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# Second Victims in Swedish Obstetrics

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### **Abstract**

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The term “second victim” implies that healthcare providers can be pro-foundly affected by severe events in which a patient is badly injured or dies. The patient is the first victim. This thesis investigates the magnitude, riskfactors and consequences of becoming a second victim in Swedish delivery care.

We examined self-reported exposure to severe events in a survey among 1459 midwives and 706 obstetricians. A severe event was defined as severe injury or death to a mother or child or other stressful events, such as threats or violence, during delivery. Of the midwives and obstetricians who responded, 71% and 84%, respectively, had experienced one or several severe events during their career. Post-traumatic stress symptoms following the perceived worst event were measured. Fifteen percent of the midwives and obstetricians reported symptoms equivalent to partial post-traumatic stress disorder (PTSD), and 5% of the midwives and 7% of the obstetricians reported symptoms commensurable with PTSD. Increased risk was correlated with emotions of guilt, and negative experience or support from friends. Professionals with partial PTSD left delivery care significantly more often than their less traumatised colleagues.

Experiences of severe events were, furthermore, investigated, using qualitative content analysis, leading to an overarching theme “acting in an illusory system of control and safety”. This reflected how midwives and obstetricians retrospectively identified factors that had contributed to the course of events leading to such detrimental consequences. The process that the midwives and obstetricians followed in the aftermath of a severe event, were investigated using a Grounded Theory analysis. A core category, “regaining of a professional self-image”, was constructed. Six main categories illustrated an erratic pathway which might lead to full regaining, reconsidering, reconstructing professional self-image or deciding to leave the profession, depending on level of regained professional self-image.

In summary, the majority of midwives and obstetricians will experience severe obstetric events that might affect them, sometimes severely. The vulnerability that healthcare professionals are exposed to should not be underestimated and preparedness in terms of collegial support, as well as an awareness in the workplace of how badly affected employees might be, is important.

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# List of Papers

This thesis is based on the following papers, which are referred to in the text by their Roman numerals.

- I Wahlberg, Å., Andreen Sachs, M., Bergh Johannesson, K., Hallberg, G., Jonsson, M., Skoog Svanberg, A., & Högberg, U. (2017). Self-reported exposure to severe events on the labour ward among Swedish midwives and obstetricians: A cross-sectional retrospective study. *International Journal of Nursing Studies*, 65, 8–16.
- II Wahlberg, Å., Andreen Sachs, M., Bergh Johannesson, K., Hallberg, G., Jonsson, M., Skoog Svanberg, A., & Högberg, U. (2017). Post-traumatic stress symptoms in Swedish obstetricians and midwives after severe obstetric events: a cross-sectional retrospective survey. *BJOG: An International Journal of Obstetrics and Gynaecology*, 124(8), 1264–1271.
- III Wahlberg Å, Högberg U, Emmelin M. Acting in an illusory system of control and safety – midwives’ and obstetricians’ experiences of severe events. (*Submitted*).
- IV Wahlberg Å, Högberg U, Emmelin M. The erratic pathway to regaining a professional self-image after an obstetric work-related trauma – a grounded theory study. (*Submitted*).

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## *Appendix*

Survey for midwives for Papers I and II (in Swedish)

Survey for obstetricians for Papers I and II (in Swedish)

# Abbreviations

CI	Confidence Intervals
CS	Caesarean Section
CTG	Cardiotocography
DSM	Diagnostic and Statistical Manual of mental disorders
HRO	High Reliability Organization
IVO	Health and Social Care Inspectorate
NBHW	National Board of Health and Welfare
OR	Odds Ratio
SBF	The Swedish Association of Midwives
SFOG	The Swedish Society of Obstetrics and Gynecology





# Preface

*Human error is not a distinct category of human performance. After the outcome is clear, any attribution of error is a social and psychological judgement process, not a narrow, purely technical or objective analysis.*

Richard I. Cook and David D. Woods  
(Weick & Sutcliff, 2015, p. 148)

The multiplicity and complexity of delivery care has fascinated me throughout my years as a clinician. Very early on it became obvious that the work is not only about mastering medical knowledge and making clinical judgements. It is also about interacting with a patient and her partner for whom the delivery is a life event, and it is about teamwork, demanding much more than merely a different means of communication. I have experienced “highs” after very severe events that turned out fine. For me, these experiences, in the heat of the moment, give me a sickened feeling in my stomach. Several times I have asked myself why I do this, when placing my hand on the delivery room door handle. My gut sensations were explained to me by the psychology professor, Per Johnsson, clarifying that there are more “affect” mediated cells in the bowels than in the brain.

I have seen colleagues, co-workers and friends who have suffered after being part of severe events and who have sometimes felt responsible when children and mothers became severely injured or died. During many morning meetings I have thought to myself, thank God it was not me.

In the studies conducted within the frame of this thesis we have wanted to clarify different ways by which midwives and obstetricians are affected by severe events on the labour ward. An elaboration of the complexity of these experiences is presented and will hopefully provide knowledge of and respect for those of us who become second victims during our working lives.



# Introduction

In 2000, Albert Wu (2000), an American physician, used the term “second victim” for the first time in an editorial in the *British Medical Journal*. Wu described an event that happened many years prior where a junior colleague had failed to identify the electrocardiographic signs of a pericardial tamponade, an error later deliberated by an incredulous jury of peers, who arrived at a judgement of incompetency. In secrecy, Wu wondered whether he could have made the same mistake, and, “like the hapless resident, become the second victim of an error” (p. 726). Wu et al. (2017) define second victims as “health care providers who are involved in an unanticipated adverse patient event, a medical error and/or a patient-related injury and become victimized in the sense that the provider is traumatized by the event” (p. 2).

The term acknowledges the first victim to be the patient, and, sometimes, the term “third victim” refers to the healthcare organization. The term has been criticized by patient advocacy communities for incorporating the word *victim*, particularly as they use this term to refer only to the patient. This might, however, disregard the complexity of the relationships among victims, perpetrators, and bystanders when adverse events occur. Furthermore, some clinicians dislike the idea of being a victim, which denotes a degree of passivity and helplessness. Victimhood could also carry with it connotations of blamelessness, a concept that is potentially provocative to patients, families and patient advocates. Many of the most influential researchers on the topic, however, claim that the term is an established and recognized one, and find the benefits of the established wording more favourable than the counter arguments concerning the terminology (Wu et al., 2017). The problem as such has gained increased attention since Wu coined the term. Around the same time came the much-acknowledged report, “To Err is Human: Building a Safer Health System”, on errors in health care in the United States, and the related patient injuries and deaths (Kohn, Corrigan, & Donaldson, 1999).

Medical errors, emotionally affected healthcare providers, and patient safety are interrelated in a complex web of causation. Professionals who have committed an error are more likely to report symptoms of burnout and depression (West et al., 2006), something that in turn will lead to higher risks of making new errors, in a reciprocal circle (Fahrenkopf et al., 2008; Waterman et al., 2007). Furthermore, empathy, a tendency to minimize the event in question,

and decision-making in the future might be affected (Luu et al., 2012; West et al., 2006).

The practice of medicine, like other natural sciences, has a longstanding tradition of regarding (rational) thinking and cognition more highly than (irrational) feelings and emotions. For a long time, a prevailing idea has been that the two entities could be separated. Feldman Barrett (2007) writes that “we humans have long believed that rationality makes us special in the animal kingdom” and that “this myth reflects one of the most cherished narratives in Western thought, that the human mind is a battlefield where cognition and emotion struggle for control of behaviour” (p. 81). However, as a result of the advancement of neuroscience, a more recent and prevailing view has confirmed that cognitive and emotional processes are integral to each other and that emotional processes are inextricable from learning and memory (Croskerry, Abbass, & Wu, 2010; Feldman Barrett, 2007). Hence, it might not be surprising that the cognitive activity that underlies clinical decision-making may be altered by even moderate changes in emotional state (Croskerry, Abbass, & Wu, 2008; Croskerry et al., 2010). This includes emotions that, if avoided, repressed or blocked, might result in unacknowledged situations of countertransference or increased risk of anxiety, defensive reactions, depression and clinical burnout (Croskerry et al., 2010). These are situations and states that are counterproductive for empathetic meetings and promoting high-quality care. Clinical burnout has been associated with compromises in patient care and safety with a dose-response relationship (Croskerry et al., 2010).

A Dutch study revealed that disruptive behaviours displayed by patients induced doctors to make diagnostic errors (Schmidt et al., 2017). The highest degree of emotional reaction was caused by threats to the physicians’ integrity and self-esteem. There are plenty of situations that can give rise to emotions that might influence clinical performance. Croskerry et al. (2008, 2010) describe transitory emotional states, such as interpersonal conflicts, stress, fatigue, specific emotional biases, such as ego bias and positivity bias, and endogenous conditions, such as mood disorders, post-traumatic stress disorder and anxiety. The complexity is obvious. We go about our lives, with emotions and cognitions and act in ways that seem reasonable. We are to little extent able to choose not to experience emotional states that might affect our ability to perform good care. An alternative might instead be an attempt to acknowledge and promote conscious awareness of these emotions.

Personality traits seem relatively robust over time, with research showing that personality changes little after adolescence (Digman, 1989; Smrtnik Vitulić & Zupančič, 2013). Yee, Liu, and Grobman (2014, 2015) showed a relationship between obstetricians’ cognitive and affective traits and the delivery outcome

of their patients. Physicians who had more reflective coping strategies (tolerating ambiguity) were less likely to perform operative vaginal delivery, i.e., abstain from intervening (Yee et al., 2014, 2015). Physicians who demonstrated having lower levels of anxiety and higher tolerance of ambiguity, however, were associated with an increased risk of chorioamnionitis and postpartum haemorrhage in their patients (Yee et al., 2014). Studies on personality traits among Swedish specialists show that surgeons (including obstetrician gynaecologists) scored lower on agreeableness than other specialist groups but high on conscientiousness (Bexelius et al., 2016). Psychiatrists had the highest mean value scores in relation to openness to experience (linked to intellectual curiosity) but the lowest on conscientiousness. These two professional groups differed the most and were also the most homogenous in terms of their personality traits. Having some awareness of one's own personality traits might hence be of value, but so would having respect for the undisputable effect of emotions on cognition.

According to Croskerry et al. (2010), as well as Helmreich (2000), who have studied and compared pilots and aviation culture and operating theatre teams, healthcare staff tend to deny the deleterious effects of stressors and joint emotions. Thirty percent of doctors and nurses working in an intensive care unit in an American teaching hospital denied committing errors (Helmreich, 2000). These matters are not linked to personality traits or emotions but to culture. Sexton, Thomas, and Helmreich (2000) further illustrate the importance of integrating a detailed acknowledgement of the organization, its culture and norms, and well as professional cultures and norms, when working on improving safety. An example of this was a study on "the most memorable" perioperative catastrophe recalled among American anaesthesiologists. Over seventy percent had experienced guilt, anxiety and re-living the event, with 88% requiring time to recover emotionally from the event and 19% acknowledging never having fully recovered (Gazoni, Amato, Malik, & Durieux, 2012). Sixty-seven percent of the anaesthesiologists believed that their ability to provide patient care was compromised in the first four hours subsequent to the event, and 50% thought their professional ability was still negatively affected 24 hours after the event. Only 7% were given any time off.

Within delivery care, a stillbirth or perinatal death weighs heavily on professional responsibility and burden (Farrow, Goldenberg, Fretts, & Schulkin, 2013; Heazell et al., 2016; Nuzum, Meaney, & O'Donoghue, 2014; Schröder, Jorgensen, Lamont, & Hvidt, 2016a; Sheen, Slade, & Spiby, 2014; Sheen, Spiby, & Slade, 2015, 2016). Schröder et al. (2016a) investigated levels of burnout, sleep disorder, general stress, depressive symptoms, somatic stress and cognitive stress among Danish midwives and physicians following exposure to a traumatic childbirth. A fifth of the midwives and physicians exposed to one or several traumatic births were no longer working with delivery care,

and 25% of those had chosen to resign due to the burden of responsibility. Sheen et al. (2015) found that a third of the surveyed British midwives had experienced symptoms commensurate with post-traumatic stress disorder as well as two domains of burnout following a perinatal event involving a perceived risk to the mother or baby. One-third had seriously considered leaving the midwifery profession, and 20% had changed their professional allocation on a short-term basis.

Risks to consider within delivery care might not only be the problem of the retention of staff, but also of their recruitment. Half of the medical students in a British survey considered the specialty to be risky or very risky (Ismail & Kevelighan, 2014).

In this thesis I want to highlight some of the complex areas of emotions, psychological conditions, cultures and norms that prevail within Swedish delivery care. I thereby hope to draw attention to these matters and promote respect for and acceptance of the vulnerability that working on the delivery ward entails.

# Background

## Theoretical and conceptual frameworks and empirical support

When studying a phenomenon such as second victims in Swedish delivery care, various concepts found within several scientific fields will need clarification. This thesis is not built on a specific theoretical framework but on empirical studies. Results are, however, gained and interpreted through theoretical concepts. *Burnout* and *post-traumatic stress disorder (PTSD)* are medical diagnoses, hence, they involve reference to medical theories. Obstetrics and labour ward work entails a combination of medical theories and practices carried out in a social context, as part of a *socialisation process*. *Professional cultures, norms and values* meet and join with the structure and *culture of the organization* aiming at a safe culture (*organizational theory and patient safety*). Societal expectations are interrelated with patients' autonomy and expectations, which affect the *meeting between the first and second victims*. Finally, social psychology can explain some of the reactions that are linked to the concept of being a second victim and can help us to understand *resilience*. These conceptual frameworks will be referred to and partly described in the background section.

## Burnout among healthcare providers

### **Caring makes entries on our mental ledger with debits and credits**

The sociologist, Arlie Russell Hochschild, wrote about *emotional labour* in her book, *The Managed Heart: Commercialization of human feeling*, first published in 1983. She was mainly studying air hostesses, but nursing is a profession that, according to Russell Hochschild, is also characterized by emotional labour. This idea relates to “the management of feeling to create a publicly observable facial and bodily display. ... Emotional labour is sold for a wage and therefore has *exchange value*” (p. 7, original emphasis). Russell Hochschild describes emotional labour as something that is a potential asset. Problems might, however, arise when professionals force themselves to hold and express feelings that are not genuinely their own when “staff are expected to be warm and loving and always governed by a ‘clinical attitude’” (p. 52).

Russell Hochschild describes how professionals are taught to believe that they can truly change their own emotions (for example, a prominent dislike for an obnoxious, unpleasant or threatening patient or passenger) and how this turns emotions into a commodity. Only pretending to like someone or something, and displaying fake professional smiles, are rarely good enough tactics because humans quickly see through facial facades. “When it comes hard we recognize what has been true all along: that we keep a mental ledger with ‘owed’ and ‘received’ columns for gratitude, love, anger, guilt and other feelings ... Moments of ‘inappropriate feeling’ may often be traced all along to be owed or owing” (p. 78). An experience of not getting enough positive emotions back, and a lack of reciprocity as the end result, is a description linked to the concept of compassion fatigue (Teater & Ludgate, 2014). This condition differs slightly from burnout and is more directly linked to working with people who have experienced or are experiencing trauma, i.e., profound emotional work (Teater & Ludgate, 2014). Consequently, there are costs and consequences of caring, but the currency of caring trade is not merely monetary but also emotional.

### **Burnout and fatigue syndrome**

The condition of clinical burnout differs from fatigue syndrome, even though there are likely interrelationships between the two conditions. The concept of burnout was defined by Christina Maslach in the mid ‘80s and reflects psychological and emotional reactions to stress, making affected people less empathetic, depersonalized, more cynical and less open to recognizing other peoples’ needs (Elit, Trim, Mand-Bains, Sussman, & Grunfeld, 2004; Shanafelt, Bradley, Wipf, & Back, 2002). Maslach and Leiter (2016) defined six key areas in which imbalances can take place: workload, control, reward, community, fairness and values.

Studies show burnout rates between 30 to 86% among different groups of healthcare personnel (Balch, Freischlag, & Shanafelt, 2009; Mealer, Burnham, Goode, Rothbaum, & Moss, 2009; West et al., 2006). However, people scoring high on burnout scales can often still function at work, even though the quality of their performances might be lacking. Shanafelt et al. (2002) found that burnout among American medical residents, which was very common (76%), was associated with suboptimal patient care practices. Among people with symptoms of clinical burnout, levels of stress hormones are often high (Rohleder, 2018), and there seems to be an inverted U-shape association between stress and stress hormonal responses (Sapolsky, 2015). This might explain why some people develop fatigue syndrome, which is accompanied by low cortisol levels and characterized by extreme fatigue and an inability to accomplish ordinary work tasks. For people affected by fatigue syndrome it seems impossible to execute any complex tasks, and sick-leave is



often an immediate result, although the majority are able to return to work at a later date (Åsberg, Nygren, & Nager, 2013).

### **Burnout and obstetric care**

Schröder et al. (2016a) reported higher levels of burnout and stress among Danish midwives than obstetricians, but a sub-group analysis indicated that this might be gender related rather than linked to profession. It has, however, been suggested that nurses and, likely, midwives, who work closer to patients for longer periods of time, face higher risks of moral distress, a characteristic which has been linked to burnout (Austin, Saylor, & Finley, 2017). Seniority and time since the event were not associated with any of the scales in Schröder et al.'s study (2016a). In a study on burnout among Swedish midwives showing high personal burnout scores in 40% and work and client burnout in 15%, however, the strongest association between burnout and midwife characteristics were being aged less than 40 years and a length of work experience of less than 10 years (Hildingsson, Westlund, & Wiklund, 2013). These results are in line with those from a study on burnout and PTSD among American nurses, which also showed a correlation with confidence in the physicians with whom the nurses worked, as well as with their perceptions of collaborative nursing care (Mealer et al., 2009). Mealer et al. (2009) found that 98% of the nurses with PTSD had burnout syndrome, but far less with burnout had PTSD (21%).

Hildingsson et al. (2013) found that one in three midwives considered leaving the profession and that lack of staff and resources and a stressful work environment were associated with the reported burnout symptoms. Hence, burnout among delivery care professionals is prevalent, affects staff retention, and might be linked to exposure to severe events.

## **Post-traumatic stress disorder (PTSD)**

PTSD is a psychiatric disorder that depends on a special kind of etiological event, a trauma, which makes it different from other psychiatric diagnoses (except addictions) (Friedman, 2013; Rubin, Berntsen, & Bohni, 2008). The PTSD diagnosis was first named and classified in the *DSM-III* (Spitzer, Kroene, & Williams, 1980), in which the traumatic event was defined as “generally beyond the realm of normal human experience” and “a stressor that would evoke significant symptoms of distress in almost everyone” (p. 151). This was a result of the condition being frequently seen among war combats and victims of civilian catastrophes (McNally, 2003; Saigh, 1999). Previously, various referrals to “stress reactions” had been used. In the following diagnostic classification, *DSM-IV* (American Psychiatric Association, 1994), the definition of a traumatic stressor was broadened, as a result of studies showing that the stressors that could induce PTSD were relatively common (Breslau et

al., 1998; Brewin, Lanius, Novac, Schnyder, & Galea, 2009). The provision that it must have been outside the range of normal human experience was withdrawn (Saigh, 1999). Instead, the trauma ( $A_1$ ) was defined as “the person having experienced, witnessed or been confronted with an event or events that involve actual or threatened death or serious injury, or a threat to the physical integrity to oneself or others” and the person’s reaction ( $A_2$ ) should involve “intense fear, helplessness or horror/panic” (pp. 1-3). There should be symptoms of (B) re-experience, (C) avoidance, and (D) hyperarousal, and the duration should be for more than one month. There should also be (F) distress or an impairment that affects the person’s professional, private or social life. In the *DSM-III* and *IV*, PTSD was assigned to the anxiety disorders (Friedman, 2013). However, in the *DSM-5* (American Psychiatric Association, 2013) version, a new chapter was created, “Trauma and Stress-Related Disorders”, under which PTSD was categorized (Friedman, 2013).

The associations between trauma, memory of trauma and PTSD remain controversial, with the data calling into question the accuracy of memories of traumatic events (Loftus, 2003; Weems et al., 2014). Studies indicate that false memories can be created and important memories of life events can be changed (Weems et al., 2014). There might be a gender difference, making women recall autobiographical emotional events more accurately than men, due to the activation of different neural systems (Canli, Desmond, Zhao, & Gabrieli, 2002; Frans, Rimmö, Åberg, & Fredrikson, 2005). Findings indicating non-static (emotional) memories of trauma are consistent with the conceptual idea and clinical experience of exposure-based cognitive behavioural therapy, where facing your fear through exposure may help to re-evaluate how bad the cause of your fear really is (Friedman, 2015; Weems et al., 2014). The PTSD diagnosis requires experience of a traumatic event. However, in practice, the diagnosis rarely involves “objective” measuring of the severity of an occurrence, but rather, the patient’s memory report of the event (Rubin et al., 2008). Risk factors for PTSD are female gender, where the higher likelihood of experiencing interpersonal violence for women seems less controversial than the potential neurological differences between the sexes, education, childhood trauma, previous adverse life events, psychiatric disorders, genetics, and poor social support (Friedman, 2015). In a study on American trauma surgeons, being a man was associated with an increased risk of PTSD compared to their woman colleagues (Joseph et al., 2014).

### **The definition of a traumatic event**

When considering the delivery care context and the risk of being exposed to potentially traumatic events while working there, it is of interest to discuss the  $A_1$  and  $A_2$  criteria of the *DSM-IV* manual (used in our study). The stressor, the  $A_1$  criterion, has been up for debate since the PTSD terminology was introduced (Friedman, 2013). As mentioned earlier, the broadening of the stressor

criterion in the *DSM-IV*, from extreme forms of trauma to experiences commonly experienced among the general population, highlighted that the traumatic event alone, independent of its necessity for the development of the condition, could not be sufficient (Friedman, 2013). Most trauma-exposed individuals will not develop PTSD. The aetiology is multifactorial, and genetic predisposition as well as environmental interactions constitute vulnerability and risk factors (Breslau et al., 1998; Brewin, Andrews, & Valentine, 2000; Friedman, 2013; McNally, Bryant, & Ehlers, 2003). Brewin et al. (2000), however, state in their meta-analysis of risk factors for PTSD in trauma exposed adults, that pre-trauma factors such as education, previous trauma, childhood adversity, psychiatric history and family psychiatric history have a modest influence, whereas factors operating during or after the trauma, such as trauma severity, lack of social support and additional life stress, have a stronger effect on the risk of developing PTSD after a potentially traumatic event.

### **Partial PTSD versus “full” PTSD**

In Paper II we use the definition of partial PTSD according to Breslau et al., which requires at least one symptom in each of the PTSD criteria symptom groups (Breslau, Lucia, & Davis, 2004). Breslau et al. conclude that people who fulfil the criterion for partial PTSD have fewer work loss days compared to people who fulfil the diagnostic criteria of “full” PTSD, i.e.: A<sub>1</sub> (trauma); A<sub>2</sub> (intense fear, helplessness or panic); ≥ 1 B symptoms (re-experience); ≥ 3 C symptoms (avoidance); ≥ 2 D symptoms (arousal); and E-criteria (duration) combined.

### **Memory**

In the trauma field, studies usually rely on retrospective self-reports, which makes the evaluation of the “objective” recalls of the trauma complicated. Several factors can affect the memory, such as interrogative questioning (Loftus, 2003) as well as a person’s current clinical state (McNally, 2003). It has been shown that war veterans with higher PTSD scores “tend to amplify their memory of traumatic events over time” (Southwick, Morgan, Nicolaou, & Charney, 1997, p. 176). McNally (2003) concludes that we generally recall traumatic memories well, but even recollection of the most horrific event is not immune to time.

## **Socialization**

The fundamental essence of medicine entails the interpreting of nuances behind verbal cues and body language, creating trust and bonds in often time-restricted meetings, and the founding of collaborations and well-functioning teams with frequently interchangeable members. Social interactions constitute

the backbone of healthcare and make a cornerstone in the concept of second victims. How do healthcare providers view themselves after having made an error? How are they seen by their colleagues? By the patient? And how will the reactions of the surrounding colleagues affect the second victim? To what extent is the errant person's "self" equivalent to the professional who made the wrong decision at the wrong time?

To what extent our fundamental view of ourselves is taken up by our professional role is likely to vary between individuals and over time. For many this question will be raised for the first time during a professional crisis.

At the beginning of the last century, the sociologist, Charles Horton Cooley (1902), wrote about *Human Nature and the Social Order* in a book that was printed for the 7<sup>th</sup> time in 2009. In his book, Cooley writes,

The reference to other persons involved in the sense of self may be distinct and particular, as when a boy is ashamed to have his mother catch him at something she has forbidden, or it may be vague and general, as when one is ashamed to do something which only his conscience, expressing his sense of social responsibility, detects and disapproves; but it is always there. There is no sense of 'I', as in pride or shame, without its correlative sense of you, or he or they. (p. 151)

Cooley further compares these consistent self-reflections of others as a "looking-glass self":

Each to each a looking-glass  
Reflects the other that doth pass.  
(Cooley C. H., 1902, p. 152)

Another sociologist, Thomas Scheff (1997), has written about human interactions and emotions. Scheff writes that "The *dynamics* of relationships are explained in terms of the emotion which accompanies solidarity, pride, and the one which accompanies alienations, shame. . . . Shame is a normal part of the process of social control; it becomes disruptive only when it is hidden or denied" (p. 74). Scheff further indicates the deceitful and faulty assumption that we are all rational individuals in modern civilization. He proposes that, in fact, most people, most of the time, are steered by motives that are unconsciously determined in ways that are mysterious to themselves as well as to their associates. Furthermore, he suggests, "human communication is an open system, incredibly charged with both meaning and ambiguity" (p. 204), and effective communication involves both truthfulness towards others as well as self-knowledge, for which contact with one's own painful emotions is a precondition.

The complexity of the emotions that constitute vital parts of social interactions can be further comprehended through neuropsychology. Neuroimaging has provided evidence that our perception of emotions (in others) activates mechanisms that are responsible for the generation of emotions (in oneself) (Jackson, Meltzoff, & Decety, 2005). There seems, however, to be an egocentric bias when assessing another's state of mind, i.e., a major self-perspective in the construction of the representation of the other's perspective (Ruby & Decety, 2004). This ego perspective might be correlated to a core component of human functioning; social inclusion and belongingness (DeWall, Deckman, Pond, & Bonser, 2011). Both implicit and explicit exclusion generates social pain that is analogous in its neurocognitive function to physical pain and affects cognition, emotions, behaviours and personality expressions (DeWall et al., 2011; Eisenberger, Lieberman, & Williams, 2003). A counterproductive yet common defence mechanisms is anger, but, when people are rejected, and later experience only a minimal amount of acceptance from others, their aggression diminishes considerably (DeWall et al., 2011).

There is some evidence that mindfulness interventions can bolster a form of self-control that reduces the link between social exclusion and aggression (DeWall et al., 2011). This act of self-control might be similar to the conscious notion of "shame resistance", as described by the American sociologist, Brené Brown (2014). Brown describes that, by acknowledging and naming the shame that surprisingly often faces us in other guises (anger, fear, embarrassment), the social pain correlated to the fear of being excluded (not sufficient or clever enough, not beautiful enough, etc.) fades and wears off. In Brown's case, this works by repeating the words "pain, pain, pain, pain ..." quietly to herself (p. 79).

## Encounters between the first and second victim

Gallagher, Waterman, Ebers, Fraser, and Levinson (2003) concluded that patients desired emotional support from their physicians following an error, including an apology. Physicians were also upset when errors occurred, but worried that an apology might constitute a legal liability. In a quantitative study of 2637 medical and surgical physicians in Canada and the United States, it was shown that disclosure was affected by the nature of the error and the physician's speciality (Gallagher et al., 2006a). Surgical specialists (including all sub-specialities, i.e., obstetrics and gynaecology) reported a higher *intention* to disclose errors than medical physicians, but disclosed less information, especially regarding the use of the word "error" (Gallagher et al., 2006a). Gallagher et al. (2006b) also showed that there was no difference between Canadian and American physicians, despite their different malpractice environments. This finding is in line with results from a study on physicians and

nurses in the United States and the United Kingdom, where litigation fear was not a valid reason for personal disruption after an error (Harrison et al., 2015). Physicians' disclosure practices are influenced by their culture and, in a study that included members of the European Society of Intensive Care Medicine, physicians from Scandinavia and the Netherlands were most likely to give exact details about the incident, while those from Greece and Portugal were most likely to say nothing (O'Connor, Coates, Yardley, & Wu, 2010).

When considering the complexity of the human mind and our sensitivity to social interactions and signs of exclusion, it is easy to grasp the delicate character of the meeting between a healthcare provider who is responsible for an error and the injured or harmed patient. Berlinger (2007) reminds the reader of the second half of the aphorism, "to err is human; to forgive, divine" (p. ix) in her book, *After Harm: Medical Errors and the Ethics of Forgiveness*. Forgiveness signifies religious, particularly Jewish and Christian, teachings, but these teachings have permeated secular culture in the West for so long and in so many ways that it is natural to talk about error, guilt, confession, apology, repentance and forgiveness without making any reference to religion. Berlinger further points out the common-sense but poignant differences between the statements, "I am sorry your father died", signalling sympathy, and "I am sorry I made a mistake that killed your father", a true apology (p. 51). An apology is an acknowledgement of responsibility coupled with an expression of remorse (Lazare, 2006). Unfortunate outcomes in high-risk situations are not considered, by the healthcare provider and the medical community, to be offenses for which an apology should be offered. In such cases, the "I am sorry for what happened" phrase is deemed appropriate (p. 1402).

A true apology, however, is built around four elements; acknowledgement, explanation, expression of remorse, and reparation, but all four parts are not always necessary (Berlinger, 2007; Lazare, 2006). If an apology has been ineffective, there is usually one or more of these elements missing. The most common error in apologizing is the failure to adequately acknowledge the offense (Berlinger & Wu, 2005; Lazare, 2006). Such apologies might be too vague, for example, "I apologize for whatever happened". There could also be the use of conditional words, such as "if" or "but", to mitigate the offense ("if there was an error" or "there was a mistake, *but* ...") (Lazare, 2006, p. 1403).

There are several reasons for healthcare providers' (most studies are conducted with physicians) resistance to acknowledging errors and adequately apologizing for them. Considering how the emotions of others affect us, it is no surprise that meeting angry patients might be unpleasant, particularly while at the same time having to struggle with emotions of guilt and shame. There might be a fear of facing complaints or reports being sent to managers or the authorities. There seems to be evidence, however, that admissions of harm and

apologies strengthen, rather than jeopardize, relationships (Lazare, 2006; Wu, Huang, Stokes, & Pronovost, 2009). The culture in medicine, is, according to Lazare (2006), another barrier to genuine apologies. Physicians need to maintain a self-image for themselves and others of being strong, always in charge, unemotional and perfectionist. A threatened self-image might induce unbearable emotions of shame and an apology may expose vulnerability and remove emotional armour.

Schröder, la Cour, Jørgensen, Lamont, and Hvidt (2017) elaborate on the subject of self-forgiveness in a system that subtly or explicitly promotes a culture of operating a failsafe system. Under the headlines of systems thinking, organizational learning, and “no-blame” errors, a dominant idea of preventability is conceived that is complex, particularly when considering the fact that clinical medical work has been characterized as an error-ridden activity (p. 15). Schröder et al. (2017) suggest that self-forgiveness, sometimes without being forgiven by the patient, has an important therapeutic effect but implies an *acknowledging* of guilty feelings rather than futile attempts to take away the guilt (p. 16). Acknowledging is the first step in tolerating (shame resistance), as described by both Lazare (2006) and Brown (2014), and, according to Lazare, healthcare professionals need to tolerate and support their own humanity and regard apologies as evidence of honesty, generosity, humility, commitment, and courage.

## Cultures, norms and values

Childbirth, being both a biological process and holding strong cultural values, and representing the beginning of a new life and the maintaining of the human species, can be seen as a positioned meeting point between a dualistic thinking; natural versus medicalized (Reiger, 2008). Accounts from mainly Anglo-Saxon countries give descriptions of rivalries or dysfunctional collaboration between midwives and obstetricians (Hastie & Fahy, 2011; Lane, 2012; Rice & Warland, 2013). Reiger (2008) presents how professional struggles are sometimes lived out at the personal level. An example of this is a debate published in *BJOG* in 2017 between Dietz (2017, 2018), an Australian professor in obstetrics, and Guilliland and Dixon (2018), chairwomen of the New Zealand College of Midwives. Dietz (2017) claims that the ideology of less intervention is paternalistic and questions the use of caesarean section (CS) rates as a quality indicator when there are risks of 1:4 and 1:1000 for situations such as emergency CS, forceps or vacuum, anal sphincter and levator tears, vaginal birth after CS risks, postpartum haemorrhage, macrosomia, and unexplained stillbirths. He further refers to the Report of the Morecambe Bay Investigation, which reported a “growing move amongst midwives to pursue normal childbirth ‘at any cost’” (Kirkup, 2015, p. 7) at Furness General Hospital (NHS,

UK) resulting in several cases of perinatal severe morbidity and mortality between the years 2004 and 2013 (Dietz, 2017). Guilliland and Dixon (2018) reply that there are no differences between perinatal morbidity and mortality in midwifery-led compared to obstetrician-led units in New Zealand, and that bad results are due to dysfunctional relationships between professions. This was also stated in the Report of Morecambe Bay Investigation (Kirkup, 2015). The tone in this public debate is rather harsh, as is the report of the Morecambe Bay Investigation. Although most professionals in Swedish delivery care are far less opinionated, it might be interesting to consider whether, and if so, to what extent, a dualistic idea of normality versus medicalisation and possibly “us” versus “them” colours different obstetrical cultures.

In countries where physicians facilitate the majority of births, CS rates are higher than in countries where midwives generally hold this task, and there is a global concern about the overuse of interventions that were designed to manage complications (Johanson, Newburn, & Macfarlane, 2002; Renfrew et al., 2014).

Although delivery care in Sweden is institutionalized and publicly funded, the factors that influence obstetric culture are not limited to those contained within an institutional professional vacuum, but are affected by ever-changing norms within society at large and the delivering women’s demands, desires and expectations. Klein (2004) states that, despite midwifery’s rebirth in Canada and the United States, arising from a demand for a more women-centred birth process, a parallel social acceptability for CS on demand may be driven by a new form of consumerism and changes in the cultural context of childbirth. There might furthermore be aspects of generational differences, in which the demand for a pre-emptive CS can be situated as a new form of feminism in which childbearing is less central in the lives of a younger generation and the essence of “choice” is central for achieving autonomy.

The cultural ideal among the Swedish population was traditionally that pregnancy and delivery should go almost unnoticed. Milton (2001) describes how Swedish stories from the mid-20<sup>th</sup> century idealized childbirth, where a woman would leave the harvest field to fetch food and drinks for the workers and return with a baby tied to her chest. It might be that some of these cultural ideals are still affecting “a Swedish national perception” that might be influencing the relatively low national CS rates, when compared to other high-income countries.

Midwives and obstetricians might, in certain periods of their lives, also be part of the childbearing community, directly or indirectly. Bergholt, Østberg, Le-garth, and Weber (2004) found that a majority of Danish obstetricians personally preferred spontaneous, vaginal deliveries for uncomplicated pregnancies



with an expected foetal weight of 3 kg at 37 weeks. With increasing weight estimation of the foetus, however, the preference for elective CS and induction increased to 22.5% and 33.8%, respectively. In what way a personal preference might affect decision-making, and how well an individual professional “fits” with the obstetrical culture of a workplace, are hence other aspects of this complex matter.

### **Obstetrical culture historically**

Friedson (1988) wrote in his book, *Profession of Medicine: A Study of the Sociology of Applied Knowledge*, about the development of the profession of medicine, alongside the natural sciences and the establishment of universities in Europe. In his book, Friedson describes how physicians in the United States were taking over delivery care, a description that is concordant with Milton’s description in her thesis on the Swedish midwifery profession during the 20<sup>th</sup> century. Historically, however, the picture and the development of delivery care in Sweden has differed considerably from that seen in the USA (Milton, 2001). Sweden had very few physicians in relation to the population, compared to the United States, and, early on (18<sup>th</sup> century), the Swedish state became involved in public health matters, including delivery care (Högberg, 2004; Milton, 2001). The population was poor and there was no system of private care as was seen in the States. In 1757, the Collegium Medicum’s proposal for a national training programme for midwives, covering all parts of the country, was approved by the state (Högberg, 2004). The widely scattered rural population of Sweden and few physicians made it necessary for the parish midwife to be skilled and capable of coping with emergency situations (Milton, 2001). In 1829, new regulations concerning extended training for midwives authorized them to use forceps, sharp hooks and perforators. The training of midwives was controlled and supervised by obstetricians, and obstetricians were also appointed as chairmen in the Swedish Association of Midwifery for many years. Milton (2001) concludes that the relationship between physicians and midwives in Sweden has been characterized by considerably more collaboration than conflict. Furthermore, the Swedish midwifery profession has been constructed around the medical sciences and modern medicine. A non-interventionistic ideal, i.e., wait and see rather than intervene, was also a “red thread” for obstetricians in Sweden. According to Milton (2001), the medical sciences cannot be held entirely responsible for the general trend of medicalization, seen today, because such movements are, to a large extent, driven by cultural currents in society.

Historically, there are some descriptions of conflicts of interest between Swedish midwives and obstetricians, and these are mainly found in Stockholm, where the number of physicians was higher. In general, however, the midwifery profession in Sweden had much to gain from a relative subordination to the obstetricians, as the collaboration as such provided a high degree of

autonomy and the medical profession acted as a powerful advocate, politically, for the development of a strong professional midwifery identity (Milton, 2001).

### **What is it like being a doctor?**

Charles L. Bosk (2003) and Elliot Friedson (1988) have both described the socialization process of physicians, pointing at a strong hierarchical structure reinforcing effective social control, and a longstanding tradition of internal control rather than external supervision. The process of socialization within medicine is partly a history of emotional control and even denial (Bosk, 2003). Because the subject of this thesis involves emotions and emotional expressions, I want to delve somewhat into the culture of medicine.

When looking at what a profession entails for the individuals who join such a fraternity, there are both sociological and personal descriptions, some of which that have become very popular. For the layperson there seems to be an interest in gaining an insight into the world of doctors. Henry Marsh (2014), a senior British neurosurgeon, wrote a popular book, *Do No Harm: Stories of Life, Death and Brain Surgery*, in 2014, and David Hilfiker's (1985) book, *Healing the Wounds*, about his life as a general practitioner, received a great deal of attention when they were published. There are numerous reasons for people's interest in the medical sphere. There might be natural excitement in getting a taste of, or insight into, something that can happen to each and every one of us; that is, to be close to life and death. There might also, however, be an interest in the inside of the medical professional's mind. What does it actually entail to do brain surgery and in a very tangible way be responsible for the lives of other humans?

Friedson (1988) wrote that physicians are an example of a group who have reached total professional success. This success might, however, come at a price. High demands being transformed into conceptions of perfectionism (Christensen, Levinson, & Dunn, 1992; Feinmann, 2011; Hilfiker, 1985; Peters & King, 2012), and the wish for infallibility projected into the practitioners themselves, might create a distance from, and disrespect for, their own emotions and needs. Bosk (2003) writes,

When making decisions, the surgeon – any physician, in fact – is expected to bracket all systems of relevance to him or his other capacities ... He is expected to treat conditions as they arise or to make certain that they will be treated before he moves on to other tasks. Fatigue, pressing family problems, a long queue of patients waiting to be seen, a touch of the flu—all the excuses that individuals routinely use in everyday life, are inadmissible on a surgery service. (p. 55)

Furthermore, the process of socialization creates, according to Friedson (1988), a profound ambivalence for physicians relating to critique.

On one hand a doctor has a more than ordinary sense of uncertainty and vulnerability; on the other he has virtue and pride, if not superiority. This ambivalence is expressed by sensitivity to criticism by others. (p. 178)

Hence, the cost of autonomy and superiority is paid with loneliness and unacknowledged vulnerability, a notion that is described well by Hilfiker (1985). The isolating consequence of superiority is also described and partly questioned by Rachel Naomi Remen (2002), an American physician who wrote the bestseller *Kitchen Table Wisdom: Stories That Heal*. In the book, Remen, who is a trained paediatrician and therapist and works with people who are dying, shares her own weaknesses and failings. She describes her own chronic disease and her strong wish to live when severely threatened by her illness. Remen illustrates how prestigious her training has been as well as her professional successes. At the same time, she emphasizes how she, over the years, has allowed herself to get closer to the patients, physically, socially and psychologically, and how this allows for a healing contact, one that affects not only the patient but also Remen herself. Remen successfully balances on a fine line between closeness, warmth and healing, combined with a recognition of the patient's desire that the professional person, whose profession allows for, and even demands, a trespassing of fundamental social rules, should be flawless and above the ordinary. Reciprocity in situations of an uneven balance of power, as well as in strictly hierarchical systems, are complex matters. This is also illustrated by the need for collegial support. Belonging to the community of (equal) colleagues was, according to Aase, Nordrehaug, and Malterud (2008), a presupposition for Norwegian physicians' coping with the loneliness and powerlessness related to their vulnerable professional position. Wu et al. (2017), and Scott et al. (2009, 2010), have also highlighted the importance of collegial support.

## Patient safety and organizational and individual resilience

### **System versus person approach**

Schröder et al. (2017) depicted systems thinking, organizational learning and no-blame errors as being dominated by an idea of preventability, thus, a culture that is counteracting the acceptance of fallibility. This is interesting because the basic premise of the *system approach* is that humans are fallible and that errors are to be expected, even in the best of organizations, according to James Reason (2000), a famous patient safety expert and professor of psychology.

The *person approach*, on the other hand, focuses on the unsafe actions, errors and procedural violations committed by people at the sharp end: physicians, midwives, nurses, and pharmacists, i.e., ordinary, clinically working, healthcare providers (Reason, 2000). Poster campaigns, protocols and procedural writings, threat of litigation, retraining, naming, blaming, and shaming are designed to prevent people from acting erroneously, under the assumption that bad things happen to bad people. In the *system approach*, the question is not “whose fault?” but rather, how and why defences failed. In patient safety literature, the concept of High Reliability Organizations (HROs), is used frequently (Ödegård, 2013; Reason, 2000; Weick & Sutcliffe, 2015). High reliability organizing describes constant, collective, efforts to improve and maintain reliability in dynamic and often complex activities and has a less than expected share of accidents. HROs acknowledge that “Human fallibility is like gravity, weather, and terrain – just another foreseeable hazard” (Weick & Sutcliffe, 2015, p. 54) and that errors can never be eliminated, just dealt with. Reason (2013) writes;

One of the problems within the professions of healthcare is that one here equates an incorrect action with incompetency or something even worse. Unlike within aviation, where errors are expected, there is within healthcare a culture of well-trained perfectionism. After a long, laborious, and costly training, physicians and nurses have expectancies, both from themselves and from others, that what they do should be right. But there are only two types of health care practitioners: those that unintentionally injured a patient and those that will (translated from Swedish to English by ÅW). (p. 162)

### **Do we really work in the way we believe we do?**

Safety culture depends on principles, policies, procedures and practices which are driven by different levels of commitment, competence and cognizance (Reason, 2013). Principles, policies, procedures and practices might not always be coherent. There might be differences between cultures and values in an organization, and Brown (2014) suggests ten questions that provide clues to a particular workplace’s culture and values (see below). “Do we work in the way that we believe or intend to do?” might be a relevant question. Error wisdom is about improving the psychological ability to learn from errors, which increases an individual’s ability to notice potentially risky situations (Reason, 2013).

Brené Brown’s (2014, p. 174–175) questions on organizational culture are:

1. What behaviours are rewarded? Punished?
2. Where and how are people actually spending their resources (time, money, attention)?
3. What rules and expectations are followed, enforced, and ignored?

4. Do people feel safe and supported talking about how they feel and asking for what they need?
5. What are the sacred cows? Who is most likely to tip them? Who stands the cows back up?
6. What stories are legend and what values do they convey?
7. What happens when someone fails, disappoints, or makes a mistake?
8. How is vulnerability (uncertainty, risk, and emotional exposure) perceived?
9. How prevalent are shame and blame and how are they showing up?
10. What's the collective tolerance for discomfort? Is the discomfort of learning, trying new things, and giving and receiving feedback normalized, or is there a high premium put on comfort (and how does that look)?

### **It has worked out fine many times before ...**

In general, people live as though their expectations are correct and little can surprise them, as anything else would be to forego their feelings of control and predictability (Weick & Sutcliffe, 2015). Challenges when considering delivery care in the aspects of patient safety might be the infrequency of severe outcomes, which might create a normalisation of deviance, i.e., becoming accustomed to actions, interpretations and care that might not be “correct” (Millde Luthander, 2016). The processes related to hidden errors can continue for a long time without being noticed. Small, frequent errors in foetal surveillance, made by an individual midwife or obstetrician or by a delivery ward team, result in a low risk of severe outcome. This can explain an overconfidence bias (it never happened to me) and availability bias (it worked out fine the last time). Consequently, the absence of severe outcome is not the same as safe care (Millde Luthander, 2016). Evaluating something that happens very rarely and is caused by a complex system of actions and outcomes, from a system approach, might seem abstract or counterintuitive. Hindsight bias might create a conscious or sometimes unconscious temptation to evaluate a severe event from a person approach perspective. This is also generally more emotionally satisfying than targeting systems of institutions (Reason, 2000). However, sustainable changes in perinatal patient safety assume changes in mental models, norms and culture (Millde Luthander, 2016). Such can be exemplified by posing Brown’s ten questions.

### **“Three-bucket thinking”: a way of attending to risky situations**

For healthcare organizations, Reason (2013) is applying techniques and psychological abilities by defining three basic qualities of a situation (three buckets), which together affect the likelihood that an error will be made. The buckets include: the well-being of the individual on the front line; the context and

elements in the situation that might provoke errors; and, finally, the task. Certain tasks are more risky than others. Each of the three qualities (buckets) can gain one to three “points” (defining lower or higher risks of errors to be made), and a score of six to nine should induce a mental alarm function for the healthcare providers. The idea is to induce a mental preparedness that an error might happen, that help might be needed, and an awareness that the path leading to unfavourable events is always lined by erroneous assumptions.

A challenge related to both the wellbeing of the individuals as well as the context is that honest reporting, a cornerstone in the work of HROs, is much more difficult to perform in hierarchical organizations than people admit (Weick & Sutcliffe, 2015).

### **The structure of power during escalating delivery situations**

Bergström, Dekker, Nyce, and Amer-Wählin (2012) describe situations on the labour ward as escalating, i.e., going from normal to non-normal to pathological and, further, into a state of emergency or crisis. The process of escalation is complex as well as being linked to social interaction, and the definition of the situation as normal or non-normal could be seen as an exercise of power. According to organizational contingency theory, quickly changing local conditions are best managed by decentralised organizations. Hierarchical systems, such as those of the military, change on the battlefield, where lower ranking personnel might be better equipped to make decisions. Bergström et al. (2012) argue that, when it comes to obstetric interventions, contingency theory is not valid. Instead, organizational changes occurring during the escalation can be characterized by an upward and outward reach to higher levels and types of institutionalised hierarchy and competence. Midwives essentially “step back” from the responsibility of making judgement and intervention decisions once a physician is involved, even though almost all midwives are well aware that they may have called upon someone with less experience and competence than themselves (a junior physician) (p. 3). These calls for an obstetrician do denote an organizational transition, from normal to non-normal; hence, through a redefinition of responsibility, midwives relinquish their control and authority. Emotionally, the midwife might, however, still feel responsible (Dekker, Bergström, Amer-Wählin, & Cilliers, 2013).

Bergström et al. (2012), furthermore, problematize the focus on reducing “communication problems” in escalating emergency situations. Other significant issues, such as power and hierarchy, might thereby be muted by the simplified aim of improving communication.

## Resilience

Most of the above described areas are related to the concept of resilience, both individual and organizational. Zautra, Hall and Murray (2010) define resilience as “an outcome of successful adaptation to adversity” (p. 4), which constitutes two phases; recovery, and sustainability. The recovery phase might leave emotional “scars”, but the return to health is often beyond what psychopathology models would have predicted. This is also described by the medical sociologist, Aaron Antonovsky (1987), who coined the expression KASAM, or sense of coherence. The three main components are comprehensibility, manageability and meaningfulness, of which some, from an organizational point of view, share similarities with Maslach’s burnout inventory (Antonovsky, 1987; Maslach, Jackson, & Leiter, 1997). Individuals differ in their inner strength, flexibility and “reserve capacity”, just as organizations differ in their capacities for resilience and resources (Helgeson & Lopez, 2010; Denhardt & Denhardt, 2010). For the individual, personality styles (ego resilience, positive self-concepts, and hardiness) and environmental resources, such as access to supportive relationships and close nurturing family bonds, are of significance.

For the organizations that want to become more resilient, there are four key concepts; the *cognitive* challenge of being free of denial, the *strategic* challenge of developing new alternatives and options in response to challenges, the *political* challenge of diverting resources, and the *ideological* challenge in becoming opportunity-driven rather than focusing on optimizing existing models and systems (Denhardt & Denhardt, 2010). As organizational theorists have started to conceptualize organizations, not as machines or natural systems, but as social constructs, the importance of understanding “the organizational culture” has been emphasized. The basic pattern of attitudes, beliefs and values held by members of the organization is the key element in the understanding how to foster resilience. Culture is a relatively stable element in organizations and usually changes very slowly, but if a challenge or crisis is responded to with flexibility, trust and confidence, it can leave the organization better off over time, independent of the outcome of the problem at hand.

For the prevention of burnout, an individual intervention of participating in a reflecting peer-support group (a Swedish randomized controlled study) showed significant effect on perceived general health, perceived quantitative demands at work (despite unchanged working tasks), perceived improved participation, and development opportunities and support at work (Peterson, Bergström, Samuelsson, Asberg, & Nygren, 2008). The intervention caused experiences of better knowledge, a sense of belonging, improved self-confidence, better structure, relief of burnout symptoms, and behavioural changes (Peterson et al., 2008).

Interventions to improve healthcare professionals' resilience are education, resilience workshops, cognitive behavioural interventions, small group problem solving and sharing (similar to the peer-support group), mentoring systems, and practising mindfulness and relaxation techniques (Rogers, 2016). It has been suggested that a combination of interventions, a multidimensional concept, may offer the best chances of success as well as a combination of "bottom-up" and "top-down" approaches (Peterson et al., 2008; Rogers, 2016).



# Rationale

Delivery care holds some unique qualities within healthcare. It manages mainly healthy people during a transformational, albeit often normal, process that, however, holds potential risks. Expectancies are generally positive and preparedness for negative outcomes in childbearing society is low (Cauldwell, Chappell, Murtagh, & Bewley, 2015). With increasing knowledge of how healthcare providers might be severely affected by their own errors and correlated severe events, it is hence of interest to collect information relating to the extent to which midwives and obstetricians (and trainees) are exposed to severe events on Swedish labour wards. It is furthermore of interest to develop knowledge of the consequences of these severe events on the professionals in terms of severe psychological affects and which factors are of importance to them. One way to measure the psychological impact of the severe events is to quantitatively report symptoms of post-traumatic stress in conjunction with the worst perceived event in the professionals' careers. A larger-scale study of this kind, among delivery care practitioners, has not been carried out before.

The empirical results of the survey can best be understood through a qualitative lens, generating descriptions, insights and ideas that can later be used to better understand areas such as obstetrical culture, patient-safety in delivery care, the well-being and retaining of staff, and support systems.

# Aim

The overall aim of this thesis is to explore the magnitude, risk factors and consequences of becoming a second victim in Swedish delivery care, as well as to explore professionals' experiences and responses in order to better understand how support can be provided and staff retention levels improved.

The specific objectives of this thesis are:

- to assess the magnitude of severe events among midwives and obstetricians (Paper I)
- to examine and explore the psychological impact of severe events on midwives and obstetricians (Papers II, III and IV)
- to explore the organizational norms and structures that affect the genesis of severe events and how these are perceived (Paper III)
- to explore what characterizes the process following a severe event, for the involved professionals (Papers II and IV)

# Materials and methods

## The study context

There are 47 delivery units (2015) in Sweden with delivery rates ranging between 350 and 10 000 (mean 2000) per year (Social Board of Health and Welfare, 2017). The units have caesarean section rates between 8–27% (2015) with the national average being 17%. Home births are very rare (Larsson, Aldegarmann, & Aarts, 2009). There are at present no private delivery units in Sweden and all delivery care is publicly funded, hence entirely free of charge for the delivering woman. In Sweden, midwives are independently responsible for all normal deliveries and the organizational structure of the delivery care is more democratic than in many other countries (Larsson et al., 2009). Obstetricians (trainees or specialists) become involved when the delivery deviates from the normal and they will then bear the main formal responsibility, onwards. Obstetricians become involved in about 35% of all births (Acharya & Westgren, 2016).

In this thesis the term “obstetrician” is used for physicians who are specialists in obstetrics and gynaecology, irrespective of where their clinical direction lies; towards gynaecology or obstetrics, or to another sub-specialty area. There is a tendency for specialists to work exclusively as gynaecologist or obstetricians, however, over 70% work within both areas (Acharya & Westgren, 2016). The term “obstetrician” is also somewhat misleading, used for trainees (residents) who are completing their specialisation training to become specialists in obstetrics and gynaecology. They work independently on the labour ward as a part of their training (daytime and during night shifts), although they do have back-up provided by senior colleagues, who might, however, be on call from home.

According to Swedish regulations, all serious events that could have, or that did cause harm to a patient, should be reported to the authority, the Health and Social Care Inspectorate (IVO) by the hospital (*lex Maria*). Before June 2013, preventable adverse events were reported to the National Board of Health and Welfare (NBHW). Prior to January 2011, the NBHW could issue an official admonition or warning to a healthcare provider who had acted incorrectly (Nilheim & Leijonhufvud, 2013). Since 2011, the regulations have changed, and a system/organizational approach should primarily be used, investigating

system errors that can be improved. With this change, the controlling authorities, however, obtained greater power to take legal proceedings to adjudicate trial periods (during which the professional should work under supervision) or withdraw the authorisation of the professional to practise.

Patients, or family members of deceased patients, can report severe adverse events to the IVO, but should also make complaints to the hospital where the event took place. Since January 2018, having first contacted the hospital or unit in which the event took place is a prerequisite for the IVO to accept a complaint. A patient who has been injured can be financially compensated through the patient board, without making any legal proceedings in a civil court. It is, however, possible to pursue civil proceedings in cases where gross negligence is suspected. The patient will then contact the Police. Also, the IVO must report to the Police in cases where gross negligence or a criminal offence is suspected.

## Overall design of the studies

A multi-methods approach was applied to understand different perspectives of becoming a second victim after a delivery-related severe event. Malterud (2001a, 2001b) suggests that qualitative studies can be added to quantitative ones to gain a better understanding of the meaning and implications of the findings. In this thesis, the concept of being a second victim is studied and described from different angles, contributing by providing clarification, description and orientation of a complex matter. The quantitative study (Papers I and II) collected information on the magnitude of experiences of severe events among midwives and obstetricians in Sweden. It also investigated how common severe psychological reactions, such as PTSD-symptoms, are, following severe events. The qualitative studies (Papers III and IV) contribute by providing descriptions of experiences of delivery-related severe events and the process following the event is constructed using an interpretative portrayal of midwives' and obstetricians' 'world' (Charmaz, 2014). An overview of the characteristics of the studies included in this thesis is provided below (Table 1).

Table 1. Overview of the characteristics of the studies included in the thesis

RESEARCH QUESTION	STUDY DESIGN, DATA SOURCES AND ANALYTICAL APPROACH	PAPER
What is the exposure rate of severe events on the delivery ward among midwives and obstetricians?	A cross-sectional, retrospective survey among members of the Swedish Midwifery Association (SBF) ( $n=1459$ ) and the Swedish Society of Obstetrics and Gynecology (SFOG) ( $n=706$ )	I
How many midwives and obstetricians report symptoms of post-traumatic stress disorder (PTSD) following a severe event?	A cross-sectional, retrospective survey among members of the SBF ( $n=1459$ ) and the SFOG ( $n=706$ ) using multivariate logistic regression	II
What are the norms and structures that affect the genesis of severe events and what are Swedish midwives' and obstetricians' experiences of these?	A qualitative design using qualitative content analysis based on in-depth interviews with midwives and obstetricians ( $n=14$ )	III
What characterizes the process following a severe event for midwives and obstetricians?	A qualitative design using constructivist grounded theory based on in-depth interviews with midwives and obstetricians ( $n=14$ )	IV

## Magnitude, risk factors and consequences of being a second victim (Papers I and II)

### Design and participants

A survey containing questions on background characteristics (age, gender, cohabiting status, children, profession, years of experience, character of work, i.e., delivery care, other types of inpatient care, different types of outpatient care, academic work, non-patient related work, on-call duty (for obstetricians)) was developed. The survey, hence, differed slightly regarding background characteristics depending on whether the recipients were midwives or obstetricians. The survey further contained questions regarding potential experiences of severe events on the labour ward, which were defined as: 1) perinatal death; 2) a child with severe asphyxia or injury at birth; 3) a child who died during neonatal care due to delivery-related causes; 4) maternal death; 5) very severe or life-threatening maternal morbidity during delivery; or 6) other severe event, such as threat or violence from the patient's family members (with space for writing free text after this question). The participants were asked how many times they had experienced a defined severe event. For those with no experience of a severe event, as defined in the questionnaire, the survey was ended. For those answering positively to any severe event, the survey continued and the respondents were asked to think about the event that they had perceived as the worst. They were then asked about whether they participated in a regathering (debriefing) following the worst event and, if so, how it

was perceived. The answers could be given as very content, relatively content, relatively discontent and very discontent. These answers were dichotomised in the analysis. The questionnaire further contained questions of potential event analysis following the worst event, reports to the NBHW or IVO from the patient (or family member), or report to the NBHW or IVO by the hospital (lex Maria) (with free space for comments). There was a question on whether the event had resulted in perceived negative reactions towards the participant from the parents or family members of the parents, with free space for comments. There were also questions on experience of different types of support with four response alternatives (two positive and two negative) that were dichotomised in the analysis. There was a question on potential professional support, i.e., a counsellor, a psychologist, a psychiatrist or another type of professional. For the assessment of post-traumatic stress symptoms, a Swedish version of Screen Questionnaire Post-Traumatic Stress Disorder (SQ-PTSD) was used. It has been found to be reliable and validated and is based on the post-traumatic stress disorder criterion from the *DSM-IV* (American Psychiatric Association, 1994; Frans et al., 2005) regarding psychological reactions following the event. The questionnaire was developed by our research group. The questions in the SQ-PTSD were slightly modified to suit the delivery ward setting and the time following the event. Symptoms regarding function (the F-criterion), according to the *DSM-IV*, were omitted and instead we asked for professional consequences in terms of sick-leave or changed working conditions, such as leaving emergency obstetric care. Face validity was checked through pilot testing where nine midwives and nine obstetricians participated (individually or in groups).

## Data collection

The web-survey was distributed using the program Survey Monkey, and was sent to all members (less than 66 years of age) of the Swedish Association of Midwives (SBF) and the Swedish Society of Obstetrics and Gynaecology (SFOG) in January 2014. About 91% of the Swedish midwives are members of the SBF (Hildingsson et al., 2013) and the rate is most likely higher for physicians' membership in SFOG. Members with known e-mail addresses (72% of SBF members and 97% of SFOG members) received the survey. The questionnaire was sent to 3849 midwives and 1498 obstetricians, followed by three reminders. The data collection lasted for nine weeks. Of the responses, 192 were disqualified as the respondents were midwifery students who had not yet completed their training.

## Analysis

For descriptive and statistical analysis, IBM SPSS version 23 was used. The risk estimates of being reported to the National Board of Health and Welfare

or the Health and Social Care Inspectorate by the patient of the family of the patient were calculated using logistic regression analysis and were presented as crude and adjusted odds ratios (OR) and 95% confidence intervals (CI) (Paper I, Table 4).

Post-traumatic stress symptoms for obstetricians and midwives were presented with 95% CI, and potential differences between the two professional groups were tested using Chi<sup>2</sup> test and presented with *p*-values (Paper II, Table 2). The risk of developing post-traumatic stress symptoms as in partial or probable PTSD, in relation to risk factors, was tested using logistic regression and adjustment in accordance with the identified risk factors. The results were presented as crude and adjusted odds ratios and 95% confidence intervals (Paper II, Table 2). To calculate potential differences in professional long-term consequences for obstetricians and midwives by experience of post-traumatic stress symptoms (partial or probable PTSD) or not, Fisher's Exact Test was used and the results presented using *p*-values (Paper II, Table 4).

## The experiences of and processes following a severe event (Papers III and IV)

### Design and participants

Along with the information gathered in the survey on severe events (Papers I and II), a question was included regarding whether respondents living in the south or central parts of Sweden wanted to participate in an interview study on their experiences of severe events on the delivery ward. Those interested were asked to e-mail a response to ÅW. Twenty professionals replied, out of which three were considered ineligible. One was then working for the Health and Social Care Inspectorate (IVO), which was considered problematic due to the character of the study, one was living in another part of the country, and one had never worked independently on the labour ward (midwifery student). By posting advertisements in the two journals that are provided to all members of the Swedish association of Midwives and the Swedish Society of Obstetrics and Gynaecology, another six potential participants responded. Purposive selection of informants resulted in the recruitment of seven midwives and seven physicians, all specialists in obstetrics and gynaecology and representing both women and men (all midwives were women), with varying lengths of working experience and varying experiences of working in different-sized delivery units. Two potential participants who were contacted through e-mail were no longer interested in participating and a third did not reply. One planned interview (with a midwife) was cancelled due to a hold-up in the train services. One informant was recruited through a snow-ball sampling technique, i.e., by recommendation from another participant.

## Data collection

The interviews were conducted between May and December 2015, by ÅW. A thematic interview guide had been developed and tested in a pilot interview. The focus was on different aspects of a severe event, event characteristics, experiences and perceptions of support, event analysis, and medico-legal aspects. The interview guide was used with flexibility because many of the focus areas were covered in the narrative with only supportive probing and occasional supplementary questions after the initial question, “Can you tell me about a severe event that you have experienced during your work on the delivery ward?” had been asked. The interviews were audiotaped and transcribed verbatim. They lasted from 63 to 133 minutes with a mean value of 76 minutes.

## Analysis

For Paper III, the analysis method, qualitative content analysis, according to Graneheim and Lundman (2004; Graneheim, Lindgren, & Lundman, 2017), was chosen because the aim was to explore norms and structures that affect the genesis of severe events on the labour ward, as well as midwives’ and obstetricians’ experiences of these. Content analysis has a history in the positivistic paradigm; the belief that there is an “objective truth” that can be studied provided the right instrument is used (Graneheim et al., 2017). The method was then used for quantitative analysis, i.e., “counting words”. This analysis method has developed into an interpretative approach within the qualitative paradigm, characterized by a recognition of multiple realities, mutual creation of data (participants and researchers) and multifaceted perceptions of phenomena. The content analysis developed (and described) by Graneheim and Lundman comprises making descriptions of the manifest content as well as interpretations of the latent content. Descriptions of the manifest content have resemblances to phenomenological descriptions, whereas analysis and description of the latent content has resemblances to hermeneutic interpretation (Graneheim et al., 2017). The manifest content is sorted into categories, after which latent content is formulated in subthemes and themes, depending on level of abstraction.

The written data in the first four interviews (verbatim transcriptions) was condensed, creating condensed meaning units. The aim of condensation is to shorten but to allow the core meaning to remain intact. In the following ten interviews this step was omitted. Codes were then created in an active form, as much as possible. The codes were hence clustered into categories from which subthemes were developed. An example of this process of moving from meaning units to categories is described in Table 2.



Table 2. Example of moving from meaning units to codes and categories

Meaning units	Codes	Categories
I went to work on an ordinary day at work, I thought, and there was incredibly much to do.	Describing a high workload	
We had had extra staff during the night due to a patient with [a systemic disease] and preeclampsia.	Demanding extra staff	
In the morning we were ordinarily staffed but we were not managing.	Normal staffing but not being sufficient	Insufficient staffing Competing duties
It was my job to look after this patient and another, a prime gravida in a latency phase.	Being responsible for several patients	
I was also responsible for a midwifery student in her first week on the labour ward.	Being in charge of midwifery student	

For Paper IV, a Constructivist Grounded Theory analysis, as developed by Charmaz (2014), was used, as it provides theoretical understanding of social and relational processes. Grounded Theory was developed by Glaser and Strauss in the 1960s as an alternative, pragmatic approach to the positivistic paradigm, which considered qualitative research to be “impressionistic, anecdotal, unsystematic and biased” (Charmaz, 2014, p. 6). Their method emerged during their successful collaboration while studying death and dying in hospitals during a time when hospital staff in the USA rarely acknowledged the topic of death or dying with seriously ill patients (Bosk, 2003; Charmaz, 2014). Glaser and Strauss had broadcast a revolutionary message to the research field. According to them, qualitative analysis had its own logic and could generate theory (Charmaz, 2014). In the inductive approach that constitutes grounded theory, the researcher searches for patterns in the text or data. Similarities and differences are described using codes and concepts, and comparisons between them form an essential part of the analysis. Gradually, the understanding of the data will move from the concrete and specific to the latent and abstract, in aiming to build theory. Subsequently, however, it has become evident that the theory-building element of grounded theory research is not entirely straightforward. According to Charmaz (2014), varying results, such as empirical generalization, abstract understanding, an explication of a process, and simply description, have each been claimed to imply theory building.

Data collection and analysis are simultaneous processes; hence, the analysis began with the first in-depth interview. Starting with a very “thorough” line-by-line initial coding procedure, where the codes were kept in an active form

and very close to the data, this process soon resulted in the generation of a great number of codes (already many hundreds after two interviews), where many would have similar meanings, but were expressed with different wordings. After the second interview, a sorting process was initiated in which initial codes were sorted in a process of focused coding, where frequently appearing initial codes and codes with significance were clustered.

Writing memos provided an opportunity to both think closely about expressions and concepts in individual interviews, as well as take a step back in trying to see the bigger picture and link this to the literature.

An example of memo that was written during the development of the category “Depending on patient’s reaction”:

When the severity of the event becomes evident there seems to be a phase of uncertainty regarding how the surrounding will “view” what happened. The results of other’s opinions might affect the providers severely. How they see themselves as professionals. The reactions of the patient play a crucial role and there seems to be an opportunity for growth in cases where closeness can be created. If there, however, is a severe distance that cannot be overbridged, the patient might represent a threat.

At one point (interview 4) in the data analysis, the concept of “mirroring” became apparent. How the informants, in different ways, using different strategies, were struggling with or benefitting from “mirroring images” that were projected by different entities in the aftermath of a severe event. The analysis at this stage entailed comparison between larger segments of the informants’ stories, without paying too much attention to individual codes and categories. A “pattern” was created. The “pattern” was hence “tested” and compared to codes and in vivo quotations. In the later stages, of the analysis the line-by-line coding became less thorough in terms of what was considered relevant, passages in the texts and previous initial codes were more frequently re-used. A sense of new stories fitting the pattern emerged towards the end of the analysis period, denoting a sign of saturation.

# Main findings and discussion

## The magnitude of severe events

A majority of the midwives (71%) and obstetricians (84%) had experienced one or several severe events, as defined in the study (Paper I). Schröder et al. (2016b) showed that 82% of Danish midwives and 93% of obstetricians had been involved in a traumatic childbirth, in which the infant or mother suffered presumed permanent, severe and possibly fatal injuries related to the birth. They similarly found the median number of reported traumatic births to be higher among obstetricians (three) than midwives (two). Aasland and Førde (2005) conclude that being male (also after age and speciality was controlled for) and working within a surgical speciality, including obstetrics and gynaecology, significantly increased the probability of being involved in an adverse event with serious patient injury. In our study, the experiences of severe events might come fairly late in the career, as the cumulative exposure by years of professional experience showed that only half of the obstetricians had been exposed after ten years. The same number was seen among midwives after about 12 years. When Schröder et al. (2016a) investigated affected psychosocial health after severe events, they found no association between seniority and time since the event, indicating that both junior and senior staff may face similar reactions. It might, however, be harder for senior and experienced professionals to get support in the aftermath because the hierarchical character of the healthcare organizations provides fewer options regarding to whom senior professionals can show their vulnerability without losing face (Dahlgren & Starrin, 2013).

An apparent implication is that working on the labour ward involves a major risk of being involved an event in which a baby or mother is severely injured or dies. Sheen et al. (2015, 2016) reported in their studies with British midwives that there was a lack of material relating to preparedness for when traumatic incidents happen in the midwifery training programme. Hence, both midwives and obstetricians, as well as healthcare organizations, must be prepared for these situations, as they are “bound” to occur. There is, however, a delicate balance in the knowledge that severe events are very likely to happen while at the same time abstaining for “normalizing” such events, and considering them expected, “ordinary” parts of working life. Issues that professionals must deal with “professionally” without making any “fuss”. Severe events

can have profound consequences on staff and their patients. As previously described, HROs (high reliability organizations) that demonstrate better results than expected work with the knowledge that breakdowns, mistakes, misconceptions and bad judgement are inevitable and a fundamental part of the human condition (Weick & Sutcliffe, 2015). Most of the time things go well, and this can lead to “positive asymmetry”, i.e., the cultural tendency of people to focus on and exaggerate the most optimistic outcome (p. 54). By expecting problems to arise, some damage might be abated, but it also entails a preparedness in terms of determining how to cope with the seriousness of the situation, once it has occurred. According to de Boer et al. (2011), hospital administrators as well as healthcare professionals themselves seem to underestimate the impact of critical incidents on their personal and occupational life and the stigmatizing perception of seeking help that underlies this denial is even stronger among healthcare staff than among firefighters and police officers. Aase et al. (2008) further conclude, in their Norwegian study, that a physician’s vulnerability when facing life and death has been underestimated.

## The psychological impact of severe events on midwives and obstetricians

Among those who reported an experience of a severe event, 43% in both professional groups reported emotions of intense fear, helplessness or panic, in conjunction with the event (Table 3).

Table 3. Emotional reactions during and after severe events and symptoms of partial and probable PTSD

	Midwives ( <i>n</i> =1034) %	Obstetricians ( <i>n</i> =594) %
Intense fear, helplessness or panic at the time of the event	43	43
Feelings of threat to professional identity/role	17	25*
Feelings of guilt in conjunction with the event	28	47*

\**p*<0.001

While taking into account the possibly vague character of these self-reported emotional responses it is tempting to extrapolate and call attention to the partial cerebral commonality between perceiving pain in another individual and experiencing it oneself (Jackson et al., 2005). It is, however, problematic to merely assign these emotional experiences to empathy in a social context such as an escalating delivery situation.

One-fourth of the obstetricians and 17% of the midwives ( $p < 0.001$ ) reported feeling threatened in their professional role/identity at the time of the event, and 47% of the obstetricians and 28% of the midwives ( $p < 0.001$ ) reported having had emotions of guilt for something he/she did or did not do at the time of the severe event. Our qualitative results (Paper III) showed that doctors found the formal responsibility a heavy burden to carry. Even when the obstetrician was unable to solve the situation and the midwife acted correctly and managed to deliver the baby, the responsibility formally belonged to the obstetrician. Formal power and responsibility are inter-related. The weight of the responsibility was described as loneliness, which can be exemplified by this quote:

I find that the doctors are very lonely ... The Swedish model, consensus and everything, but when it comes to making a decision [snapping his/her fingers] then it's the doctor's [to make] and the responsibility. (Informant 1, Obstetrician)

Midwives, on the other hand, expressed strong notions of responsibility connected to the individual woman with whom the midwife had spent time and had been responsible for. This was illustrated by the category, *midwives closer to the patient*. The responsibility might be connected to a sensation of powerlessness in that the midwife was not able to “make” the obstetrician do what she considered to be appropriate, which led to emotions that could later generate anger and resentment.

In Paper III we also found that the participants had experienced a *cognitive and emotional discordance*, at the time when the severe consequences of the event became apparent. *Panic* was described, a finding that is similar to the quantitative results, and also cognitively “clear” thoughts, such as “now it is happening” and “this is not ending well even though we are desperately doing all that we can”, which induced a feeling of powerlessness. Time passed quickly and slowly at the same time in the eye of the catastrophe.

Hilfiker (1998, p. 28) describes how he, as a physician, was defined by society, by the medical profession, and by his own expectations as an appropriate person to cope with a combination of health-related issues, including: the addictive conditions of smoking and obesity; social problems of divorce, job dissatisfaction and social isolation; and psychological problems relating to anxiety, depression, insomnia and general boredom as well as the physical conditions related to these complications. All squeezed into a trying working schedule. He describes the situation as a roller-coaster of pressures of the job, with the emotional burden often seeming overwhelming. The emotional demands and consequences of care and its inherently connected errors, explain

results such as high rates of suicidal ideations, as well as depression and burnout among American surgeons after errors (Shanafelt et al., 2011) and generally higher rates of completed suicides among physicians compared to the general population (Croskerry et al., 2010). High and sometimes unrealistic demands might also contribute to high rates of burnout among Scandinavian midwives and obstetricians (Hildingsson et al., 2013; Schröder et al., 2016a). Harrison et al. (2015) reported that one-third of nurses and physicians in the US and the UK found that errors affected their working or personal lives.

An awareness and deep respect for the personal costs of caring is essential if one is to understand the concept of second victim and healthcare professionals' experiences of severe events in Swedish delivery care. An awareness and respect that also affects patient encounters and safety as it takes into account and appreciates the importance of emotions in decision-making (Croskerry et al., 2010).

### The immediate aftermath: the mental block

In our qualitative study we examined midwives' and obstetricians' experiences in the direct aftermath and the time immediately following a severe event. The results emerged in the analysis, as described in Paper III, and could fit the overarching theme of "acting in an illusory system of control and safety" in that participants described experiences of mental blocks, or affected thinking and memory, directly after the severe event. These results are, however, not described in the Paper.

A consistent description was the notion of unreality, of numbness. It was hard to grasp the implications of what had just happened. What did I do wrong? What did I miss? What did actually happen? These were questions that were continuously repeated. Participants described how they kept working on but how they could not recall anything of what happened later during the shift, as though they had had a mental block. Physicians described how they must have completed vacuum extractions as well as performed caesarean sections that later had fallen into oblivion.

In the meantime [after a very complicated vacuum resulting in an emergency CS and a child that later died] before talking to the parents, I pulled another vacuum and I cannot recall if I did a CS right before [the severe event] or after, but at one point I did. It was an awful evening! (Informant 10, Obstetrician)

As mentioned earlier, Gazoni et al. (2012) showed that over 70% of American anaesthesiologists had experienced emotions of guilt and anxiety after their most memorable perioperative catastrophe, and 67% perceived that this had

compromised their patient care in the direct aftermath. Only 7% had been offered time off. Half of the temporarily traumatized anaesthesiologists reported that they had been affected in a way that compromised subsequent patient care 24 hours after the event. These results, as well as ours, and those of other studies, indicate that medical staff and healthcare managers are not aware of (or chose to deny) how healthcare providers are (cognitively) affected by emotions after traumatic events (Croskerry et al., 2008, 2010; Helmreich, 2000).

## PTSD and what increases the risk thereof

For many of the midwives and obstetricians in our studies, the worst perceived event (Paper II) and the severe events described in the qualitative study (Paper III) resulted in a profound emotional pull. The majority could cope with the emotions and accept that these would fade within a reasonable time frame. For 15% of both midwives and obstetricians, however, the reported symptoms were equivalent to partial PTSD (defined by Breslau et al., 2004), and 7% of the obstetricians and 5% of the midwives reported symptoms of “full” PTSD (Table 4).

Table 4. Posttraumatic stress symptoms (partial PTSD and probable PTSD) among midwives and obstetricians after exposure to severe events on the labour ward: 95% confidence intervals and Chi<sup>2</sup> test

	All	Midwives	Obstetricians	<i>P</i> -value
	<i>n</i> =1,628	<i>n</i> =1,034	<i>n</i> =594	
	% (95% CI)	% (95% CI)	% (95% CI)	
Posttraumatic stress symptoms (partial or probable PTSD)	15 (13–17)	15 (13–17)	15 (12–18)	1.00
Symptoms of probable PTSD	5 (4–7)	5 (3–6)	7 (5–9)	0.076

In a meta-analysis, de Boer et al. (2011) present similar and higher rates among emergency medicine residents, with 11.7% meeting PTSD criteria and 30% showing one or more symptoms in all symptom clusters, with numbers of symptoms significantly increasing with years of experience. They also found that frequent exposure gave increased risk of post-traumatic stress symptoms, which may accumulate and add to a development of PTSD and comorbid disorders, anxiety and depression. The frequency and time frame of severe events, the worst perceived, as well as potential other severe events, were not investigated in our study. We did not present estimated time since the event or work experience at the time of the incident because we did not consider that the data on the year in which the event took place were reliable. We generally recall traumatic memories well, even though they can be affected by alteration of time (McNally, 2003), but the recollection of the year in which something happened is a different matter. (I simply tested myself by trying to recall what year certain life events took place. Memories might be

vivid but the time had to be “connected to” something signifying change, such as moving house, changing jobs, or the year of particular family changes.) We did consequently not consider the time estimations in the survey responses to be accurate enough. It might be that increased experience, which hypothetically could decrease the risk of severe events, is “evened out” by the increased risk of traumatization by severe events, due to frequent exposure. Additional life stress as a risk factor might also play a role (Brewin et al., 2000).

Sheen et al. (2015) showed that 33% of midwives experienced symptoms commensurate with clinical PTSD, but their survey had a low response rate (16%) indicating selection bias. Among trauma surgeons, 15% had symptoms of “full” PTSD and increased risk was seen for men, surgeons with more than 7 call duties per month, and more than 15 operative cases per month (Joseph et al., 2014). Less than 4 hours of relaxation per day was also correlated to an increased risk of PTSD.

## Guilt and shame

For both professional groups, emotions of guilt were accompanied by an increased risk of symptoms of partial or probable PTSD. For obstetricians, this was also seen if there had been perceived negative reactions from the patient and/or her partner. Guilt concerns a specific action, whereas shame concerns one’s entire self (Robinaugh & McNally, 2010). Making a distinction between one’s own emotional experiences of guilt and shame following an event is not entirely easy, and our qualitative data suggest that some midwives and obstetricians experienced shame, not merely guilt after severe events (Paper IV). Robinaugh and McNally (2010) found that shame predicted depression and PTSD symptoms but there was no association between guilt and psychological symptoms after controlling for the effects of shame. Shame underlies peritraumatic and posttraumatic experiences of threat to the social self (Budden, 2009). McNally (2003) elaborates that the stressor, i.e., the potentially traumatic event, can traumatize by inciting guilt and shame, not just fear. A threat to the social self might furthermore be interpreted in the perceived threat to the professional identity, reported by 17% of the midwives and 25% of the obstetricians ( $p < 0.001$ ). In this context it might be interesting to consider how the socialization process of midwifery and medical training, along with professional identity, might, to some extent, be integrated into professionals’ views of themselves as “a (professional) person” (Bosk, 2003; Friedson, 1988). Bosk (2003) describes “horror stories” as a means of communicating and sharing guilt, while at the same time mitigating the strong norms of the professional role that prevent physicians from expressing their feelings (p. 110). According to Budden (2009), failure to conform to normative roles and expectations increases the risk of shame and hence PTSD.



An aspect of the negative reactions from the parents that increased the risk for partial and probable PTSD in the obstetricians (Paper II) is that, while guilt is action-oriented (one wants to repair the damage), shame is person-oriented (one wants to hide) and often precedes anger and hostility (Semb, Stromsten, Sundbom, Fransson, & Henningsson, 2011). Table 5, below, presents risk of developing PTSD-symptoms after exposure to severe events on the delivery ward.

Table 5. Risk of developing post-traumatic stress symptoms (partial PTSD or probable PTSD) after exposure to severe events on the delivery ward for obstetricians ( $n = 594$ ) and midwives ( $n = 1,034$ ). Percentage, crude and adjusted odds ratios and 95% confidence intervals

	Obstetricians		Midwives	
	%	OR <sup>1</sup>	%	OR <sup>2</sup>
Emotions of guilt	47.3	<b>2.52</b> (1.45–4.36)	28.4	<b>2.04</b> (1.40–2.98)
Negative reactions from parents	22.1	<b>2.22</b> (1.27–3.89)	10.3	1.23 (0.71–2.13)
Experience of insufficient support from manager	44.3	1.17 (0.56–2.46)	41.1	1.55 (0.97–2.48)
Experience of insufficient support from colleagues	35.4	1.81 (0.85–3.84)	24.3	<b>1.57</b> (1.01–2.44)
Experience of insufficient support from friends	29.3	<b>1.82</b> (1.04–3.18)	24.4	<b>2.34</b> (1.57–3.48)
Experience of insufficient support from partner	13.1	1.78 0.95–3.34	32.2	0.96 (0.67–1.40)
Negative experience of reassembly (debriefing)	14.5	<b>1.91</b> (1.05–3.48)	11.4	1.21 (0.72–2.03)
Reported to national authority <sup>3</sup> by hospital organization, patient or patient's family	39.6	0.82 (0.48–1.41)	19.0	1.36 (0.88–2.10)

<sup>1</sup> aOR for obstetricians (sex, guilt, negative reactions from parents, reassembly, support from manager, colleagues, friends, reported to authority<sup>3</sup> by hospital organization)

<sup>2</sup> aOR for midwives (Guilt negative reactions from parents, reassembly, support from manager, colleagues, friends, reported to authority<sup>3</sup> by hospital organization)

<sup>3</sup> National Board of Health and Welfare or Health and Social Care Inspectorate (after 2013)

## Encountering the patient

The delicate and important matter of meeting the patient (depending on the patient's reaction) was further elucidated in Paper IV. A part of the picture of being "mirrored" by others, reflected in the outer-self factors (Table 6), was hence the patient's reactions, which could vary between being forgiving and aggression. The reactions and responses from the patient could vary over time, but for an improved relationship to occur, a meeting had to take place. This did not always happen. For the professionals who described how real meetings had not occurred, the reactions from the patients were invariably negative, even hostile. Some had tried to arrange meetings, but the patient had refused and others described how, in their own emotional crisis, they had not been able to force themselves to meet with the patient, something that later was regretted. In retrospect, it seemed likely that the intensity of the aggression shown by the patient would not have been the same had they met face to face at some point in the aftermath. It was, however, clear that the patients also carried their baggage in terms of personality, background, culture and previous experiences, apart from the horrifying, painful and threatening trauma of being a part of a severe event, in which the patient's child got injured or died or the patient herself was injured. Midwives and obstetricians described how they had tried to create open and empathetic meetings but how they had had to give up because the hostility and aggression was just too harsh. They realised that they simply could not cope any longer. They had to protect themselves.

For those who were fortunate enough to meet patients who possessed an ability to nourish development and growth at an early stage of the crisis, there was an enormous potential for healing in both the patient and the healthcare professional. Participants described how emotionally demanding these meetings were, and how rewarding they could be once an honest apology had been accepted. Variations between the extremes of facing severe aggression and being forgiven were described, but the importance of the reactions of the patient and her partner was a consistent theme.

Table 6. An overview of the outer and inner self categories and sub-categories involved in the possible pathways towards regaining professional self-image after a severe obstetric event. Blue text marks the outer-self factor, “Depending on the patient’s reaction”, relevant to this section of the results and discussion

Outer self			Inner self		
<i>Depending on patient's reaction</i>	<i>Searching for collegial acceptance</i>	<i>Fearing the verdict</i>	<i>Fighting guilt and shame</i>	<i>Accepting vulnerability</i>	<i>Contemplating work future</i>
Being forgiven	Meeting appreciation and respect	Cherishing being defended and resituated	Accepting emotions will pass	Knowing “the self” will remain intact	Continuing being valued and supported
Facing aggression	Sensing being singled out	Feeling exposed, powerless and threatened	Remaining in an emotional circuit	Suffering being lonely, estranged and angry	Finding the price too high

Similarities between the midwives’ and obstetricians’ experiences of the complex meeting with the first victims and Berlinger’s (2007) descriptions of how religious teachings also affect our secular culture can be recognised. In some instances, participants described how they had gotten the impression that the patient and her partner had had a faith, even though this had not been explicitly stated. However, also when religious beliefs were not mentioned in the interviews, the concepts of guilt, acknowledgement, repentance, and sometimes forgiveness, also acted as cornerstones in the encounters with the first victims. If the patient was aggressive this was a blow, that might, however, be less significant if the healthcare provider knew that they had tried their very best to acknowledge their responsibility to face the patient. Doubt over whether this was the case could result in a double burden of not only being responsible for an error or severe event, but also failing to build a trustworthy patient-carer relationship. Some midwives and obstetricians, who had not met with the patient afterwards, described having such vivid and strong emotional responses, like a wave or being in shock, in the time following the event, that it seemed hard to see how a meeting with the patient would have developed. However, under these circumstances, admitting and acknowledging the guilty and possibly shameful feelings (the “double burden”) also seemed beneficial over time, as suggested by both Lazare (2006) and Brown (2014).

### Shame and the wish to be re-included in the group

In the qualitative content analysis we found that experiences of how participants were informed about the detrimental consequences of the severe event,

which they had taken part in and been responsible for, and how they were met afterwards by their colleagues affected their perception of their importance in the group. Being informed and met without care and concern created feelings of being insignificant and unimportant to the group. The expressed emotions were strong and could indicate shame as an underlying affect. These results came in the analysis (Paper III) but are not included in that Paper.

A clear picture of a need to know how the event and one's actions were "talked about" and perceived by other colleagues in the workplace was described. Both midwives and physicians described how they had either not been contacted and informed about the eventual death of a baby whose delivery they had been fully or partly responsible for, or had not been offered to participate in a subsequent reassembly or discussion with a manager (superior). Hence, these circumstances created a burden of not only emotions of guilt for one's actions, but also of an even more striking realisation of one's insignificance. Being regarded as undistinguished enough to be "forgotten" created sensations of *being belittled by shame*.

I had been off for two days ... Then I came [to the labour ward] for a night shift and I saw everybody sitting around the computer scrutinizing this CTG saying things like: 'But how could they interpret this like that!?' And really thinking it was badly interpreted and badly handled, and this and that. And then I ask, 'What are you looking at?' 'Ah, you know, that woman whose child died.' And I did not know ... And I almost started crying and I felt so bad for hearing my colleagues, some less experienced than me, commenting on this CTG. Like you probably do. Like I have surely done at some point ... They had forgotten me, quite simply. And that I got really hurt by. I felt I was so excluded. (Informant 7, Midwife)

The feeling of shame might later have been enhanced by a perception of the superiors' and colleagues' thinking that one was overreacting.

During the following eight months that I worked, I had my desk next to A's [colleague], there was not a **single** time that she mentioned what had happened. And one might think that I am a loony. That you might think. But it is not about that. It is about people not wanting to oppose B [superior] in any way. (Informant 4, Obstetrician)

The finding that support was mostly wanted from colleagues in their own working group is in line with those of previous studies. Edrees, Paine, Feroli, and Wu (2011) write that "only those with a specific and detailed knowledge regarding the clinical environment facing the second victim are likely to be effective in helping the second victim understand and put into perspective the interplay between imperfect systems and inevitable human error" (p. 103). Collegial support might be interpreted as a sign of belonging, i.e., not being

excluded despite what happened. Scott et al. (2009) found that one of the biggest challenges for healthcare professionals who had been involved in adverse patient events was getting through the personal reflections of “what will others think of me” and “will I ever be trusted again”. We found that worries for what colleagues and managers might think could arise almost immediately, when the severe consequences of the event became obvious.

## Insufficient support from friends

In both professional groups there was an increased risk of partial or probable PTSD associated with the perception of having received insufficient support from friends (Paper II). When Brewin et al. (2000) “weighted” risk factors for development of PTSD, the two most influential factors were lack of social support and life stress. Having a rich social network is accordingly a protective factor for PTSD (Friedman, 2015).

## To debrief or not to debrief . . .

A negative experience of a reassembly after the event was correlated to an increased risk of partial or probable PTSD among the obstetricians. Fifty-four percent of the obstetricians had experienced a reassembly, after their worst perceived event, and 27% of those found it to be a negative experience. It is possible that “objectively” worse events were more likely to result in a reassembly. There could also be a time factor in that some events might have taken place before the concept of debriefing was introduced. In the survey we used the term “reassembly” as we do not believe that most Swedish healthcare organizations follow a stipulated (and fairly time-consuming) structure of “psychological debriefing”, as described by (Dyregrov, 1997), or the Critical Incident Stress Debriefing formulated by (Mitchell, 1983). Psychological debriefing is a planned, structured group activity, organized to review in detail the facts, thoughts, impressions and reactions following a critical incident as well providing information on typical reactions to critical events (Dyregrov, 1997). The aim is to accelerate normal recovery, stimulate group cohesion, stimulate emotional ventilation and promote a cognitive “grip” on the situation. The method has been criticized for causing secondary traumatization (for those not so badly affected who have to listen to detailed reviews of the severe event) and impeding a natural recovery from trauma. McNally et al. (2003) and a Cochrane review (Rose, Bisson, Churchill, & Wessely, 2002) concluded that a single session individual debriefing cannot be recommended in civilian life.

Why obstetricians who perceived the reassembly to be a negative experience had an increased risk of partial or probable PTSD we can only speculate. In our qualitative data we found that bearing the formal responsibility could create a sense of loneliness among obstetricians, as previously described. For

some, the event might be related to a sense of shame and an implicit fear of not having lived up to the expected role of a trained physician. Furthermore, Dyregrov (1997) himself concluded that, in organizations where members are reluctant to share personal experiences within a psychological debriefing group, due to fear that reactions and emotions might be seen as signs of weakness that may be used against them later by someone present, psychological debriefings may not be a viable strategy. Cauldwell et al. (2015) describe an ambiguity to debriefing among delivery care professionals. Consultants and senior midwives were reluctant to reveal vulnerability in public. This can be further understood from a model on conditions affecting experiences of the quality of psychological debriefings (Larsson, Tedfeldt, & Andersson, 1999). The management's degree of knowledge and support is fundamental, and having a secure leader and group provide a foundation for promoting a high-quality debriefing. However, when the group is insecure, combined with an insecure leader, the necessary conditions for a debriefing are lacking. McNally et al. (2003) conclude that providing information about the event and its consequences is important, as is careful assessment of the needs of those who were exposed, and offering support if necessary, without forcing people to disclose personal thoughts and feelings about the event.

## The organizational norms and structures affecting the genesis of severe events and how these are perceived

### Acting in an illusory system of control and safety

The overarching theme “acting in an illusory system of control and safety” (Paper III), illustrates a resentment towards “the system”, exemplified by insufficient staffing or schedules designed to “optimize” the use of staff, leading to competing duties. Resentment could also be attributed to dysfunctional decision-making due to conflicting professional assessments and formal hierarchies. Participants had experienced anger and resentment towards colleagues and co-workers who had played a part in the devastating outcome.

The experience of the process of an escalating delivery situation was a mixture of hard facts and emotions, in our results. The resentment was related to external factors, the setup and the hierarchy that was allowing for such severe situations to occur, resulting in deep, profound, personal, and unpleasant emotions. The overarching theme, sub-themes and categories are presented in Table 7.

Table 7. Overarching theme; acting in an illusory system of control and safety, sub-themes and categories

Sub-themes and categories	Overarching theme
<ul style="list-style-type: none"> <li>■ <b>Finding the system failing</b> <ul style="list-style-type: none"> <li>Insufficient staffing</li> <li>Competing duties</li> </ul> </li> </ul>	<p><b>Acting in an illusory system of control and safety</b></p>
<ul style="list-style-type: none"> <li>■ <b>Conflicting professional assessments</b> <ul style="list-style-type: none"> <li>What constitutes a normal birth varies</li> <li>Competing medical risks</li> </ul> </li> </ul>	
<ul style="list-style-type: none"> <li>■ <b>Depending on formal and informal hierarchies</b> <ul style="list-style-type: none"> <li>Clashing professional decisions</li> <li>Midwives closer to the patient</li> </ul> </li> </ul>	
<ul style="list-style-type: none"> <li>■ <b>Experiencing cognitive and emotional discordance</b> <ul style="list-style-type: none"> <li>Rising panic seeing it coming</li> <li>Powerless but responsible</li> </ul> </li> </ul>	

Russell Hochschild (2003, p. 12) describes how all functioning societies make effective use of its members' emotional labour, and this only becomes a moral concern when the emotional labour of those at the bottom is *exploited* by those at the top. Hence, it is not emotional labour itself, but the underlying system of recompense that raises the question of what the cost may be. For the midwives and obstetricians in our study, the emotions they experienced were very personal, even when the reasons for the disastrous outcome could be understood by the practitioners themselves as lying outside themselves. Contributing factors included system-related staffing, scheduling, uneven power balance and fate. Bad luck on a bad day. Physical closeness and empathy, i.e., recognising oneself in the other, give rise to emotional responses for healthcare providers "on the floor". To extrapolate this line of argument, one might ask how emotionally demanding (in terms of fear, panic, guilt and helplessness) it was for the county council politicians in charge of the healthcare, or the hospital managers ("at the top"), when the obvious system-related deficiencies became undeniable in the Morecambe Bay Investigation (Kirkup, 2015).

Our results further indicate that the concept of what constitutes normality in terms of delivery care differed between institutions, individuals and professions. This is described in the sub-theme “conflicting professional assessments” with the categories, “what constitutes a normal birth varies” and “competing medical risks”, and the sub-theme, “depending on formal and informal hierarchies” with the categories “clashing professional decisions” and “midwives closer to the patient”.

One might consider the differences in the delivery units’ caesarean section rates (8–27% in 2015) as partly being a sign of existing differences in the obstetrical cultures between institutions (Social Board of Health and Welfare, 2017). The benefit of low CS rates is often promoted (Johanson et al., 2002) and officially differing opinions among delivery care providers are rare, even though Swedish data indicate low risks for women who do not want several children (Larsson, Saltvedt, Wiklund, & Andolf, 2011). How much and in what ways low CS rate is promoted might, however, differ between units.

If one wants to be good at work then one should have low Caesarean Section rates ... And as soon somebody has done a C-section, at least if it is somebody who is not a part of the obstetrical “cool gang”, you will get scrutinized during the morning meeting ... He [manager of the obstetrical unit] will say his fucking mantra every time: “Could you not have applied a vacuum? Could you not have waited?” It is like that all the time. One should be good and one should induce. Have normal deliveries. Or apply a vacuum. Then, it is given that one will ... One will get blinded by that. One is so very oriented towards vaginal delivery. (Informant 4, Obstetrician)

For the profession of midwifery, the border of autonomy on the labour ward is linked to the concept of normality. This could potentially affect decision-making, as was seen in our results. Bergström et al. (2012) suggest that the seemingly simple intervention of a midwife’s decision to call a physician is complex and adheres not only to best practice guidelines but also enhances organizational diversity. She might be calling for a junior, less experienced, physician, who in turn might have a back-up consultant, who is specialised in a gynaecological sub-specialty, and only ever enters the labour ward during on-call shifts (Bergström et al., 2012; Dekker et al., 2013).

Keating and Fleming (2009) concluded that midwives in Ireland are more autonomous during the night. They further describe differing views between groups of midwives. One (mainly represented by senior midwives) appeared to co-operate with obstetric policy-making and the other strongly supported core midwifery values and skills and found it hard to practise midwifery care in larger settings with accessibility to technology and obstetricians. Larsson et al. (2009) also describe two midwifery cultures; one where experienced midwives make judgements and decisions on their own, without thinking about



“being on the safe side”, whereas the other culture (more represented by younger midwives) was dominated by issues of safety and used technology as preventive measures.

Keating and Fleming (2009), as well as Bergström et al. (2012), refer to the French philosopher, Foucault (2000) when discussing the system of control and power in the delivery room. Foucault (2000) described that when faced with a relationship of power, a whole field of responses, reactions, results and inventions opens up. According to Foucault, a society without power relations can only be an abstraction, which makes it important to analyse, transform and abolish some systems of power. There is furthermore no single truth, according to Foucault, but multiple realities. We “see” the world in a particular way depending on our society, institutions, cultural habits, norms rules and knowledge/power relations. This might be recognized in our qualitative results and in the descriptions of differing midwifery cultures, as well as in the sometimes harsh debate between advocates for both the non-interventionist/natural birth ideology and the interventionist/medicalised delivery ideology.

Dysfunctional interactions between healthcare providers are not merely a patient safety issue, but are also related to the psychological health of the providers. In a review article, Sheen, Slade, and Spiby (2014) conclude that unpleasant team-interactions are correlated with PTSD.

That multiple, mixed systems, cultures and convictions exist in parallel seems obvious. It might be that, in order to create well-functioning teamwork, awareness and open discussions regarding the multitude of cultures, convictions, and systems would be helpful. Open curiosity and respect for cultures and views are affected by professional identities, backgrounds, previous experiences and personalities. Acharya and Westgren (2016) highlight “an urgent need to harmonize and integrate training programs for midwives and doctors,” which could lead to developing a better understanding of each other’s roles in patient management, improved communication, and might positively affect outcomes (p. 1087). James Reason (2013), furthermore, describes how healthcare staff can improve their psychological ability to detect potentially harmful situations and that mental preparedness, apart from essential technical skills, is important in order to achieve excellent results.

If escalating obstetrical delivery situations are seen as not merely technical, clinical problems, but also as social and psychological processes, high-risk situations might be identified and collective sense-making can potentially be created.

Taking into consideration the harmonized and integrated training suggested by Acharya and Westgren (2016), it might be fruitful to integrate some brief historical overview and awareness of the strong Swedish alliance between midwives and physicians, the socialization process of becoming a professional, as well as the potential for overlap in terms of interests and the delicate matters of hierarchy, autonomy, team-work and responsibility. The ability to accept complexity, the multiple views interpreted through partially differing agendas, and frequent absence of “truths” are likely valuable characteristics and insights when working in modern delivery care.

## The process following the severe event and professional consequences

In Paper IV we present the process following the severe event with a core category, “regaining a professional self-image”. The process contains six factors: three outer-self factors, in which the professional is “mirrored”; the patient, colleagues and managers; and the “official” and sometimes “public” opinion, which is encountered through the authorities and the media. Inner-self factors are guilt and shame and how these emotions are managed and to what extent the individual can tolerate the vulnerability that has been revealed and constitutes a fundamental aspect of working in delivery care. The process is also about how a work future is contemplated, after this experience. What has been learned about oneself and to what extent can the workplace and the “system” be trusted again? We described the pathway using the term “*erratic*” to illustrate the variations that can occur within a “factor”. The patient’s reaction can for example, be hostile initially, but, as things develop, this can change character and become accepting. There are also variations between factors that constitute the pathway, according to our results. A midwife or obstetrician could, for instance, develop a reasonably positive contact with the patient and encounter very supportive colleagues and managers, but experience that the “verdict”, in terms of the report from the IVO, was tremendously unfair and coloured by retrospectivity bias and an unclear agenda. This will affect the professional self-image through creating a sense of insecurity, of not being able to trust “the legal system”.

## Support

In the qualitative in-depth interviews, support and backup from participants’ family and friends was a common theme. People close to us mirror us the best in terms of who we really are, unshielded and most vulnerable, without the mantle of a professional (high) status role. Because we aimed to study the professional process, however, the focus has been on external factors related

to work and the professionals' inner processes regarding his or her professional role and self-image. For midwives, having had a negative experience of support from colleagues increased the risk for PTSD (Paper II), but this was not seen among the obstetricians. In our qualitative study, however, which investigated the process of regaining a professional self-image, rather than the psychiatric symptoms of PTSD, support from colleagues and managers played a vital role for both professions (Paper IV).

The importance of collegial support is strongly emphasized by several authors (Aasland & Førde, 2005; Pinto, Faiz, Bicknell, & Vincent, 2013; Scott et al., 2009; Wu et al., 2017), although Miller, Scott, and Hirschinger (2015) conclude that only 75% of the professionals who were approached through their peer-support program at Colombia Missouri Hospital (in the USA) accepted the offered support. Harrison et al. (2015) showed a preference among physicians and nurses for turning to clinical peers for support, rather than to non-clinical colleagues, such as mental health professionals in formal settings. The challenges of communicating concerns to someone who does not have the same clinical background were highlighted, and similar apprehensions were expressed in our study (Paper IV). Cauldwell et al. (2015) concluded that the British midwives and physicians in their study claimed that it was acceptable to use professional counselling after cases of maternal death, but that no one did. It has also been shown that there is a stigma associated with professional institutional support services (Edres et al., 2011; Shanafelt et al., 2011).

We found that participants had been helped by the occupational health service mainly when there had been problems of a structural character. These services were found to be valuable to obtain tools for how to protect one's own integrity and time. After severe events, it seemed, however, to be most important to obtain support from "people who know what it is all about". I believe this can be understood through the lens of the vulnerability that the work implies and professionals' awareness (and fear) of the enticing simplicity of retrospectivity bias and a worry of being "judged" by somebody who is unaware of these matters; someone who might read the newspapers, such as a "layperson".

It is, however, important to state that when colleagues are affected by a severe event in such a way that intrusive thoughts, nightmares and flash-backs do not diminish within a few weeks, a professional evaluation regarding PTSD, as well as signs of depression or suicidal ideations, is essential. There is treatment beyond compassionate, collegial support. Hall and Scott (2012) and Scott et al. (2010), who have the longest experience of providing a fully comprehensive hospital peer-support system with trained peer-supporters in every department (at the university hospital of Missouri Health Care, Columbia, USA), describe that 25% of second victims need support from second-tier assistance

(counsellor or chaplain), and 15% require referral to professional counselling (psychologist, psychiatrist).

Miller et al. (2015) (in Scott's group) have studied what their peer-support system entails in terms of patient safety. Direct effect would be hard to measure (i.e., if professionals become less traumatized and fewer patient safety incidents are reported), but they found that professionals who had received support following a severe event *rated* the safety culture significantly higher than did their non-supported colleagues. The supported professionals rated the patient safety culture as high as those who had never been involved in a severe event.

Aasland and Førde (2005) found that doctors who had received more collegial support found it easier to criticize (give feed-back) to other colleagues after they had been involved in serious patient injury. This might seem like a paradox but could indicate a culture in which the physicians feel accepted and safe, leading to increased openness.

Support can be divided into three types: *emotional support*, which comprises understanding and expressions of care, empathy and concern; *instrumental support*, which reflects concrete actions, and which, in these cases, could assist in the meeting with the patient or arranging for needed time and space in the working schedule; and *informational support*, reflecting guidance, which could be exemplified by assisting with the writing of reports to the authorities (Helgeson & Lopez, 2010, p. 310). Luu et al. (2012) stated that, for surgeons, collegial support was often centred around details of the care, rather than emotional reactions. In our study (Paper IV), it was clear that there was a need for both. It might be obvious, in retrospect, that a detrimental outcome was partly due to bad decision-making. However, acceptance that faults will be made and that this will create emotional reactions for all involved is hence better than minimizing the error and injury.

Luu et al. (2012) further conclude that doctors react poorly, with anger and disregard, to negative feedback from 360-degree evaluations of their clinical practice. It has been suggested that feedback ought to be task-oriented rather than person-oriented, but, as stated by Luu et al., this might be difficult. In a culture (surgeons including gynaecologists) in which the practitioner's identity as a "successful surgeon" is inextricably tied to his or her clinical performance, and in which peers judge and discuss performance, it may be impossible to separate "task" from "self" in the context of severe events (Luu et al., 2012, p. 196). To what extent individuals can separate their inner "self" from their identity as skilled and devoted labour ward midwives or obstetricians will invariably vary, which was also seen in Paper IV.

## Fearing the verdict and accepting vulnerability

The “official opinion”, as represented by “*verdicts*” from the NBHW or the IVO, as well as its representation in the media *were feared* (Table 8). Some, however, felt confirmed by their managers through the process of the event analysis, particularly in the answers to the reports sent to the NBHW or the IVO. They had learned and felt that the process was fair. A recurrent statement was the lengthy time of the investigation and reporting process, however. Midwives and obstetricians could also feel *exposed, powerless and threatened* due to what was perceived as unrealistic and unfair “*verdicts*” from the authorities and a feeling that these were hard, emotionally draining or “legally” impossible to successfully protest against. These results are congruent with what was found by Ullstrom, Andreen Sachs, Hansson, Ovretveit, and Brommels (2014) in their Swedish qualitative study on different professionals who had been reported to the authorities by the hospital, i.e., *lex Maria*.

Since January 2011, the Patient Safety Law (2010:659) involves authoritarian reviews of the reports from the hospitals aiming at analysing systems and organizational deficiencies and the organization’s ability to make sure that professionals live up to expectations and demands through supervision and training (Nilheim & Leijonhufvud, 2013). This systems approach seemed, however, difficult to apprehend for midwives and obstetricians who had participated in preparing reports after this date.

Table 8. An overview of the outer and inner self categories and sub-categories involved in the possible pathways towards regaining professional self-image after a severe obstetric event. Blue text marks the outer-self factor, “Fearing the verdict” and the inner self factor, “Accepting vulnerability”, relevant to this part of the results and discussion

Outer self			Inner self		
<i>Depending on patient’s reaction</i>	<i>Searching for collegial acceptance</i>	<i>Fearing the verdict</i>	<i>Fighting guilt and shame</i>	<i>Accepting vulnerability</i>	<i>Contemplating work future</i>
Being forgiven	Meeting appreciation and respect	Cherishing being defended and resituated	Accepting emotions will pass	Knowing “the self” will remain intact	Continuing being valued and supported
Facing aggression	Sensing being singled out	Feeling exposed, powerless and threatened	Remaining in an emotional circuit	Suffering being lonely, estranged and angry	Finding the price too high

Media attention, on the whole, was perceived as merely negative and threatening, as healthcare providers have no chance to defend themselves and correct errors in the reporting. The only way the damage could be lessened was through being defended by a manager or someone responsible for hospital media responses. The media attention given to some civil proceedings, for example “the Astrid Lindgren case”, was also brought up by participants as fearful examples.

Wramsten Wilmar, Ahlborg, Jacobsson, and Dellve (2014) conclude that organizational support for healthcare managers appearing in a negative media focus would be beneficial and that the degree of personification determines the personal consequences. The latter was also seen in our study, where experiences of exposure on the internet were also described. This could result in frequent “Googling” of their own name in order to attempt to maintain control over what was being spread “out there”.

## Sick-leave

The immediate reaction after a severe event might be that professionals feel unable to go to work or perform ordinary duties, as described earlier. Our in-depth interviews revealed that professionals had found it valuable to be offered coming to work but not being expected to contribute in any way, in the time directly following the event. Just be there. This can be interpreted as a way by which the manager is showing care and consideration and facilitates the feeling of being a valuable part of the group, i.e., “the facing of colleagues”. In discussions with managers and clinicians, following presentations of our results, some have expressed a concern that being at work without clinical tasks would be awkward for obstetricians. This might further elucidate cultural differences between the professional groups.

Midwives with symptoms of partial or probable PTSD were more likely than their less traumatized colleagues to take sick-leave after the severe event, whereas the same picture was not seen among obstetricians (Table 9). Sheen et al. (2015) found that 12% of midwives who had experienced a traumatic perinatal event had taken time away from their employment after the experience. The differences between midwives and obstetricians in terms of sick-leave might be cultural. It might be that it is less acceptable for doctors to stay at home than for midwives, but there might be other explanations.

Cullati et al. (2017) studied self-rated health and sick-leave and the relation to coping strategies in difficult care-related situations among physicians and nurses. Adaptive coping strategies were accepting one’s limitations or the inherent limitations of medicine, whereas maladaptive emotional coping strategies meant rumination on the event and its implications. More physicians than

nurses reported having very good health, and prolonged sick-leave (>10 days) was almost four times more common among nurses than physicians. A positive association was found between adaptive coping strategies and physicians' health, indicating that medical errors do not only entail negative consequences but may result in positive outcomes, improved psychological well-being and improved teamwork and collaboration (individual and organizational growth). Maladaptive coping strategies were predictive of lower self-rated health for nurses. Explanations given were that physicians may be in a better position to control key elements of the decision-making and that it might be harder for nurses to take emotional distance due to their close interactions with patients. Furthermore, lower hierarchical status (thus less autonomy and control) might induce a tendency to renounce external problem-focused coping and turn to internal emotions-focused, potentially maladaptive, strategies.

The results from our study show, however, that the obstetricians were just as affected by symptoms of partial and probable PTSD, and even more affected by emotions of guilt, than the midwives, but they still kept going to work (Table 9).

Table 9. Professional long-term consequences for obstetricians and midwives exposed to severe events in the delivery ward by experience of posttraumatic symptoms (partial PTSD/PTSD) or not. Fischer's Exact Test

	Posttraumatic stress symptoms (partial PTSD/PTSD)								
	Obstetricians			Midwives					
	No	Yes	No	Yes					
	(n = 467)	(n = 88)	(n = 764)	(n = 153)					
	n	%	n	%	n	%			
						P-value			
Sick-leave	8	2	4	5	8	1	7	<0.001	
Midwives ended work in the delivery ward	-	-	-	-	33	4	26	17	<0.001
Obstetricians ended working with emergency obs- tetrics daytime	11	2	9	10	-	-	-	-	
Obstetricians ended being on call	16	3	9	10	-	-	-	-	

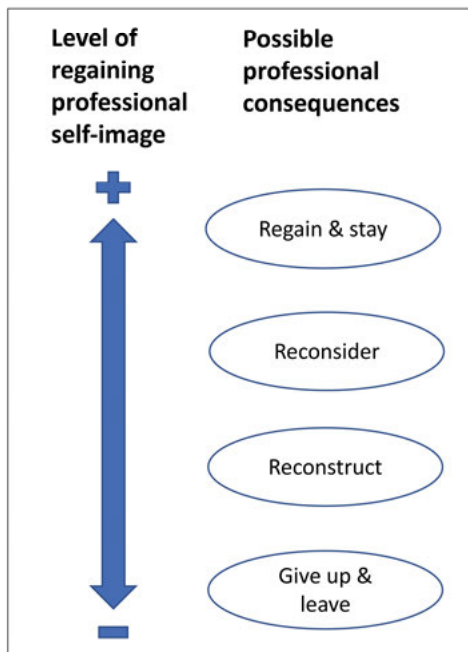


## Regain, reconsider or reconstruct professional self-image or leave

If obstetricians with partial or probable PTSD following a severe event did not take sick-leave in the same way as the traumatized midwives, they switched jobs to the same extent as their midwifery co-workers (Table 9). In both professional groups, participants with partial or probable PTSD changed working tasks, away from emergency delivery care, more than their less traumatized colleagues. These findings are congruent with those of other studies. Professionals enduring post-traumatic stress responses reduced their working hours or switch jobs (de Boer et al., 2011). Sheen et al. (2015) found that 35% of midwives who had experienced a perinatal event had seriously considered leaving delivery care and this score was significantly higher for those with post-traumatic stress symptoms.

In our qualitative study (Paper IV) we found different strategies, solutions and paths that healthcare providers could choose, depending on the acquired level of a regained professional self-image. The outcome might be a full regaining, reconsidering, reconstructing or giving up and leave, as depicted in Table 10.

Table 10 Possible professional consequences depending on level of regained professional self-image



## **Regain and stay**

Although research on the impact of severe events/errors on professionals has mainly focused on negative impact, Harrison et al. (2015) report positive experiences, such as feeling empowered to assert safety concerns, and improved relationships with patients and colleagues among professionals who felt supported, valued and trusted. These results could also be seen in our study.

Healthcare professionals who “came out on the other side” after the work-related crisis that the severe event had inflicted, could describe how the process had strengthened them in their professional identity.

Midwives and obstetricians described how they had taken on the task of supporting other colleagues who were badly affected by severe events. How they obtained strength by supporting others. They were aware of how vulnerable one could feel and could sometimes see their own reactions in their distressed colleagues. Helping others was a meaningful way of using the insights gained during their traumatic experience.

I felt so good being able to support her [junior physician]! ... I met her again last week and she was well supported and had a plan. (Informant 7, Midwife)

I have a colleague. A senior consultant who lost a child not long ago ... She walked around like a living dead. So, after a few weeks I asked her if she wanted to go through it with me. And she did! So we sat down when both were off duty and spent an hour and a half going through it. Then there was life in her eyes again. (Informant 5, Obstetrician)

In both professional groups, working part-time was sometimes a solution for a better work-life balance. For midwives, part-time work was, however, also more common beforehand. An insight regarding the need for, and protection of, time had often been gained in the process after a severe event. For some, this extra time gave freedom to nourish social relationships with colleagues and lent support to those in need, either on an ad hoc basis or in an organized manner.

I have reduced my working hours to 75% ... I need it for my peace of mind. For example, this supporting conversation that I had with my colleague a few weeks back. That does not fit into a working schedule but I need to feel that I am doing something good. (Informant 5, Obstetrician)

For both obstetricians and midwives there were also descriptions of strictly work-related, practical strategies, such as increasing one’s knowledge.

I have sent my e-mail to different journals ... Then I get sent new manuscript titles and read the abstracts. (Informant 3, Obstetrician)

## **Reconsider**

The fact that one had persisted through the crisis might create a sense of strength and pride, but at the same time an awareness of how painful these experiences could be. This affected the professional's view of their work.

I am happy that I did not walk away. If I had I would never have come back ... The question is how I am prepared for a second time. Going through the enduring process, the event analysis and the critique. I think I might be better off because I am more experienced, but I am very scared. Fearful ... It has cost so much. (Informant 11, Midwife)

A variety of helpful strategies, mainly individual, that would be protective for the midwives and obstetricians, were described. These might be always thinking one step ahead and being meticulous about the medical chart. Or considering caesarean section as an alternative for complicated vacuum extraction.

I apply vacuums on null-paras but it has to follow immediately ... That will be my way for not ending up in such a situation. (Informant 1, Obstetrician)

## **Reconstruct**

Midwives also described how insights related to the severe events elucidated a wish to work differently with labouring women. The protective strategy could hence be changing from a larger delivery unit to a smaller one, in which more time with the patients as well as better working climate and collegial support was provided.

After I quit working at the big hospital, if I only met somebody working there and they started telling me about how it was there now, I felt anxiety. It is true. A bit of anxiety and feelings of discomfort. It is probably because of all that happened. The layers. And when one starts lifting the lid and starts to feel. And come to a work environment where there is some time for care. Conversations and calm in the work environment. Then the lid could be opened. It took quite some time before that feeling of discomfort ... came over me. And it was rather surprising. It was such a strong emotion. (Informant 6, Midwife)

## **Give up and leave**

For some professionals, the price of working within delivery care was altogether considered too high and their professional self-image had to be thoroughly reconstructed.

I have had colleagues that have worked for very, very long. And when I look at them when they work I can see that they too are afraid! Do you get that? They are afraid! Those that have worked for a long time, like fifteen to twenty years! (Informant 1, Obstetrician)

Obstetricians and midwives could change speciality or leave work altogether. Some found it impossible to continue, hence the decision was based on necessity rather than a choice.

I think I can reconcile with never working as an obstetrician again. Because my stress tolerance will never be the same. Because I actually do not think I even would want to. I have come to terms with it. It was a grieving process that started pretty long time ago. (Informant 8, Obstetrician)

Others kept working with emergency obstetrics but needed a back-up plan in case something might happen again. This back-up plan could involve taking on a different position or early retirement. It might also be that the healthcare professional did not want to change jobs, but because some of the previous joy of going to work was lost, early retirement was planned in the near future.

I will finish working before 65 [years of age] ... That I had not quite planned before. (Informant 2, Midwife)

Scott et al. (2009) call the last stage of the natural history of recovery for second victims “moving on”, with three alternative trajectories; dropping out, surviving, or thriving. Dropping out involved changing professional role or leaving the profession. Surviving meant the involved individual performed satisfactorily, but continued to be plagued by the event. Thriving signified that some professionals made something good out of the event, for example, they got involved in making practice changes. de Boer et al. (2011) report in their meta-analysis that the threatening aspects of critical incidents often result in defensive coping, withdrawal or denial and that, in the end, enduring post-traumatic stress responses make professionals reduce their working hours or switch jobs. Similar results were described by Schröder et al. (2016a), as previously presented.

# Methodological considerations

Using different methodologies and research approaches, as in this thesis, enables the viewing of the concept of second victims in Swedish obstetrics from different angles. The term, triangulation, borrowed from land surveying, is often used when describing the combination of quantitative and qualitative research, and is described as obtaining an offset of the shortcomings of both approaches (Malterud, 2001a). During the years since the research project started, I have had the privilege of presenting the results from our studies to clinically working, “ordinary” midwives and obstetricians, hence the target group of our studies, on several occasions. Their expressions of recognition and feed-back has contributed to the research process.

All studies, independent of methodology, have limitations, some of which are presented below.

In Paper II we asked for symptoms commensurate with partial or probable PTSD. We have used the wording “probable” in order to indicate the very important notion that PTSD is a diagnosis for which clinical meetings and evaluations must be done. A diagnostic tool, such as the SQ-PTSD survey, is only ever indicative and we are consequently unable to state whether midwives and obstetricians who reported symptoms fulfilling the criteria would be given the PTSD diagnosis in a clinical encounter.

## *Random errors*

Random errors consist of variability within the data that we are not aware of and/or cannot explain. The confidence intervals define the amount of variation (random errors) between the data and the study population size. The larger the size of the study population, the higher the chances that variations will “even out”, which is indicated by a narrower confidence interval.

The initial sample size of 1459 responding midwives and 706 responding obstetricians must be considered fairly large, which decreases the risk of large random errors. However, when we analysed obstetricians and midwives who reported having experienced a filing of a complaint to the NBHW or the IVO by the patient or the family of the patient, the population sizes decreased (Pa-

per I). Further division into years of professional experience made each subgroup even smaller, which is indicated by the wide ranges in confidence intervals.

Using the same survey data, the initial sample sizes in Paper II were reasonably high. However, because the vast majority of trauma-exposed professionals did not develop post-traumatic stress symptoms, the sample size decreased rapidly when we analysed only the PTSD-symptom groups. When analysing the data from respondents who reported symptoms of partial or probable PTSD, the confidence intervals are still rather narrow. However, the numbers of respondents affected by “full” probable PTSD were too low for making calculations on professional long-term consequences and hence, those were only made on the larger group who reported symptoms of partial or probable PTSD.

#### *Systematic errors/biases*

Biases distort the results in a particular direction and will not be reduced by a larger sample size.

The response rate in Papers I and II could contain problems of selection biases. In what direction, however, is hard to estimate. It could be that the professionals who responded feel strongly about the subject because they have, to a higher extent than non-responding colleagues, experienced severe events and their related problems. However, it might also be that those very severely affected by traumatic events and their long-term professional consequences do not read their work-related e-mails (while on sick-leave) or worry about even thinking about their experiences, and would hence have abstained from participating. In a Norwegian study on non-participation in a 2-year post-disaster (Tsunami) mail survey, 39% reported a lack of interest or time and 32% reported that they lacked a relevant experience, indicating that the majority of non-responders were not affected by what was being studied, while 15% of the non-responders found the survey too personal or emotionally disturbing (Hussain, Weisaeth, & Heir, 2009).

We found that younger doctors (< 40 years of age) had a higher response rate than their older colleagues. Because exposure increases by working years it is likely that, if anything, the exposure rate is slightly underestimated. Within the group of women doctors who received the survey, 46% responded, and within the men, 41% answered the questionnaire.

Recall bias creates an obvious limitation in Papers I and II. Many incidents occurred several years ago, which can affect the recollection. Being interviewed in a suggestive manner also affects people’s memory (Loftus, 2003; Morgan, Southwick, Steffian, Hazlett, & Loftus, 2013), and, in this context,

this could be relevant in debriefings, event analyses and responses to complaint procedures related to the severe events.

In a survey consisting of a questionnaire, the accuracy of the responses can always be questioned, an example of information bias. The self-assessed answers can be incomplete and incorrect. This inaccuracy might be due to errors when completing the survey on the web because of false statements.

The purpose of the multivariable model was to assess the risk of developing partial or probable PTSD depending on different variables. Such a model can, however, be questioned in terms of confounding and intermediary factors. The inference between the variables and PTSD symptoms might be questioned. The reported emotions of regret might, for instance, represent a major medical error as well as an inability to realistically view one's own work due to cognitive effects or inbuilt emotions of guilt correlated with the PTSD diagnosis.

#### *Reflexivity, validity and relevance*

In qualitative research it is established that the researcher's preunderstanding will affect all stages of a study; from the questions asked to the final interpretation and presentation of the results. Interviews are considered co-creations between the researcher and the interviewee (Graneheim et al., 2017). For reflexivity, it is hence important to be open about the researcher's pre-understanding of the research area. I am a physician and have been a specialist in obstetrics and gynaecology since 2007. I have worked in both university clinics and in smaller hospitals. Ulf Högberg is also a physician and a specialist in obstetrics and gynaecology and has consistently conducted clinical work alongside research. Maria Emmelin is a professor in public health with plenty of experience in health-related research but with no experience of working on the delivery ward. The face-to-face interaction with the participants in the qualitative studies and my preunderstanding of the field and context affected the data collection in a way that we believe was beneficial.

The research team continuously held *peer debriefing sessions* during the data collection and analysis phases. Through *audit trails* (transparent description of the research steps taken), including making *memos* of important decisions, we hope to enhance the credibility, i.e., the trustworthiness of the study.

The informants were purposely selected based on their profession, gender and experience. The idea was to find differences between groups. We found differences between midwives and obstetricians in terms of work tasks, responsibility and emotions, but we could not find patterns indicating generalizable differences between male and female obstetricians or men or women on the whole (all midwives were women). This is probably due to our sample size (four male obstetricians and three female) and clearer differences might have

been elucidated if the groups had had more participants. It might, however, be that investigated experiences and processes are individual as well as common, but not typically related to gender. There were no differences in terms of gender and risk of developing partial or probable PTSD among obstetricians (Paper II).

The validity of the research, i.e., whether the design of the study is appropriate to answer the research questions, can always be questioned. Qualitative research is, by definition, lacking “hard facts” and its origin in the social sciences is previously described. In the medical field, qualitative studies have mainly been conducted in nursing research and in public health (Dahlgren, Emmelin, & Winkvist, 2004; Graneheim & Lundman, 2004). It is, however, obvious that certain questions could never be answered and plenty of areas never understood if medical research was limited to merely what can be measured, calculated and controlled (Malterud, 2001a).

Reactions from the audience when I have presented our material and results suggest that the studies bear relevance to clinically working midwives and obstetricians. Paper III aimed to capture the experience of a severe event on the labour ward, and Paper IV the process following such an obstetric event. It is, however likely that both experiences and the process afterwards can be transferable to other medical settings and specialities.

For some people who have been trained and socialized into the field of medicine, there is something intuitively obscure in qualitative research. Sometimes, however, the “simplicity” of quantitative research might be slightly deceptive. Scheff (1997), for example, discusses psychological scales (in our case the use of *DSM-IV* criterion to measure post-traumatic stress symptoms), and claims that scale-makers are psychologizing (in a “qualitative way”) but in ways that are hidden and not debatable (p. 47). An insightful discussion on the accuracy, validity and value of psychological scales is beyond the scope of this presentation. My aim with this reference to Scheff is to illustrate the complexity of measuring entities that are difficult to measure, for example emotions, even though this is quantitatively done with criterion and scales, and the value of what qualitative studies can bring, despite all its ambiguity and biases.

Qualitative studies may come closer to human reality, or plausibly appear to do so, but only as filtered through the observers’ fallible memory, sensitivities and biases. As in quantitative studies, the human reality on which studies are based is usually unrecoverable.

J. Scheff (1997, p. 51)



## Ethical considerations

The studies for this thesis, both the survey and the in-depth interviews, were approved by the Regional Ethics Board of Uppsala in November 2013 (2013/351). The survey participants were informed about the purpose of the survey, the voluntary nature of their participation, and the confidentiality of the individual participant's answers. The topic is sensitive and the questions might have awakened memories and emotions. Several participants, however, wrote comments (in the free spaces provided in the survey) on how important they found the topic, which might compensate for any potential unpleasant emotional reactions in that a meaningfulness was experienced.

The participants in the qualitative study were informed about the purpose and aim of the study in writing, through mail correspondence ahead of the interviews. Written as well as verbal information was also given before the interviews started. Written informed consent forms were obtained. The participants were informed about the voluntary character of the interview and that they could stop the interview at any time. The sensitive character of the topics discussed in the qualitative study and the risk of re-traumatization was acknowledged and an effort was made to create an understanding and accepting atmosphere during the interviews. The importance of enabling the participants to have control over the process was emphasized (Corbin & Morse, 2003). Participants stressed the importance of the study aim and research questions and expressed an appreciation for being allowed to tell their story to someone who is genuinely interested, after the interview. According to Kvale and Brinkmann (2014), being interviewed can bring new insights about an event for the person being interviewed, provided the interview is well performed. As a confidentiality precaution, no information regarding the gender of the obstetricians is presented with the quotations. The obstetrical world in Sweden is limited in size and this strategy was adopted to make sure that no participant should feel exposed.

# Conclusions and implications

## It will always happen ...

Working within delivery care will always imply vulnerability. Caring for other people holds a psychological price and there are considerable risks that errors will be made, in a surrounding and working culture in which preparedness and acceptance for errors is sometimes low. We found that a majority of the participating midwives and obstetricians, in our Swedish study, had been part of one or several severe events in which a child was injured or died, a mother was injured or died, or during which the professional was threatened or abused.

Fifteen percent of the professionals reported symptoms of partial PTSD and 5% of the midwives and 7% of the obstetricians reported symptoms commensurable to “full” PTSD, following the perceived “worst” event, during their working life. The events were found to induce emotions of guilt and shame and a threat to the midwives’ and obstetricians’ professional roles. Emotions of guilt and experiencing insufficient support from friends was correlated with an increased risk of having symptoms of partial or probable PTSD for both midwives and obstetricians. For midwives, an experience of insufficient support from colleagues also seemed to be a risk factor. Obstetricians who experienced negative reactions from the parents (the patient and her partner) had more than double the risk of reporting symptoms of partial or probable PTSD, and a negative experience of a reassembly (debriefing) following the event brought with it an increased risk of symptoms for obstetricians.

Strong emotions of guilt and shame might affect patient care following a severe event. Cognitively, the healthcare provider might be preoccupied with thoughts on what happened and how things could go so terribly wrong. Recurrent thoughts may relate to what others will think and how the responsible professionals will be “judged”.

Delivery care entails complex sociological and cultural processes, apart from being physiological- and sometimes medical-related. An awareness that “it will always happen ...” can create preparedness for inherent faults, deficiencies and dangers in the system and teamwork. Potential influencing factors

affecting decision-making, such as workplace culture, obstetric culture, hierarchical structures, teamwork-related factors (one's own or others' personality and prestige) and emotions related to the patient, are important to acknowledge and consider. Shared experiences might conflict and others' viewpoints cannot be ignored. Trust, honesty (which is harder in hierarchical organizations) and respect for one's own and other team members' views is important.

It might be that in healthcare organizations with immature groups, i.e., people who do not know each other very well and in which showing vulnerability could be perceived as threatening to some, voluntary participation in an information meeting, rather than giving explanations to what happened and sharing of emotions, is an alternative to the traditional reassembly (debriefing) session following a severe event.

In the aftermath there is potential for growth, or a bilateral healing, through positive meetings with the patient (the first victim). However, there ought to be a preparedness for occasions when forgiving contact with the patient might fail, which could induce a double burden for the midwife or obstetrician.

Receiving support from colleagues and managers is vital for second victims, in their process of regaining a professional self-image. It signals that the errant midwife or obstetrician is accepted valued and re-included in the group. There are hospitals that have successfully introduced peer-support programmes in which 75% of all second victims participate. Those who have received support rate the patient safety considerably higher than second victims who did not seek support. It is possible that the stigma related to professional (psychologist, psychiatrist) support is lessened when support on the whole becomes an accepted, highly valued, and integrated part of working life.

Allowance for flexibility in terms of work, and time and respect for the second victim's emotional surge (affecting cognition), is vital from a patient safety perspective. For those with persistent symptoms that could indicate PTSD, it is essential that they obtain access to professional trauma therapy provided by someone who is experienced in this particular field.

There are opportunities for regaining one's professional self-image and growth following a severe event. In some cases, leaving delivery care is a sign of growth. For others it signals experiences of never having been re-included in the group.

## Future research

There are several research fields that touch upon the concept of second victims within obstetrics and within healthcare as a whole. A variety of studies could be suggested and motivated by knowledge gaps. An evaluated intervention program of peer-support in Sweden would be interesting, as would studies on resilience training. Scott et al. (2010) have, as mentioned, implemented a peer-support system at the relatively small University hospital of Missouri Health Care. When visiting their hospital, it is clear what an important role patient safety and support plays in practice, not merely in theory.

West, Dyrbye, Erwin, and Shanafelt (2016) found, in a meta-analysis on interventions that prevent and reduce burnout, that both individual-focused, and even more, structural or organizational strategies, can promote clinically meaningful reductions in burnout among physicians. Mindfulness-based training and stress-management were found to be more effective than other individual-oriented interventions.

Ghetti, Chang, and Gosman (2009) found that interest and confidence in coping with the psychological aspects of patient care improved among American residents in obstetrics and gynaecology, after the introduction of Balint training. Arvidsson, Skarsater, Oijervall, and Fridlund (2008) also concluded, in a Swedish study on nurse students, that reflective, process-oriented group supervision during training made a lasting contribution to resilience to stress in their future work. Peterson (2011) and Peterson et al. (2008, 2011) showed that organized group discussions prevent professionals who score high on burnout from having to take sick-leave, and, interestingly enough, the participants also perceived their workload to have lessened, without any changes having been made. It would hence be interesting to see whether improved collegial support could also affect second victims, and also whether the same system of collegial support could affect burnout.

The relationship between repeated severe events, the severity of these, the level of functioning teamwork, workplace culture, and leadership is very interesting. Jenny Firth-Cozens (2003; Firth-Cozens & Mowbray, 2001), a British psychologist who has spent most of her professional life studying healthcare providers and what they accomplish, found that the leadership is of profound importance for quality of care and patient safety. Interestingly, there

is also a correlation between “a good reputation” of a healthcare organization, low levels of staff burnout, and patient satisfaction and adherence to treatment. Cozens further concluded that “larger health organisations seem to produce worse effects than small ones and the mental health of staff is better in trusts characterised by better cooperation, better communication, more performance monitoring, stronger emphasis of training and allowing staff more discretion over their work” (2001, p. 218).

Antonovsky (1987) describes that the more we perceive the social evaluation of our work as congruent to our own perception of fairness, the higher our sense of meaningfulness. The more satisfaction, pride, freedom and autonomy, the more our sense of coherence, or KASAM. The Swedish professor of psychiatry, Marie Åsberg, has shown clear patterns of rising levels of sick-leave due to psychiatric ill health among healthcare providers, five to ten years following financial cut-backs in the organizations (personal communication). Being the supervisor of Peterson’s work (2011; Peterson et al., 2008, 2011) described above, Åsberg’s general advice is “talk to each other” (personal communication).

During the work with this thesis I have often thought about Åsberg’s recommendation, and the obvious connection; that there has to be time to let people talk to each other. Creating safe and secure relationships is a prerequisite to an open atmosphere. The trust that is essential for those professionals who are affected after a severe event must already exist before the day “the shit hits the fan”.

In order to lessen the impact of severe events on professionals’ lives and the implications for their patients, there are no quick fixes, and the complexity must be acknowledged. When looking at the whole picture, the cost to healthcare systems in which professionals can excel, and where the quality of care is high, is likely no higher than is the cost spent in fairly dysfunctional organizations with high rates of turnover and sick-leave among providers. Differing budgets are, however, affected, which makes this complex matter even more complex.

When considering Swedish obstetric care in an ever-changing society, workplace cultures, norms and individuals’ and groups’ perceptions would be interesting to investigate further. What constitutes “good care” in terms of obstetrics and how is this measured and evaluated? Mesterton et al. (2017) found a case-mix adjusted variation of caesarean section rates between hospitals (when differences that could be expected to generate varying rates are taken into consideration and accounted for) in Sweden and suggest that there is a potential for fewer interventions and hence lower resources used in Swedish delivery care. So why are the differing CS-rates so prominent? Against the

evidence suggested by Mesterton et al., that several hospitals could lower their present CS rates? Could there be explanations such as differing views regarding risk and also what constitutes risk in Sweden, as described by Dietz (2017, 2018), who claims the less-intervention ideology to be paternalistic? Does it matter what personal views practitioners have regarding these matters, and could there be differences regarding “official” opinions and “unofficial” opinions?

That change and implementation is very difficult to accomplish is a well-known fact. From an individual perspective, it is said that you can never change someone else, only yourself, and how you choose to view and manage your interactions with other people. I was once told by a therapist that if giving advice was the way to instigate change, there would be no need at all for people like him. Newspapers, self-help books and, in this case, scientific journals, are all full of recommendations on what ought to do be done. In general, we seem to possess an impressive ability to not let these recommendations interfere too much with our everyday lives, personally as well as professionally. Consequently, the question might again be, *why* do professionals do as we do? Why do (some) obstetrical units not follow “recommendations”? Do professionals individually and collectively differ regarding the belief that comparing CS rates is a way to go, when considering quality? Could there be explanations for the differences found in the surrounding society? These questions could be investigated using both quantitative as well as qualitative methods and involving both professionals as well as “laypersons” of differing ages and genders.

## Summary in Swedish

Termen "second victim" är avsedd att beskriva den emotionella påverkan som kan drabba sjukvårdspersonal som varit med om, eller ofrivilligt orsakat, en svårt skadad patient. Patienten är "the first victim". Sedan tidigare är det känt att hur sjukvårdspersonal mår kan påverka kontakten med patienterna och den givna vården. Man har sett att svåra patienthändelser utan tid för återhämtning och bearbetning kan leda till "emotionell utbrändhet", vilket i sig kan ge en nedsatt empatisk förmåga och en högre grad av cynism, hos vårdgivare. Förlossningsvården utmärks av att det oftast handlar om friska kvinnor som föder förväntat friska barn och att allmänheten förväntar sig just detta. Avhandlingen avser att belysa olika aspekter av att vara det "andra offret" inom svensk förlossningsvård.

En enkätstudie med 1459 svarande barnmorskor och 706 svarande läkare visade hur vanligt det var bland barnmorskor och förlossningsläkare i Sverige, att ha varit med om en händelse när ett barn blev svårt skadat eller dog till följd av förlossningsrelaterade orsaker, eller en födande kvinna blev svårt skadad eller dog i samband med en förlossning. Det frågades också efter händelser när personalen blivit hotade eller slagna av anhöriga till den födande kvinnan. Enkäten mailades till medlemmar i Svenska Barnmorskeförbundet och Svensk Förening för Obstetrik och Gynekologi.

Sjuttioen procent av de svarande barnmorskorna och 84 % av svarande förlossningsläkare hade varit med om en eller flera händelser som motsvarade studiens kriterier.

Vidare undersöktes hur den händelse barnmorskan eller läkaren uppfattat som allra svårast under sitt yrkesliv påverkat dem med avseende på post-traumatiska stressreaktioner. Diagnosen post-traumatisk stressjukdom (PTSD) bygger på att personen varit med om en potentiellt traumatisk händelse som utlöser en känsla av intensiv rädsla, hjälplöshet eller skräck (panik) och att hen sedan utvecklar symptom på återupplevande (påträngande minnesbilder, "flash-backs", mardrömmar), undvikande (att man inte vill tänka på eller prata om händelsen), påverkat minne och en påverkad sinnesstämning samt tecken på så kallad överspändhet (koncentrationssvårigheter, ilskeutbrott, sömnstörning).

Resultaten visade att 43 % av både barnmorskor och förlossningsläkare hade upplevt känslan av intensiv rädsla, hjälplöshet eller panik i samband med den upplevt svåraste händelsen. Femton procent av de svarande i båda yrkeskategorierna rapporterade symptom som motsvarade partiell PTSD medan fem procent av barnmorskorna och sju procent av förlossningsläkarna beskrev symptom som motsvarade "egentlig" PTSD. Resultaten visade vidare att risken att drabbas av partiell PTSD eller PTSD var fördubblad om personen kände skuld för något den gjort eller inte gjort i samband med den svåra händelsen. Resultaten illustrerade ett samband mellan känslan av otillräckligt stöd från vänner och risken för att drabbas av partiell PTSD eller PTSD. Ett sådant samband stämmer väl överens med kända risker för PTSD.

Bland läkarna ökade också risken för partiell PTSD eller PTSD om de upplevde att föräldrarna till det skadade eller döda barnet var anklagande eller reagerade negativt gentemot mot läkaren. Vidare sågs ett samband mellan risk för partiell PTSD eller PTSD för läkare om de hade upplevt att återsamlingen med den personal som varit med under förlossningen, varit en obehaglig upplevelse. För barnmorskorna sågs en ökad risk om de haft en erfarenhet av bristande stöd från kollegorna. De barnmorskor och läkare som drabbats av symptom motsvarande partiell PTSD eller PTSD slutade i högre grad än sina mindre traumatiserade kollegor att arbeta på förlossningen.

Avhandlingen bygger också på djupintervjuer med sju barnmorskor och sju läkare, alla specialister inom förlossningsvård och gynekologi. Analyserna gjordes med kvalitativ innehållsanalys och med så kallad "Grounded theory". Den kvalitativa innehållsanalys-studien undersökte hur barnmorskor och läkare verksamma på förlossningen upplevde svåra händelser.

Resultaten visade att när barnmorskor och läkare såg tillbaka på en händelse efteråt, kunde de ofta identifiera flera bidragande faktorer till uppkomsten av den svåra händelsen. Dessa kunde vara av systemkaraktär, till exempel dålig bemanning i förhållande till belastning, men det kunde också handla om svårigheter i samarbetet mellan yrkesgrupperna eller att man uppfattat situationen väldigt olika. När det stod klart att något katastrofalt höll på att hända kunde deltagarna beskriva en känsla av panik och maktlöshet samtidigt som man försökte arbeta på och tänka klart. Eftersom de bidragande faktorerna och händelsens svåra karaktär och utfall blev tydliga först efteråt skapades en känsla av att man verkade i ett illusoriskt tryggt system. När saker ställdes på sin spets saknades både kontroll och säkerhet.

Slutligen undersöktes hur processen såg ut i efterförloppet till en svår händelse, för barnmorskor och läkare. Vi fann att den handlar om att återvinna sin professionella identitet, självbild och att olika faktorer påverkar hur väl yrkespersoner lyckas med detta. Avgörande var såväl yttre faktorer, som speglade



hur omvärlden såg på händelsen och de inblandades ageranden. Avgörande var även inre faktorer som hur väl personen hade förmåga till att hantera de egna känslorna av skuld och skam och acceptera den sårbarhet som händelsen tydliggjort. Det handlade också om i vilken utsträckning barnmorskan eller läkaren kunde se en positiv arbetssituation i framtiden eller om den svåra händelsen gjort att brister och därtill kopplade risker tydliggjorts på ett sådant sätt så att man upplevde behov av en förändring.

En svår händelse på förlossningen kan göra att barnmorskan eller förlossningsläkaren helt återfår sin professionella självbild eller att man professionellt till och med växer. Det kan då kännas djupt meningsfullt att stötta andra som är med om likande situationer eftersom man vet hur det känns och att det finns en väg ut. Händelsen kan också innebära att yrkespersonen behöver bearbeta sitt känslomässiga förhållande till arbetsplatsen som inte längre känns självklar, eller att det blir tydligt att en förändring måste till. En del kommer att helt välja bort förlossningsvården. De möjliga utfallen kan dock inte betraktas som bättre eller sämre för den enskilda individen. Det kan mycket väl vara ett tecken på utveckling och mognad att söka andra yrkesområden, men för hälso- och sjukvården innebär det en förlust av kompetens om erfaren personal söker sig bort.

Sammanfattningsvis kommer de flesta som arbetar inom förlossningsvården att vara med om svåra händelser som kan påverka de inblandade yrkespersonerna på ett påtagligt och ibland mycket uttalat sätt. Den sårbarhet yrkespersoner utsätter sig för bör inte underskattas och en beredskap i form av kollegialt stöd och en medvetenhet på arbetsplatserna om hur dåligt anställda kan komma att må, är viktig.

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