. (2015). Fear generalization in humans: Systematic review and implications for anxiety disorder research. *Behavior Therapy, 46*(5), 561–582.

Easteal, P. (1994). *Voices of the survivors*. Spinifex Press.

Ehlers, A., & Clark, D. M. (2000). A cognitive model of posttraumatic stress disorder. *Behaviour Research and Therapy, 38*(4), 319–345.

Ehlers, A., Hackmann, A., & Michael, T. (2004). Intrusive re-experiencing in post-traumatic stress disorder: Phenomenology, theory, and therapy. *Memory, 12*(4), 403–415.

Faucher, L. (2016). Revisionism and moral responsibility. In M. Brownstein & J. Saul (Eds.), *Implicit bias and philosophy, volume 2: Moral responsibility, structural injustice, and ethics* (pp. 115–144). Oxford University Press.

Foa, E. B., & Kozak, M. J. (1986). Emotional processing of fear: Exposure to corrective information. *Psychological Bulletin, 99*(1), 20–35.

Foa, E. B., Molnar, C., & Cashman, L. (1995). Change in rape narratives during exposure therapy for posttraumatic stress disorder. *Journal of Traumatic Stress, 8*(4), 675–690.

Freeman, L., & Stewart, H. (2018). Microaggressions in clinical medicine. *Kennedy Institute of Ethics Journal, 28*(4), 411–449.

Fricker, M. (1999). Epistemic oppression and epistemic privilege. *Canadian Journal of Philosophy Supplementary, 25*, 191–210.

Fricker, M. (2007). *Epistemic injustice: Power and the ethics of knowing*. Oxford University Press.

Fricker, M. (2010). Can there be institutional virtues? In T. Szabo Gendler & J. Hawthorne (Eds.), *Oxford studies in epistemology* (pp. 235–252). Oxford University Press.

Fricker, M. (2013). Epistemic justice as a condition of political freedom? *Synthese, 190*(7), 1317–1332.

Fricker, M. (2020). Institutional epistemic vices. In I. J. Kidd, H. Battaly, & Q. Cassam (Eds.), *Vice epistemology.* Routledge.

Glass, N., Ramazani, P., Tosha, M., Mpanano, M., & Cinyabuguma, M. (2012). A Congolese–US participatory action research partnership to rebuild the lives of rape survivors and their families in eastern Democratic Republic of Congo. *Global Public Health, 7*(2), 184–195.

Hardt, O., Einarsson, E. Ö., & Nader, K. (2010). A bridge over troubled water: Reconsolidation as a link between cognitive and neuroscientific memory research traditions. *Annual Review of Psychology, 61*, 141–167.

Haslanger, S. (2021). Systemic, structural, and institutional injustice: What's the difference? *The Royal Institute of Philosophy—London Annual Lecture 2021*.

Herman, J. (1992). *Trauma and recovery: The aftermath of violence–from domestic abuse to political terror*. Basic Books.

Hill, C., & Silva, E. (2005). Drawing the line: Sexual harassment on campus. American Association of University Women Educational Foundation, Washington. Retrieved from https://files.eric.ed.gov/fulltext/ED489850.pdf

Kappler, K. E. (2012). *Living with paradoxes: Victims of sexual violence and their conduct in everyday life*. VS Verlang.

Kheirbek, M. A., Klemenhagen, K. C., Sahay, A., & Hen, R. (2012). Neurogenesis and generalization: A new approach to stratify and treat anxiety disorders. *Nature Neuroscience, 15*(12), 1613–1620.

Lackey, J. (2021). False confessions and subverted agency. *Royal Institute of Philosophy Supplements, 89*, 11–35.

Lashley, K. S., & Wade, M. (1946). The Pavlovian theory of generalization. *Psychological Review, 53*, 72–87.

Lis, S., Thome, J., Kleindienst, N., Mueller-Engelmann, M., Steil, R., Priebe, K., Schmahl, C., Hermans, D., & Bohus, M. (2020). Generalization of fear in post-traumatic stress disorder. *Psychophysiology, 57*(1), e13422.

Loftus, E. F. (2005). Planting misinformation in the human mind: A 30-year investigation of the malleability of memory. *Learning & Memory, 12*(4), 361–366.

Lonsdorf, T. B., Menz, M. M., Andreatta, M., Fullana, M. A., Golkar, A., Haaker, J., Heitland, I., Hermann, A., Kuhn, M., Kruse, O., Drexler, S. M., Meulders, A., Nees, F., Pittig, A., Richter, J., Römer, S., Shiban, Y., Schmitz, A., Straube, B., et al. (2017). Don't fear 'fear conditioning': Methodological

considerations for the design and analysis of studies on human fear acquisition, extinction, and return of fear. *Neuroscience & Biobehavioral Reviews, 77*, 247–285.
Marks, I. M. (1987). *Fears, phobias, and rituals: Panic, anxiety, and their disorders*. Oxford University Press.
McNally, R. J. (2021). Are memories of sexual trauma fragmented? *Memory, 30*(1), 26–30.
McNally, R. (2022). Are memories of sexual trauma fragmented? A post publication discussion among Richard J. McNally, Dorthe Berntsen, Chris R. Brewin and David C. Rubin. *Memory, 30*(5), 658–660.
Medina, J. (2021). Agential epistemic injustice and collective epistemic resistance in the criminal justice system. *Social Epistemology, 35*(2), 185–196.
Mengo, C., & Black, B. M. (2016). Violence victimization on a college campus: Impact on GPA and school dropout. *Journal of College Student Retention: Research, Theory & Practice, 18*(2), 234–248.
Morey, R. A., Haswell, C. C., Stjepanović, D., Dunsmoor, J. E., & LaBar, K. S. (2020). Neural correlates of conceptual-level fear generalization in posttraumatic stress disorder. *Neuropsychopharmacology, 45*(8), 1380–1389.
Philips, M. (1984). Racist acts and racist humor. *Canadian Journal of Philosophy, 14*(1), 75–96.
Puddifoot, K., & Bortolotti, L. (2019). Epistemic innocence and the production of false memory beliefs. *Philosophical Studies, 176*(3), 755–780.
Rubin, D. C., Berntsen, D., Ogle, C. M., Deffler, S. A., & Beckham, J. C. (2016). Scientific evidence versus outdated beliefs: A response to Brewin (2016). *Journal of Abnormal Psychology, 125*(7), 1018–1021.
Schacter, D. L., & Loftus, E. F. (2013). Memory and law: What can cognitive neuroscience contribute? *Nature Neuroscience, 16*(2), 119–123.
Schiller, D., Raio, C. M., & Phelps, E. A. (2012). Extinction training during the reconsolidation window prevents recovery of fear. *Journal of Visualized Experiments, 66*, e3893.
Shepard, R. N. (1987). Toward a universal law of generalization for psychological science. *Science, 237*, 1317–1323.
Souter, J. (2011). Asylum decision-making in the UK: disbelief or denial? *Open Democracy* April 4. Retrieved from https://www.opendemocracy.net/en/5050/asylum-decision-making-in-uk-disbelief-or-denial/
Steup, M., & Neta, R. (2020). Epistemology. In Edward N. Zalta (Ed.), *The Stanford Encyclopedia of Philosophy* (Fall 2020 ed.), Retrieved from https://plato.stanford.edu/archives/fall2020/entries/epistemology/
Trakas, M. (2019). On epistemic responsibility while remembering the past: The case of individual and historical memories. *Les Ateliers De L'éthique/The Ethics Forum, 14*(2), 240–273.
van Meurs, B., Wiggert, N., Wicker, I., & Lissek, S. (2014). Maladaptive behavioral consequences of conditioned fear-generalization: A pronounced, yet sparsely studied, feature of anxiety pathology. *Behaviour Research and Therapy, 57*, 29–37.
van Wijk, E., & Harrison, T. C. (2014). Relationship difficulties postrape: Being a male intimate partner of a female rape victim in Cape Town, South Africa. *Health Care for Women International, 35*(7–9), 1081–1105.
Watson, J. B., & Rayner, R. (1920). Conditioned emotional reactions. *Journal of Experimental Psychology, 3*(1), 1–14.
Young, I. M. (2011). *Justice and the politics of difference*. Princeton University Press.

Publisher's Note Springer Nature remains neutral with regard to jurisdictional claims in published maps and institutional affiliations.