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Towards a Pedagogy of Trauma: Experiences of Paramedics and Firefighters in a COVID-19 Era and Opportunities for Transformative Learning

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Abstract: Many workers, especially first responders, experience trauma at work. We gathered experiences of frontline workers in Berlin during COVID-19 and theorize those experiences within an education paradigm. Their experiences were written as part of their reflective writing on a hazard prevention course for emergency workers in 2022. The theorizing focuses on the struggle for meaning precipitated by the student's experiences of trauma and makes a case for understanding how this may prompt significant learning—even transformative learning—for individuals and possibly the broader society. This theoretical analysis is informed by Carol Gilligan, Axel Honneth, Oskar Negt and Jack Mezirow who help reconnect professional with personal interests and thinking with the emotional dimensions of work. We propose a critical analysis of the ways in which the instrumental, procedural and professional imperatives are disconnected from the personal and emotional dimensions of trauma work. Their struggle for recognition also assists in understanding these connections. The thinking/emotional divide and professional/personal splits are themselves a trauma and the pedagogy of reconnection is transformative.

Keywords: trauma; experience; transformative learning; dialectic; COVID-19; paramedics; firefighters; pedagogy

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1. Introduction

> *I never experienced this before—I routinely grabbed my backpack, ready to do a reanimation as I have done countless times before, yet when I arrived at the emergency location and had a first look at our patient, I froze. She looked so much like my recently passed grandmother. Emptiness and helplessness flooded me. I was nowhere.* (Respondent 1)

This comment brings to the fore the impact of trauma on first responders. It was made by a participant in a funded research project exploring trauma among front-line responders in Germany. This article is grounded in these experiences. Trauma, according to the American Psychiatric Association, is a psychological disorder [1]—one distinct category of disorder among many including bipolar, eating, anxiety, addictions, and obsessive-compulsive disorders. Medical research reveals how trauma is associated with other disorders, such as eating, sleep and depression—especially among frontline workers in this COVID-19 era [2–4].

This study acknowledges the existing but growing body of work in this area and rather than medicalize or pathologize trauma we gather the experiences of workers and theorize those experiences within an education paradigm. Experience of trauma are under theorized in educational theory. We look in fresh ways at the implications for philosophical enquiries about learning and education. The focus is on the struggle for meaning precipitated by experiences of trauma and makes a case for understanding how this may prompt significant learning—even transformative learning—for individuals and possibly the broader society.

Carol Gilligan, a well-known developmental psychologist, has contributed to understanding the developmental journey of girls and women by highlighting the gendered nature of rational as distinct from empathetic ways of making meaning. Jack Mezirow brings a transformative education perspective to changing frames of reference. With the work of Axel Honneth and Oskar Negt critical interpretations of experiences of participants are integrated in the search toward a pedagogy of trauma. These ideas also act as sensitizing concepts informing data analysis. Frontline workers (the research participants) have deeply felt experiences of "not-knowing" [5] (p. 659). This is an opportune moment to re-think the idea of trauma from an educational perspective, given that the participants were able to find a way of *leading* themselves *out* (education, lat. *educere*) of potential disorientation and *not-knowing*? This pedagogy of trauma is grounded in the experiences of frontline workers expressed in the reflective writings of these 57 workers.

2. Trauma and Empirical Reflection on Experience of Workers

Fifty-seven reflective writings, composed in German, were collected from 2nd year undergraduate participants on the "Management in der Gefahrenabwehr" [Management of Catastrophe Defense] course ("MiG") at Akkon Hochschule für Humanwissenschaften [Akkon University of Applied Sciences for Human Sciences], Berlin, Germany in early 2022. All students actively work as professional firefighters, paramedics and other first medical responders. Some were former soldiers now working in this field and all are regularly involved in emergency rescue missions.

2.1. Research Methodology

The research participants kept reflective writing journals. These are qualitative, half-standardized forms of episodic, therefore topically focused, biographical self-completed interviews written over a number of weeks during the course. The writings were treated as typical qualitative data, and they were voluminous. Mayring's [6] qualitative content analysis was chosen as an analytical approach. In particular Mayring's own formulation along with that of Diekmann [7] and Flick [8] were the contributors to how the data were analyzed.

From the 57 journals completed 40% were by firefighters and 60% were by paramedics. Veterans accounted for 12%. Their mean age was 25.5 with 60% male and 40% female participants. Seventy per cent were city dwellers and 30% from small towns. They had interesting levels of job satisfaction: 33% were very content, 33% rather content and the remainder were rather satisfied.

As professionals they face challenging experiences at work and navigate their professional and personal well-being in a world where life and death experiences and decisions are frequent. How do they cope in the pandemic? We were wondering: How do they maintain psychological, social and professional equilibrium and well-being? How do they cope with critical incidents? What can philosophers of education learn from them (using critical incidents) regarding their work experiences [9]?

Current literature on this topic is acutely aware that experiences of trauma among paramedics can result in subsequent psychological difficulties [10]. As workers, they sometimes experience resistance from onlookers that can result in losing professional detachment and thus add to the tragic nature of the event [11]. Workers can become more irritable [12], experience emotional consequences and occupational stress [13]. Post-traumatic stress disorder (PTSD) is an additional risk [14]. But this research also finds that there are successful ways of addressing these experiences and workers benefit from supports that address their experiences [15] including debriefing experiences [16]. In addition the literature confirms that the resilience of first responders and emotionally satisfying relationships are crucial for dealing with trauma [17].

The researchers identified three study hypotheses. The researchers:

(1) Assumed that the participants did experience trauma and that it most likely changed them in important ways. The researchers also assumed that they may not have experienced personal or professional transformation [18]. If they learned transformatively this may have impacted on their ability to cope. Even though many of these assumptions were proven to be correct, the researchers continued to ask whether they had learned transformatively [18,19].
(2) Hypothesized that the frontline workers may be rather unsatisfied with their professional work lives as they confronted traumatic events and struggled with structural aspects of their jobs (e.g., working night shifts). The findings suggest that these assumptions were not really true, although many struggled for recognition, especially during COVID-19.
(3) Assumed that the COVID-19 pandemic impacted and challenged the target group. Their experiences of not being respected, a lack of a sense of community or team and the disorientations caused by new regulations may have understandably led to issues with mental health and well-being [17].

2.2. Research Method

Participants were asked to:

(1) Identify and reflect on a critical incident at work and how this incident was experienced;
(2) Describe ways in which the critical incident still matters to them, and what strategies they know and use to cope with potentially traumatic experiences;
(3) Reflect on how the constant experiencing of potentially traumatic situations affects them personally, professionally and their relationships;
(4) Reflect on COVID-19 and its impact;
(5) Reflect on what kind of changes they hope or wish for from their employer to address these experiences.

The participants choose what they experienced as a critical incident [9] in their work; how they are able to function and work during and after these incidents; and how they coped with any traumatic experience(s). The researchers were interested how traumatic experiences, described in their critical incidents reports, may provide an opportunity for learning—even transformatively.

Relying on Mayring [6], Diekmann [7] and Flick [8] the researchers followed their seven step guideline for analysis in this way: Material inspection (step 1); content reduction (steps 2 to 5); categorization of reduction (step 6); and repetition of those steps (step 7). The questions asked of the participants served as a theoretical navigation and allowed researchers identify patterns of content, categories and major themes. These were: the (1) transformative potential of critical incidents, (2) the importance of experience and (3) conversations to process (traumatic) experiences and finally (4) their struggles for recognition.

2.3. Empirical Findings

The participants identified many learning incidents in their critical incident reports—including "transformative learning after the incident". These are the main themes, relevant for a pedagogy of trauma: (1) importance of experience and (2) the significance of experiences for transformative learning. These transformative experiences were voiced, shared and reflected upon and became learning opportunities. (3) Conversation and its relational nature were central for all participants. Sharing experiences with colleagues in the same field was seen as distinctly different from sharing them with friends, family and significant others. The latter was seen as more relevant when it came to support and where participants where in need of a *shoulder to cry on*, whereas conversations with colleagues helped them grow professionally. Participants voiced (4) a struggle for recognition by their employer, as well as by society. We consider this a crucial finding for a pedagogy of trauma that will be explored later in the philosophical explorations. Almost all described incidents

when life was at stake. They wrote in graphic and moving ways about tragic events and of suffering that they experienced as more traumatic when the patient was for instance young.

First responders work is traumatic. One typical responder said it like this:

> *I myself was alarmed beforehand that I would encounter a potential terrorist attack with wounded victims that got shot—I got a chance to mentally prepare. Other colleagues were called to the rescue mission with vague information like "patients with head injuries". I know a colleague that still has to fight off the repercussions of this "surprise". I still have to deal with trauma that I experienced when I heard the helplessness of the calling patients who we could not send help*. (Responder 2)

Accidents traumatize victims and responders:

> *A young policeman joked around and accidentally shot his colleague . . . (When I was with him in the ambulance) he repeated: "my life is over, my career is over" over and over again. He only seemed to think about himself... That was so confusing for me. (. . .) I had to be called into the room where the shooting happened, I saw a huge pool of blood and a puddle of vomit next to it. (. . .) When we were done cleaning the van, the emergency physician asked me if I was ok and I burst out in tears.* (Responder 3)

The typical response to trauma is clearly expressed by another who had more experience in such situations:

> *Colleagues and I call this process of caring less and less "abstumpfen". We just grow numb to potentially traumatic experiences over the years. (...) One has to function in this job, "you gotta do what you gotta do"*. (Responder 4)

Dealing with traumatic experiences reveals a rich tapestry of responses—this is typical:

> *I began really processing things once I got to sit down and talk to a good friend of mine. He helped me understand things emotionally. A couple of days later, I returned to the rescue location with a great colleague of mine, and through that conversation I also came to terms with everything professionally*. (Responder 5)

The responses seem to distinguish between what they call addressing issues "professionally" and addressing issues "emotionally". The responders provided a significant amount of unanticipated evidence that they seek recognition. Honneth's theory of recognition [20] allows us to understand the significance of this. Their ability to disagregate what they call the professional from the personal is a perspective that needs to be problematized—knowing that integrating these apparently separate spheres may be the kind of learning best described as transformative. It addresses the unquestioned assumption that the personal and professional are separated [21–23].

While not always able to access peer support, the need to address traumas experienced at work is a common theme:

> *I would wish for more options to attain professional mental healthcare and better presentation of such at my workplace—without having to feel like a liability. (. . .) Older colleagues considered co-workers in need for psychotherapeutic attention "unfit for the job" and even "weaklings"*. (Responder 6)

Again, yet another said:

> *I still see a big problem with the stigmatization as well as an underrating of the mental stress we have to fight in the emergency industry*. (Responder 7)

There is no sense among these workers that they have lost their ability to care and love, and this is highlighted in their assertions that family and friends provide emotional support. They are protective of these relationships. This support is not expected or sought from professional colleagues or employer. They also experience the guidance they receive from professional procedures and protocols as supportive in practical and technical ways and this contributes to their ability to perform in difficult situations.

While responding to incidents where their skills were demanded with grave urgency there is a risk of being overwhelmed, especially if a less experienced responder is involved. On occasion, the injured patient triggered associations with people in the responder's lives—their own children for instance. Because so much is at stake on so many occasions, feelings of guilt, self-questioning and self-evaluations contribute to the complex matrix of emotions and thoughts that surface in their experiences of trauma.

3. Trauma: Philosophical Reflections

How can these finding be interpreted and theorized and contribute to a pedagogy of trauma? These philosophical reflections act firstly as a set of sensitizing concepts for the research already described. Secondly, while this is not a grounded theory project these narratives of first responders provide a key ingredient for developing an empirically grounded pedagogy of trauma. The data present clear and unprompted comments about how the policies and procedures of first responders are split from the emotional reactions of workers. Rather than medicalizing trauma in this paper it is educationalized and explored as a disorienting dilemma [18,19]. This is the first step toward transformative learning. What can philosophers of education learn from these experiences of workers on the frontlines? This pedagogy of trauma puts the struggle for recognition [24] and its transformative potential to the fore.

Navigating through uncertain times, times of crises, a great deal of *not-knowing* [25] is experienced. For many, this crisis is uncharacteristic and has led to those on the front-lines experiencing burnout and constant exhaustion [14]. Carol Gilligan [26,27], Axel Honneth [20], Oskar Negt [28,29] and Jack Mezirow [18,19] will be allies in this theorizing.

Carol Gilligan [27] identifies trauma as a fundamental part of the experience of human development caused by "the separation of the self from relationships and the splitting of thought from emotion" [27] (p. 89). Her studies find that the "splitting of thought from emotion signals injury or response to trauma" and yet "we retain our capacity to solve logical problems but lose the ability to register and navigate the human social world" of emotions [27] (p. 89). She discovered this by listening to the hidden voices of women's experience. She [26] describes this different voice as "falsely gendered" because it is not only women's experience but "a real human voice" [26] (p. 89). Empathy and feelings are human strengths.

Gilligan critiques the question that asks: how did we learn the capacity to care? Instead she asks: "how did we lose the capacity to care, what inhibits our ability to empathize with others and pick up the emotional climate....how did we lose the capacity to love?" [27] (p. 90). Before any process of individuation we are (always) already interconnected, related to others. The individual is always multiple. Boys and girls tell different stories of this experience of losing one's voice. Patriarchy privileges the voices of boys and fathers and is, as a result, at "odds with democracy" [27] (p. 95). As educators one wonders how can these human capacities—a desire to be in relationship—be supported and developed (and learned) knowing that one can be stunted or traumatized. Trauma has the potential to undermine individual development. Rationality and emotions are not disconnected but integrated and are part of our shared humanity and can be integrated through transformative learning.

The world of the infant has been understood as interpersonal for some time [30] and as G.H. Mead writes "selves can only exist in definite relationships to other selves" [31] (p. 164). This is also the core meaning of Honneth's theory of recognition [20]. Honneth, quoting Mead, writes that only by taking the perspective of others towards oneself can one begin to construct a sense of self [32] and taking the perspectives of others involves recognition [20]. This is Mead's most radical theory of self-consciousness that gives intersubjectivity primacy over subjectivity. Along with Gilligan's careful listening to the voices of women and Honneth's primacy of intersubjectivity and recognition we have important contributions to a philosophy of education and a pedagogy of trauma that take adequate account of

emotions, interpersonal and non-instrumental preoccupations. Educational philosophy has also begun to note these insights [29].

Honneth's struggle for recognition [20] and the obstinacy [32] with which this struggle is pursued are the foundations for a pedagogy of trauma. This is studied by Negt [32]. The trauma of dissociating the emotional world from the rational world has an antidote in the struggle for recognition and relationship. The obstinacy with which this struggle is followed through by both individuals and society may be an important source of hope in a world that many may see as in crisis. "We live in bodies and in culture, but we also have a psyche—a voice and a capacity for resistance" [27] (p. 93).

Recently, Axel Honneth [32] addressed the complexities of this current situation. Crises which produce trauma cannot be both the new normal and also a rupturing of what is normal [32]. This impacts on how we experience crises as we suspect that things could have been different. In turn, this gives shape to what the crisis comes to be, how it is addressed and the ways it impacts on the future. These connections between past present and future (the temporality of trauma) are dialectically interconnected—traumas and crises are "simultaneously socially produced and socially productive" [32] (p. 8). The challenge is to maintain hope in the promises of a better future, however it is denied or dismantled, and in the process obstinately reach for a better future—learning a way forward. We suggest that crises and their associated traumas are a generative theme or theme of the epoch—as Freire defines them [33,34]. Our pedagogy also relies on Mezirow's understanding of transformative learning.

3.1. Transformative Learning

According to Mezirow [35] transformative learning is the process of becoming critically aware of how and why the structure of our psychocultural assumptions has come to constrain the ways in which we perceive our world; of reconstituting that structure in a way that allows us to be more inclusive and discriminating in our integrating of experience; and to act on these new understandings (p. 22).

The first step towards transformation is experiencing a disorienting dilemma when a problem is experienced with well-established ways of making meaning. Mezirow outlines the phases of transformation [36] as: A disorienting dilemma; Self-examination with feelings of fear, anger, guilt or shame; A critical assessment of assumptions; Recognition that one's discontent and the process of transformation are shared; Exploration of options for new roles, relationships and actions; Planning a course of action; Acquiring knowledge and skills for implementing one's plans; Provisionally trying new roles; Building competence and self-confidence in new roles and relationships; A reintegration into one's life on the basis of conditions dictated by one's new perspectives (p. 22).

Mezirow borrowed concepts from Jürgen Habermas in order to build a sound theoretical and critical base for adult learning theory (Mezirow, 1981) [36]. With recent iterations of critical theory by Axel Honneth and Oskar Negt we rely on their ideas for expanding a pedagogy of trauma that is critical and transformative. This would avoid becoming rather conventional, fixed and politically neutral. The difference between a critical and many other approaches to learning in our field is the following. The intention of most adult education, unlike critical pedagogies, is not to overturn current political or economic structures. This pedagogy aims to provide critical, insightful analyses of how adults learn, and how educators might create possibilities for learning that may ultimately benefit society [37]. In relying on Mezirow, Honneth, and Negt we note that all are interested in social justice, reason, truth and democracy and all agree with Habermas that philosophy aims at the "practical transformation of the existing social conditions" [38] (p. 469).

Transformation theory leads us to suggest that in the crises and traumas and in the perplexities of the moment there are opportunities for learning and choosing. On the one hand, one may hold on to previous frames of reference that in crises and traumas become dysfunctional or on the other hand, one may embrace the not-knowing or dilemmas and

work through (learn) the present and embrace what future lies ahead—no matter how unknowable it may be.

As part of the process of transformative learning one comes to see current individual or personal dilemma(s) as connected (dialectically) to broader social issues. Choosing which patient to treat next is not only an individual and emotional issue but part of the societal process of allocating scarce resources, implementing policies, protocols and best practices in which individuals are conscripted. Social policy can become a personal trauma. If a student in class discloses a trauma it can be best understood as part of a broader social issue. For instance the traumas of violence against children or women are personal and also social problems. Children held in orphanages, refugees in detention centers, children in forced separations can also later experience as adults the traumas of those experiences and know how they cast a long shadow across their futures and successive generations. Traumas have a temporality and intergenerational dimension and impact.

In the light of Honneth, we understand these experiences as misrecognitions and grasp how traumas are not just personal, individual and psychological but also social, political and multi-generational. Transformative learning and the pedagogy suggested here understands this connected reality. The political is personal is a well-known feminist phrase [39] and Honneth allows us state clearly that the political is personal too.

The idea of the dialectical connection between personal and social is already in Habermas particularly as he discusses the lifeworld. He asserts that the "public domain of the jointly inhabited interior of our lifeworld is at once inside and outside" and the "barrier between inner and outer is not just a filtering by an osmotic membrane" [40] (p. 14). The inside/outside dichotomy is misleading according to Habermas [40] and he continues:

> *Even in expressions of its most personal feelings and its most intimate excitations, an ostensibly private consciousness thrives on the impulses it receives from the cultural network of public, symbolically expressed, and intersubjectively shared categories, thoughts and meanings*. (p. 15)

As we seek hope in the current situation with its traumas, crises and dilemmas, Habermas adopted as a basic theorem that "subjects capable of speech and action, who can be affected by reasons, can learn—and in the long run even, 'cannot not learn'" [41] (p. 8). He holds that the fundamental mechanism for social evolution in general is to be found in an automatic inability not to learn [42]. Not learning, but not-learning is the phenomenon that calls for explanation at the socio-cultural level of development. "Therein lies, if you will, the rationality of man" [sic] [42] (p. 15). Habermas [43] continues: "I can imagine the attempt to arrange a society democratically only as a self-controlled learning process" (p. 186). By implication transformative learning becomes a democracy project. He (1987) [44] also postulates an adult learning crisis in modern society, arguing that adults are not sufficiently prepared for what is central to his vision of a democratic society, namely participation in public discourse. Adult learning is an everyday imperative for Habermas—every day.

It is difficult to imagine stronger statements than these of the false dichotomy of individual and social, and this now informs this pedagogy of trauma. The personal is indeed political; the political is also personal and learning from experience necessarily involves making these connections. Learning requires an ability to perceive the world in this connected way. Learning theory, even transformation theory, does not have a good record of acknowledging this critical insight [29]. It is this insight (borrowed from Hegel and worked through by Habermas, Honneth and Negt) that, overall, moves this project towards a more critical pedagogy of trauma—a pedagogy of connections. Reason and emotions are connected. The professional is personal. Policies are personal too. This illuminates the experiences of frontline workers as they process the emotional and work related issues that appear to be split in their narratives.

3.2. Oskar Negt

Oskar Negt works at Leibnitz University Hannover—an "extension of the Frankfurt School" according to Illeris [45] (p. 147). He collaborates with Alexander Kluge, an award winning movie/TV producer [46]. Negt is an untypical critical theorist in a number of ways and especially as he identifies himself as an adult educator. Experience is central to his pedagogical agenda as an adult educator. For Negt the experience of workers is the starting point for learning. Work is a source of social recognition and identity but it is also infused with the contradictions of capitalism. The experience of workers is a source of "resistance to capitalism" [47] (p. 31). His concept of sociological imagination borrowed from C Wright Mills (1959), who famously wrote that "neither the life of an individual nor the history of a society can be understood without understanding both" [48] (p. 3). He suggests that a "pedagogical imagination" [48] (p. 19) is needed. Negt uses the experiences of workers to better understand their situation and foster social action to alter the condition of workers (learners).

Dewey is central in this transition to Negt. Dewey defines education as "that reconstruction or reorganization of experience which adds to the meaning of experience, and which increases ability to direct the course of subsequent experience" [49] (p. 76). For Dewey experience is in continuity with previous experience and in interaction with one's broader environment [50] (p. 43). Learning involves becoming aware of these "interactions" and "continuities" [49] (pp. 76–77) that are in turn distorted and open to misinterpretation. Frames of reference help interpret experience but dysfunctional frames of reference may distort experience. Misrecognitions also distort meaning schemes.

Negt goes beyond Dewey by stating that these continuities and interactions are dialectical. This has implications for understanding learning more thoroughly and how it reconstructs experience. This fundamentally alters our understanding of learning and the familiar phases of transformative learning must also be reinterpreted. One of the phases of transformative learning involves connecting one's individual experience with broader social issues and, according to Negt, this connection is dialectical. Individual problems are connected dialectically with broader social issues. The political is personal—dialectically. One's problems or dilemmas and the search for solutions are more complex than previously understood and the phases of transformative learning are not properly understood unless they are seen as dialectical. Connecting with broader social issues is not just an interesting add-on to understanding learning, but an essential dimension of understanding experience. Indeed, without this dialectical dimension the connections are mis-construed. The action a learner takes as the essential final phase of transformative learning is also proposed as a dialectically interconnected set of actions at personal and social levels. This has implications for this pedagogy of trauma.

For Negt learning is more than accumulating knowledge. It is a collective journey of self-determination involving political and emancipatory actions. This leads to a systematic theory and practice of worker education—indeed of adult education. It involves thinking independently, dialectically, systemically, with sociological imagination, utilizing critical reflection and democratic participation. This extends our understanding of learning into social and political arenas in ways not found in transformative learning's traditionally tame and politically neutral stance. Societies are traumatized by violence and abuse. The trauma is dialectical as the personal and social experiences are dialectically related. A pedagogy of trauma is dialectical too.

This world, including its lifeworld, is already fragmented, in crisis and traumatized—having split reason and empathy [27]. Negt outlines how experience itself is modified by social structures. Negt and Kluge say provocatively that "experience is the most important thing that workers actually produce" [51] (p. xlviii). Illeris states this well: "The working class can break through the distortion of immediate experiences, experience the structural conditions for their experiential development, and then fight to change these conditions" [45] (p. 152). Olesen, quoting Negt, sees "experience as a collective process because when we experience as individuals we also do so through a socially

structured consciousness" [52] (p. 8) and again "the socialized individual cannot experience individually" [52] (p. 68). A pedagogy of trauma is best understood as both a personal and a social learning project with the potential to achieve integration and social change.

It is also worth reflecting on how people survive trauma. In *History and Obstinacy* Kluge & Negt identify the powerful concept of obstinacy that lies behind people's resistance, that reaches into unconscious thought, into genetic memory and even cellular life [28]. It is useful to link this deep seated obstinacy with Honneth's struggle for recognition and together they allow us understand better the unquenchable desire for transformation and its promise of emancipation.

As we move toward an empirically grounded pedagogy of trauma, we gather hints and possibilities associated with Gilligan and Maxine Greene. Inspired by Gilligan it might be called a pedagogy of listening—listening to the experiences of workers. Pedagogy refers to the understanding that education is implicated in the ways that power is held and exercised unequally in society. We associate pedagogy with empowering learners and facilitating active citizens interested in social change and social justice. Traumas precipitate disorienting dilemmas for individuals (workers) and for society.

Negt (1971) [53] suggests that learning goes beyond the learning of skills and competences and beyond implementing policies and protocols and beyond conventional understandings of lifelong learning [21]. Instead, Negt interprets "workers existence as a social problem" [53] (p. 4) in a way that is reminiscent of Freire's (1972) [33] problematizing process. Individual crises and traumas are social problems. Negt pushes learning theory into social and political arenas, and a Negt-inspired pedagogy of trauma provides a framework for an historical and material interpretation of split subjectivities as produced by the capitalist system as well as a source for a new social order that will be just and caring in a way that Negt might recognise [28]. Though we try to avoid trauma, it may provide the kinds of experiences and dilemmas that build on obstinacy and struggles for recognition that in turn motivate learning—transformative learning.

4. Discussion and Conclusions

Further research is required regarding the following questions: Did the paramedics and firefighters learn transformatively? Did their frame of reference broaden? Is it now more integrative of new experiences? Would the aspect of "Abstumpfen", of becoming emotionally somewhat numb, point towards a narrowed frame of reference? Regarding the different modes of reflection and working through potentially transformative experiences, does the theory of transformative learning adequately allow for the kind of conversations adults might experience as transformative [54–56]. How can we explore the importance of their felt sense of community in relation to mental health and their ability to cope with traumatic and or critical incidents? How is their identity tied to their professional careers? How do the personal and the professional intersect?

4.1. Limitations

There is ample scope for further data analysis of the unexpected large quantity of data in this research concerning other aspects of front-line workers' experiences and concerns. The self-reporting responses were produced during an education course. This may lead to different responses if the research were conducted "on the job" so to speak. One wonders how a longitudinal study might discover additional findings. It would be interesting too if feedback could be sought from the participants regarding the findings and analysis of their data. Finally, the COVID-19 crisis led to data about that particular crisis, and one might have other findings about other crises at other times.

4.2. Concluding Comments

All traumas may be different and experienced differently in different situations but all reflect what Mezirow describes as distinctive elements and prerequisites for a *transformation learner* who "comes to identify her personal problem as a common one and a public

issue" [57] (p. 15). It is this connection that allows the learner to progress and bridge the divide between individual and social learning. To categorize traumas as either individual or social (as personal or professional) and to see learning as also divided in this way is a false dichotomy. It will also hinder a pedagogy of trauma.

When transformative learning theory emphasizes rational discourse and critical reflection we ask, where can we go from here? Can the emphasis in transformative learning on rational discourse be sustained? The review undertaken here suggests that a dialectical understanding of experience and the emphasis on rational as well as interactive listening and empathetic conversations are vital ingredients as we move toward a pedagogy of trauma. Pedagogy needs a different kind of dialogue, one that is less concerned with exchanging arguments and practical evaluations and dedicated to providing a safe (enough) space for adults to struggle constructively with potentially transformative experiences as well as the emotional dimensions of those experiences.

When we understand how experience is influenced by social structures, there is the possibility of what Maxine Greene calls breaking-through the inertia of convention when people "are enabled to explain their 'shocks' and reach beyond" [58] (p. 39). Such a pedagogy, Greene continues, "offers life; it offers hope; it offers the prospect of discovery; it offers light" [58] (p. 133). Greene's reading of Toni Morrison's *Beloved* provides an illustration [59]. In a novel full of trauma, Greene [58] (p. 38) quotes Paul D, a character in the novel *Beloved,* who talks about a friend; "She is a friend of my mind. She gather me, man. The pieces I am, she gather them and give them back to me in the right order. It's good, you know, when you got a woman who is a friend of your mind" [59] (pp. 272–273). A pedagogy of trauma has to capture these moments and resist the dominance of instrumental and functional understandings of learning as well as the disconnect between the professional and personal aspects of situations. A re-integration of rational, procedural and technical aspects of trauma work with the emotional and psychological aspects would be transformative—a pedagogy of trauma.

A critical pedagogy of trauma continues to evolve as does the task of making further links and connections, whether through Negt or others, so that a fuller and more satisfying iteration of a theory of learning might unfold to meet the increasingly challenging learning dilemmas faced by individuals, communities and society. There is urgency in the task—and risks also. It may be that *not-knowing* becomes the new normal, and the pursuit of rational certainty emerging from rational discourse or conversations may not be entirely possible. Others may assist in what Gilpin-Jackson [60] calls post-trauma contexts for encouraging resonance as a transformative moment. However, moving toward a pedagogy of trauma may also further develop transformation theory so that the emotional dimension is reclaimed and integrated with the rational and the professional is integrated with the personal. For too long, as we learn from Gilligan, the disconnection has been part of the broader human trauma [27] and these connected aspects of humanity are in need of re-inclusion in this step toward a pedagogy of trauma.

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