Unmasking the self as a fallible health professional:

A grounded theory study on the

psychosocial process of mitigating the negative effects of shame due to mistakes

by

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Abstract

This grounded theory study investigated the effect of shame on health professionals who make mistakes. Interviews with nurses, physicians, pharmacists and residents generated rich data from which to formulate a theory on the psychosocial process of making a mistake. The stories and experiences the participants shared expose a multi-faceted process that is shrouded in shame, and complicated by external and internal influences, most importantly the interactions they have with other health professionals.

The theory that was developed from this study proposes a perspective on the process that challenges current ideas about how to manage mistakes in health care. The implications of the theory will be useful in helping health professionals cope with mistakes. The study also provides recommendations for individuals themselves to cope with their emotions after a mistake, for organizations to better support their staff after a mistake, and for educational institutions to better prepare health professionals for experience of making mistakes through targeted training and interprofessional education.

This study therefore generates new insights into the psychosocial process of mistakes from the perspective of health professionals and grounded in the data from their stories. The findings will help health professionals better understand why they react the way they do and give them guidance for managing and coping with the shame they feel after a mistake.

Preface

This thesis is an original work by Diane Aubin. The research project, of which this thesis is a part, received research ethics approval from the University of Alberta Research Ethics Board, Project Name "From shame to safety: A grounded theory study on the impact of shame on health professionals and on patient safety", No. Pro00038931, August 21, 2013.

Dedication

To my father, Daddy, whose dreams inspired me to aim ever higher,

and who would have proudly told me I did "pretty good," words I long to hear one more time.

To my mother, Mummy, for her strength, sacrifice and unconditional love.

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I would like to acknowledge the generous financial support of the University of Alberta Department of Educational Psychology for supporting me during my entire five years at the institution, through the Provost Entrance Award and the Queen Elizabeth II Doctoral Award.

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Finally, to my dearest friend and greatest cheerleader, Monica Henry, for her wisdom, generosity and endless love and support: thank you BBD.

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Glossary of Terms

Hidden curriculum

The hidden curriculum is a recognized phenomenon in health care that is a set of influences or implicit messages about values and practices that individuals are exposed to at the institution and cultural level through everyday habits and interactions (Hafferty, 1998; Liao, Thomas & Bell, 2014). This is often in conflict with the way students are taught in the academic setting.

Human factors engineering

Human factors engineering is based on the idea that systems within environments such as hospitals must be designed based on human performance and safety rather than making humans adapt to a potentially unsafe system. The tools and machines within the systems take into account human factors including their capabilities, limitations and other characteristics (Scanlon, Karsh & Densmore, 2006; Gosbee, 2002).

Just culture

Reason (1997) defined a just culture as: "An atmosphere of trust in which people are encouraged (even rewarded) for providing essential safety-related information, but in which they are also clear about where the line must be drawn between acceptable and unacceptable behaviour."

Mistake

See patient safety incident. In this document, the word "mistake" is used in lieu of "patient safety incident" but it has the same definition. For the purpose of this study, a mistake includes both those that harm and do not harm patients, and those that either reached or did not reach the patient. It excludes those harmful actions made by health professionals that are criminal or blameworthy, or where the harm or potential harm is caused by the following:

- Impairment from drugs or alcohol
- Wilful or intentional negligence
- Knowing violations of standards or of the law

Mortality and Morbidity (M&M) rounds

A meeting among physicians held periodically to review cases with poor or avoidable outcomes, where they discuss how to prevent such incidents from reoccurring.

Patient safety incident

A patient safety incident is an event or circumstance which could have resulted, or did result, in unnecessary harm to a patient. There are three types of patient safety incidents:

> *Harmful incident*: "A patient safety incident that resulted in harm to the patient." (Example: The wrong unit of blood was infused and patient died from a haemolytic reaction.)
> *No harm incident*: "A patient safety incident which reached a patient, but no discernable harm resulted." (Example: The wrong unit of blood was infused, but was not incompatible.)
> *Near miss or Close call*: "A patient safety incident that did not reach the patient." (Example: A unit of blood was being connected to the wrong patient's intravenous line, but the mistake was detected before the infusion started.) (Canadian Patient Safety Institute, 2011).

Patient safety

The World Health Organization (2009) defines patient safety as "the reduction of risk of unnecessary harm associated with health care to an acceptable minimum; an acceptable minimum refers to the collective notions of given current knowledge, resources available and the context in which care was delivered weighed against the risk of non-treatment or other treatment" (World Health Organization, 2009, p. 15). Patient safety is also defined as "a discipline in the health care sector that applies safety science methods toward the goal of achieving a trustworthy system of health care delivery. Patient safety is also an attribute of health care systems; it minimizes the incidence and impact of, and maximizes recovery from adverse events" (Emanuel et al., 2011, p. 11).

Psychological safety

An environment where individual health professionals are not intimidated by colleagues or supervisors or afraid to speak up when they believe what they have to say will improve patient care or call attention to a potentially dangerous situation. In a psychologically safe team, members have confidence that their colleagues will not embarrass, reject, or punish someone for speaking up.

Second victim

A label given to a health professional who makes a serious mistake; the first victim is the patient who was harmed, while the second victim is the health professional who is traumatized by the event. This label was coined by Albert Wu (2000) but is not widely accepted among health professionals.

Shame

Shame is what we feel when we assess our actions, feelings, or behaviour against a set of standards, goals or rules, and come to the conclusion that we have behaved badly or have done something wrong (Lewis, 1992; Van Vliet, 2009; Weiner, 2000).

Swiss cheese model

James Reason (1990) popularized the systems view of accidents through his ‘Swiss cheese’ model, which is a metaphor showing how hazards, on the one end, cause losses or harm on the other end. Each slice of cheese represents a barrier that could prevent the hazard from reaching the patient, but there are holes in the barrier at random places that sometimes let the hazard through. When all of these holes are aligned – or when a series of unfortunate and connected breakdowns occur – the hazard reaches the patient and harm occurs. The model was meant to emphasize that the reason for harm is often the health care system or simply randomness, not the individual or their deliberate actions.

Systems view

A perspective that mistakes occur as a result of a number of cracks in the system that happen in a sequence, where checks and balances are not in the right place if they exist at all, and where the outcome of a number of steps in the process is that a patient is harmed or almost harmed. In other words, if an organization considers errors from a systems point of view, it accepts that mistakes will happen and that it is not always the fault of one individual. In analysing an incident, the organization considers the complexity of the system, including the characteristics of the workplace, the work environment, the pressures and the difficulties experienced by the workers. Ideally, the investigation considers all of the possible factors related to the incident. (See Swiss cheese model.)

Introduction

The expression "shame and blame" has often been used to describe the culture within a health care organization or team when mistakes are made and a patient is harmed or potentially harmed. Although this expression "shame and blame" assumes that shame is a significant emotion among health professionals, there has been little exploration, discussion or research focused on the emotion of shame in the context of health care, or how individuals on a health care team might manage and cope with their emotions after a mistake (Kaya, Asti, Turan, Karabay & Emir, 2012). Additionally, although the emotion of shame has become an important element in emotions research, there is a dearth of research to help us understand how an individual rebounds from shame and more particularly on the individual's perspective on overcoming shame (Van Vliet, 2008, 2009).

This grounded theory study investigated the effect of shame on health professionals who made a mistake. Interviews with nurses, physicians, pharmacists and residents generated rich data from which to formulate a theory on the psychosocial process of making a mistake. The stories and experiences the participants shared expose a multi-faceted process that is shrouded in shame, and complicated by external and internal influences, most importantly the interactions they have with other health professionals.

The theory that was developed from this study proposes a perspective on the process that challenges current ideas about how to manage mistakes in health care. The implications of the theory will be useful in helping health professionals cope with mistakes. The study also provides recommendations for individuals coping with their emotions after a mistake, for organizations to better support their staff after a mistake, and for educational institutions to better prepare health professionals for experience of making mistakes through targeted training and interprofessional education.

Significance of the Study

Since the early 1990's, when the patient safety movement began to intensify, there has been a significant amount of discourse and research exploring how the system, health care organizations and health care team leaders might create a more open and transparent environment that is less focused on blaming or shaming the individual. Much attention has been focused on creating a just culture of safety in an organization, considered to be the antithesis of the "shame and blame" culture, where employees are supposed to be able to report errors without fear of inappropriate reprimand or punishment. There is also significant literature on how team leaders help create a psychologically safe environment, and improve communication and teamwork to encourage team members to talk about mistakes and how to prevent them.

Despite a growing awareness of patient safety issues, along with national and provincial /territorial efforts to improve patient safety over the past decade in Canada, there is still little evidence to show that there has been any improvement in the rate of preventable harm (Leape et al., 2012). Furthermore, it is well established that mistakes continue to be severely underreported, with some studies concluding that only five to ten percent of mistakes ever make it to formal reports (Khatri, Brown & Hicks, 2009; de Feijter, de Grave, Muijtjens, Scherpbier & Koopmans, 2012). Patient safety experts are becoming increasingly impatient with the sluggishness of change, and are calling for new perspectives on why we are not seeing an improvement and how we might overcome the many challenges that impede improvement.

Most importantly, moderating shame and blame within health care organizations continues to be an enormous challenge (Conway, Federico, Stewart & Campbell, 2011; May & Plews-Ogan, 2012). As a result, this culture of shame and blame continues to be an impediment to a health professional's willingness to talk – and therefore learn – about mistakes or close calls.

To improve patient safety, we must also pay attention to the emotion of shame; however, the role of shame in the health professional's experience has scarcely been studied (Lindström, Hamberg & Johansson, 2011). For example, Kaya et al. (2012) claim that despite the potential importance of feelings of guilt and shame, there is very little attention to these feelings in nursing literature.

A growing body of evidence reveals that health professionals feel emotionally distressed after a mistake and a recent emphasis on the "second victim" (Dekker, 2011, 2013; Wu, 2011), the label used for health professionals who make the mistake. Many of these studies on mistakes, however, focus on descriptions of the effect of mistakes, not on how and why these individuals manage and overcome shame from mistakes, or a theoretical understanding of the process. Some also put forth recommendations that are not necessarily based on a theoretical understanding of the process. For example, the study by Ullstrom et al. (2014) suggests that health professionals require emotional support after a mistake, without explaining what that support should be and why it is needed.

This study has generated new insights into the psychosocial process of mistakes from the perspective of health professionals and grounded in the data from their stories. The findings will help health professionals better understand why they react the way they do and give them guidance for managing and coping with the shame they feel after a mistake. The theory generated from this study will also inform health care educators and leaders to help them better prepare health professionals for the emotional experience of mistakes.

Ultimately, I hope that the theory I develop will help improve patient safety by paving the way for health professionals to cope with mistakes, learn from the experience and prevent the same mistake from happening again.

Aim of the Study

The aim of the study is to develop a grounded theory about the impact of shame on health professionals that will inform a framework for mitigating the negative effects of shame felt by individuals in a health care team. More specifically, the aim of the study is:

> **to develop a theory, grounded in the data of the participants' experience, that generates new insights about the psychosocial process of how health professionals mitigate the negative effects of shame due to mistakes.**

A secondary aim of the study is to explore how health professionals are able to overcome their mistakes and learn from them. Edmondson (2011) states that "We are programmed at an early age to think that failure is bad. That belief prevents organizations from effectively learning from their missteps" (p. 49). That belief could also prevent individuals from learning from mistakes. If they can be "unprogrammed" to believe that failure, or mistakes, can also lead to positive outcomes, then they might also be able to learn from the experience. Responses to shame can be out of proportion and irrational; my research aims to understand how to put the event "into" proportion. Van Vliet (2008) explains that for people who feel shame, "a major turning point is reached when they begin to reframe the shame experience in terms of its positive value and meaning. The shame event is perceived as an opportunity for growth and learning or, in the words of participants, as a 'jumping-off board,' 'stepping stone,' or 'impetus' for positive change" (p. 241).

The reason I undertake research is not only to gain an understanding of social phenomena but also, from a pragmatic perspective, to make a difference in the lives of those I am studying, and to make a contribution to improving patient safety. I will do this by moving beyond the description of a phenomenon to an explanation, beyond verifying or proving existing theories (deduction) to discovering or abstracting theory from data (induction). With this original theory, I hope to provide insights into the

psychosocial process of mitigating mistakes in health care teams, to be relevant to both academic and non-academic audiences and to bring positive change to the lives of those affected by the phenomena.

Research Questions

The central question for this research is:

- What is the social and psychosocial process experienced by health professionals when they make a mistake?

The sub-questions are as follows:

- What do health professionals go through when they make a mistake?
- What emotions or factors interfere with an individual's willingness and/or ability to cope with and learn from mistakes?
- How do health professionals manage the emotional and social challenges after they make a mistake?
- What do health professionals recommend for helping other health care team members to cope with and overcome their mistakes?

The answers to these questions will provide a powerful set of lenses to focus on what it means to feel shame as a health professional, and to explore what can be done to help individuals working in a health professional team mitigate the negative psychological effects of shame.

Literature Review

This review will explore the construct of shame to understand its potential effect on health care provider team members when they make mistakes that harm or come close to harming patients. This will be accomplished by reviewing literature from the fields of patient safety, psychology and organizational behaviour.

It should be noted that there is great debate among grounded theorists as to whether a literature review should be conducted because of the potential that such knowledge will compromise the researcher's ability to collect and analyze the data without bias, and thus influence theory development (Charmaz, 2006; Glaser, 2009; Glaser & Strauss, 1967; Hunter et al., 2011). However, from a constructivist point of view (see section entitled Research Paradigm on p. 68), one cannot escape at least some exposure to the literature (Bryant & Charmaz, 2007; Charmaz, 2006, 2014). Charmaz (2014) suggests that the researcher "let this material lie fallow" (p. 307) until categories are developed. From a constructivist point of view, what is important is that I acknowledge my own biases and recognize the influence of my own experience and knowledge when I interact with participants and develop our theory. I therefore decided to conduct a literature review that would inform and guide my proposal, but that would not necessarily impose on me preconceived conceptualizations that might unduly influence the theory development.

To this end, the literature review will:

- provide basic information about patient safety;
- explore the emotion of shame;
- examine the psychological and organizational factors that hinder or improve open discussion about mistakes in health care; and
- review some of the current theories how to create a more open environment in health care.

Patient Safety

History. The patient safety movement, which has grown significantly in the past 20 years, has done much to raise awareness of safety issues in the health care system, by identifying both the extent and harm from medical mistakes, and exploring ways to prevent them.

It was in the early 1990s that research began to demonstrate that hospitals were not where patients were always being healed, that they were places where patients were also being harmed. One of the seminal studies published about health care in the United States, *To Err is Human* (Kohn, Corrigan & Donaldson, 2000) was a call to action, revealing the shocking statistic that medical errors caused between 44,000 to 98,000 of preventable deaths per year in that country. Once these results were released in the media, health care organizations could no longer ignore the issue of patient safety.

Thus the patient safety movement was born, and the field of patient safety research emerged. To this day, the definitions of patient safety vary widely. The World Health Organization (2009) defines patient safety as "the reduction of risk of unnecessary harm associated with health care to an acceptable minimum; an acceptable minimum refers to the collective notions of given current knowledge, resources available and the context in which care was delivered weighed against the risk of non-treatment or other treatment" (World Health Organization, 2009, p. 15). An expanded definition that encompasses patient safety as a discipline and as an attribute is provided in the Patient Safety Education Program-Canada (Emanuel et al., 2011): "Patient safety is a discipline in the health care sector that applies safety science methods toward the goal of achieving a trustworthy system of health care delivery. Patient safety is also an attribute of health care systems; it minimizes the incidence and impact of, and maximizes recovery from adverse events" (p. 11).

In the early 2000s, a study was commissioned by Health Canada to explore the extent of patient safety issues in Canada, commonly referred to as the Baker-Norton study, but officially titled *Patient safety and health care error in the Canadian health care system* (Baker & Norton, 2001), and summarized in a peer-reviewed article (Baker et al., 2004). The results of the study show that 7.5 % of hospital admissions resulted in a harmful incident (see definitions in next section), and 37% of those were deemed preventable; this translates to an estimated 70,000 preventable harmful incidents per year, and anywhere from 9,000 to 24,000 preventable deaths per year.

Definition of mistake. One of the challenges of research in patient safety is defining the meaning of mistakes, and establishing common language for the discussions about mistakes. There are a number of definitions available, and many nuances that identify types of mistakes.

Generally, when something goes wrong in health care, it is considered a mistake if a patient was harmed or might have been harmed as a result of the health care provided, and not from the natural disease process or a recognized risk of the treatment (such as complications, adverse reactions or side effects). The terminology currently used by the Canadian Patient Safety Institute for these mistakes is 'patient safety incident' as defined by the World Health Organization (2009, p. 15):

Patient safety incident: "an event or circumstance which could have resulted, or did result, in unnecessary harm to a patient."

There are three types of patient safety incidents:

Harmful incident: "A patient safety incident that resulted in harm to the patient." (Example: The wrong unit of blood was infused and patient died from a haemolytic reaction.)

No harm incident: "A patient safety incident which reached a patient but no discernable harm resulted." (Example: The wrong unit of blood was infused, but was not incompatible.)

Near miss or Close call: "A patient safety incident that did not reach the patient." (Example: A unit of blood was being connected to the wrong patient's intravenous line, but the mistake was detected before the infusion started.)

The following diagram (Figure 1) explains the relationship between all of these terms:

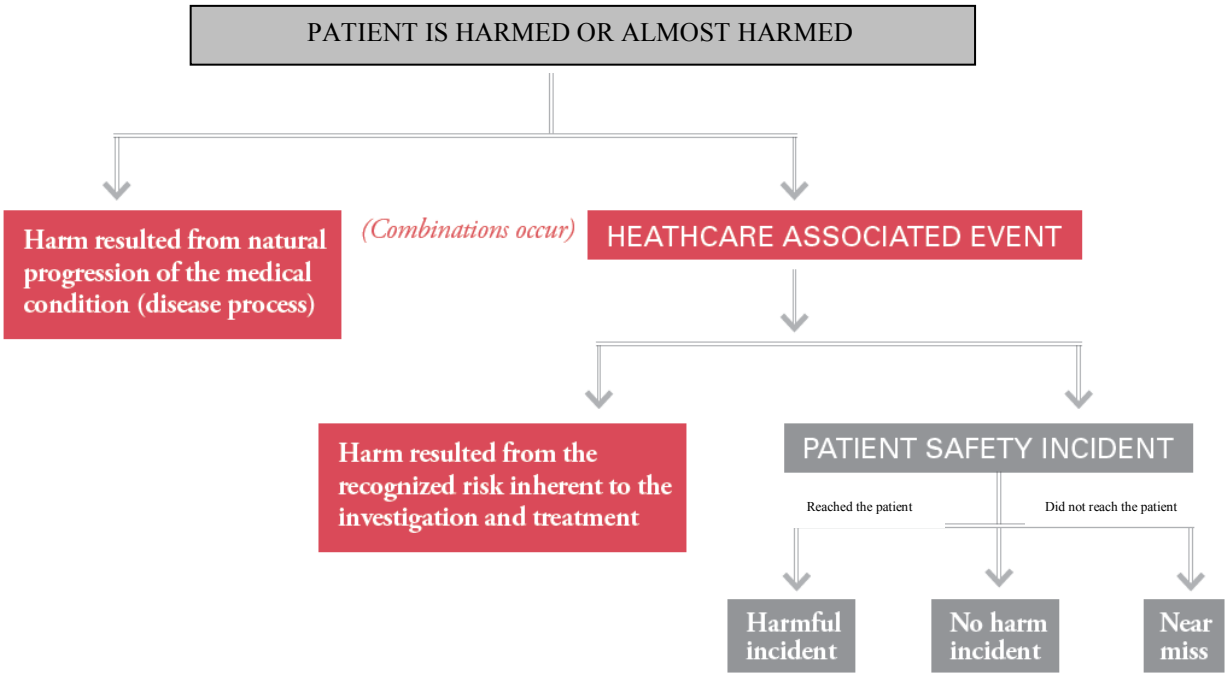

Figure 1. Relationship between definitions of types of mistakes (from *Canadian Disclosure Guidelines: Being Open with Patients and Families* (p. 21) by Canadian Patient Safety Institute, 2011, Edmonton: Canadian Patient Safety Institute. Reprinted with permission.

For the purpose of this research, I will use the word "mistakes" to refer to patient safety incidents, in the interest of clarity for the participants, and in an effort to be open, authentic and perfectly clear about what is being discussed.

Types of mistakes. Another important clarification that needs to be addressed is the type of mistake to which I will be referring in my research. For one, I will include both errors of commission (committing an act) as well as omission (failing to act). Further, Reason (2008) classifies mistakes into several types and sub-types, for the purpose of understanding the causes of mistakes. Below are the three main types I include in my research:

Slips/lapses: These are mistakes that are caused by any one of a number of failures, including memory failures (including input, storage or retrieval issues), recognition failures (such as the failure to

detect a problem or identify a signal), or attention failures (often caused by distractions, or as the result of absent-mindedness during the performance of a routine task).

Rules-based mistakes: These are mistakes made when we either use the wrong rule in a situation, or fail to apply the right rule.

Knowledge-based mistakes: These occur in new situations in which we do not have ready-made solutions, where we might not have all the knowledge required to make the right decision. These mistakes often happen in situations where trial and error is required.

Since it is not yet clear which type of mistake causes shame, my definition of mistakes includes both those that harm and do not harm patients, and those that either reached or did not reach the patient.

Another distinction to be made is that mistakes are not those actions that might cause a co-worker to casually provide friendly advice or reminders. For an action to be defined as a mistake, there must be evidence of potential harm (Edmondson, 1999). For the purpose of the research, I am excluding those harmful actions made by health professionals that are criminal or blameworthy, or where the harm or potential harm is caused by the following:

- Impairment from drugs or alcohol
- Wilful or intentional negligence
- Knowing violations of standards or of the law

The Emotion of Shame

According to Van Vliet (2009), shame has become an important element in emotions research, partly due to a better understanding of the role emotions play in our psychosocial processes. Shame is the product of an evaluation of one's own actions in regard to a set of internal standards and is part of a set of

emotions called 'self-conscious emotions' that require introspection or self-reference (Lewis, 1992). Other self-conscious emotions include jealousy, envy, empathy, embarrassment, pride and guilt. Primary emotions, on the other hand, do not require this self-reference, and include fear, joy, disgust, surprise, anger and sadness (Lewis, 1992). Definitions of shame tend to emphasize the destructive nature of shame, in that it can be an "assault on the self" (Van Vliet, 2008), the "swampland of the soul" (Brown, 2012) or even "one of the most powerful, painful and potentially destructive experiences known to humans" (Gilbert, 1997, p. 113). Shame is what we feel when we assess our actions, feelings, or behaviour against a set of standards, goals or rules, and come to the conclusion that we have behaved badly or have done something wrong (Lewis, 1992; Van Vliet, 2009; Weiner, 2000). Shame is when one perceives that one of his or her attributes is a defiling thing to possess (Goffman, 1991).

Shame also involves a complex array of cognitive activities that include our perceptions of what others think about our actions or behaviours; this emotion comes not only from a person's belief that the actual self fell short of the ideal self, but also the belief that others perceive this same deviation (Van Vliet, 2009). This is why it is said that shame underlies many of our relationships with others (Lewis, 1992).

Attribution theorists maintain that, in the face of significant negative events, people engage in an attributional search as a means to making sense of their experience and determining a causal explanation (Van Vliet, 2009). With intrapersonal attribution theory, shame comes from attributing failure to oneself (internally, such as lack of ability) rather than to other factors (externally, such as others or bad luck) (Lewis, 1992; Weiner,2000). Motivations and behaviours associated with shame are therefore focused on dealing with a threatened positive self-view.

This brings to light the importance not only of *intra*personal beliefs, but also of *inter*personal beliefs. Brené Brown, in her popular TED videos on "The power of vulnerability" (2010) and "Listening

to Shame" (2012) explains shame from the point of view of interpersonal relations. Through her extensive research on vulnerability and shame, she has concluded that shame is a fear of disconnection where people are constantly asking themselves: "is there something about me that, if other people know it or see it, I won't be worthy of connection?" We have a basic need to appear attractive to others and these needs drive our evaluations of ourselves regarding social standings, acceptance and bonds, and ultimately lead to shame when we determine that we do not meet these social benchmarks. There are those who struggle to know if they are worthy of connection – those with a tendency towards shame – and those who have a strong sense of belonging and believe they are worthy of connection. Shame, according to Brown (2012) is that voice inside you that asks "who do you think you are?" and tells you over and over again that you are not good enough, and you will never be good enough. Underpinning this feeling of shame, therefore, is what Brown calls "excruciating vulnerability" (2010).

Van Vliet (2008) explains shame from a psycho-evolutionary point of view, where shame is regarded as a genetically obtained emotion that is meant to enhance the survival of the species. Humans need to feel socially attractive and when a person perceives a loss of this status, shame plays an adaptive function of letting them know their status is threatened. In this way, shame plays a key role in psychosocial functioning and development, including moral and social behaviour (Van Vliet, 2008; Gilbert, 1997). According to this view, "The pain and adversity associated with shame also motivate individuals to increase their intellectual, physical, and social competencies. Thus, shame plays a vital role in learning and in the advancement of society as a whole" (Van Vliet, 2008, p. 233).

Studies of shame mostly emphasize the unhealthy or negative effects of shame, or what Parent Bancroft (2007) calls "disordered shame." Some authors have also emphasized that there is also a positive or healthy side of shame (Lindström et al., 2011; Tangney, 2003). Shame emotions do not always have negative consequences, as they are powerful modulators and foundations for social and

moral behaviour. Moral emotions motivate ethical behaviour, and provide the motivational force to do good and avoid bad. Indeed, the ability to feel sympathy, shame, guilt or other emotions that make us care about others is what distinguishes well-adjusted individuals from those with antisocial personality disorders. A healthy shame experience can serve as a story to tell others to support them when they feel shame, as an opportunity to accept one's own humanness, and a source of creativity and learning (Parent Bancroft, 2007).

Shame vs. guilt. Individuals who feel shame regard their failure to meet their internal standard as a reflection of their global self. This is primarily what distinguishes shame from guilt, where individuals focus on their behaviours or actions rather than their whole self (deHooge, Zeelenberg & Breugelmans, 2011; Gilbert 1997; Lewis, 1992; Tangney, 1992). While guilt elicits negative behaviour evaluations (such as "I made a mistake"), and commands people to stop what they are doing and alter their behaviour, shame responses are characterized by negative self-evaluations (such as "I am a terrible person"), and commands people to stop altogether because they are no good (Lewis, 1992). Guilt involves a specific action (or failure to act) while shame involves the whole self.

According to deHooge et al. (2011), guilt signals a damaged relationship whereas shame signals damage to one's self view; they explain that when individuals feel guilt, they tend to want to take corrective action, but when they feel shame, they take no action. Guilt motivates people to fix or apologize for their mistake, while shame causes reactions of withdrawal and avoidance.

Weiner (2000) calls upon attribution theory to further explain the difference between guilt and shame: "Attribution of failure to insufficient effort, which is internal and controllable, often elicits guilt, whereas an ascription to lack of aptitude, which is internal but uncontrollable, often evokes feelings of shame, embarrassment, and humiliation" (p. 5).

Another construct that is sometimes confused with shame is embarrassment. According to Lewis (1992) the most significant difference is in the intensity level: "While shame appears to be an intense and disruptive emotion, embarrassment is clearly less intense and does not involve the disruption of thought and language that shame does" (p. 81).

Effect of shame. Lewis (1992) states that shame is like an atomic particle or something we know is there only by the trace it leaves or by the effects it causes. When people feel shame, they feel anywhere from incompetent to morally bereft, deceitful, disloyal or appallingly foolish; it gives rise to feelings of worthlessness, inferiority, and a damaged self-image (Tangney & Dearing, 2002; deHooge et al., 2011).

Shame can be highly toxic, leaving a person "emotionally defeated, alienated and lacking in dignity" (Felblinger, 2008, p. 238). A person who feels shame pulls away from whatever might have kept his interest or made him content. Our tendency, when we experience shame, is to defend ourselves, through defensive patterns such as withdrawal, avoidance, attacking others or attacking ourselves. Shame motivates a desire to hide and to shrink, because shamed people feel exposed. Throughout the interviews in her study Van Vliet (2008) notes that participants describe how they tried to avoid their shame by denying, ignoring, forgetting, suppressing, turning it off or shutting it down. Participants responding to questions in another study about shame spoke about "how small they felt, how alone they felt, how much they felt that all attention was drawn towards them, how much they did not want others to know about the described event, and how much they were worried about what others would think of them" (deHooge et al., 2011, p. 942). The authors also explain why people tend to withdraw: when they feel shame, they are motivated to restore or affirm their positive self, but if it seems too risky (i.e. that they might hurt this self even more), they will withdraw to protect themselves and avoid further damage.

Shame has been linked to several psychological problems including depression, post-traumatic stress disorder, eating disorders and addictions (Van Vliet, 2009).

Factors that influence shame. There are varying levels of proneness to shame. At one extreme, for example, there are individuals who tend to blame their failure on bad luck or the actions of others. At the other end, there are individuals who tend to blame themselves no matter what happens.

Since shame is the result of comparing oneself to an internal standard, it follows that the higher the standards one has, the more likelihood there is that a person will encounter the feeling of shame. In fact, Lewis (1992) states that "some adults set such high standards for their own behaviour that they continually fail to succeed by their own measure" (p. 98). Also, the violation of those standards that are more central to the definition of the self are more likely to lead to shame. Finally, studies have shown that failure at work is the situation that elicited the most shame (Lewis, 1992; Tangney, 2009).

The effects from the emotion of shame are therefore magnified when an individual's standards are:

- unreasonably high,
- central to their definition of themselves, and
- related to their profession.

The next section will demonstrate how these factors are relevant to health professionals and how they contribute to their proneness to shame.

The Health Care Environment: A Perfect Ecosystem for Growing Shame

The literature has many descriptions of the conditions in which health professionals work that could explain why it is difficult to create a psychologically safe situation in which to discuss and learn from mistakes. Extrapolating from the definitions, factors and effects of shame described in the previous section, the following discussion will illuminate why the world of health professionals is a perfect ecosystem for growing shame when a mistake is introduced.

The next sections will elaborate on four layers of the health care environment that have an influence on whether health professionals might feel shame from mistakes: the external system (Mega); the organization (Macro); the team (Meso); and the individual health professional (Micro) (see Figure 2).

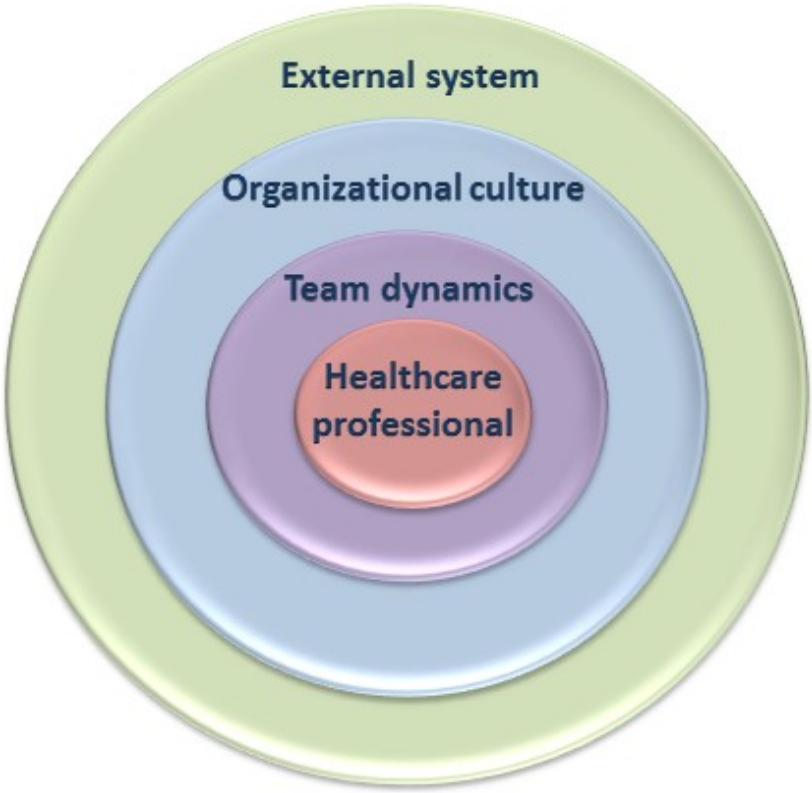

Figure 2. Four layers of the health care environment that influence health professionals

The external system. In the outer circle of the health professional's world is a health care system that continuously provides opportunities to grow shame. Five factors contribute to an ecosystem of shame in the system:

- criticality of mistakes;
- complexity of care;

- inevitability of mistakes;
- legal liability; and
- expectations of society.

This section elaborates on these five factors and how they contribute to the shame an individual feels when they make a mistake. Figure 3 builds on Figure 2 to incorporate the negative influences of this external system.

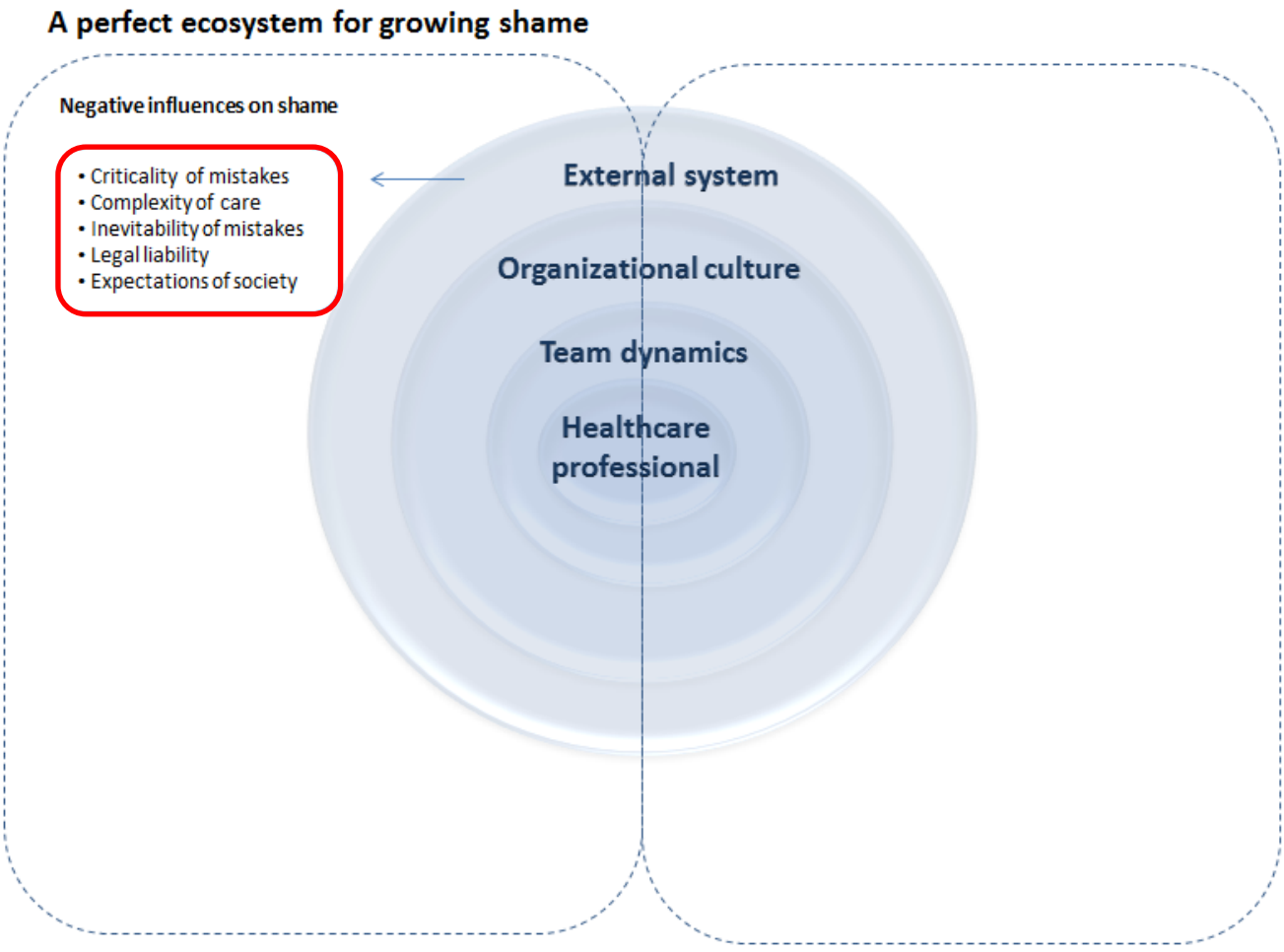

Figure 3. Factors that influence shame in the health care system.

Criticality of mistakes. The reality of a health professional's working world is the ongoing potential for catastrophic consequences of mistakes (Christianson, 2012). The nature of a health professional's work is that they are constantly making decisions of extreme gravity where there are many opportunities daily to miscalculate, misdiagnose, misinterpret or misstep – often with extremely serious consequences. Hilfiker's (1984) thoughts are still substantiated almost 30 years later:

> The drastic consequences of our mistakes, the repeated opportunities to make them, the uncertainty about our own culpability when results are poor, and the medical and societal denial that mistakes must happen all result in an intolerable paradox for the physician. We see the horror of our own mistakes, yet we are given no permission to deal with their enormous emotional impact; instead we are forced to continue the routine of repeatedly making decisions, any one of which could lead us back into the same pit. (p. 121).

Complexity of care. Mistakes are inevitable in large part due to the complexity of health care. In their study of complexity in multidisciplinary medical teams, Molleman, Broekhuis, Stoffels and Jaspers (2010) developed a framework to define complexity with the following dimensions:

- Component complexity
- Interrelatedness
- Ambiguity of the health care needs

These dimensions are regularly reflected elsewhere in the literature (Edmondson, 2012; Halbesleben & Rathert, 2008; Hilfiker, 1994; Kahtri, Brown & Hicks, 2009; Vogus, Sutcliffe & Weick, 2010).

Component: This dimension refers to the number of distinct information cues that need to be processed to accomplish a task. Health professionals must deal with escalating changes in medical

knowledge along with growing specialization and interdependency of health professionals. Health care represents a place where situations that are complex and uncertain, where unexpected events require a person to quickly change course many times throughout the day, and where health professionals must constantly update their knowledge to stay on top of their practice.

Interrelatedness: This dimension concerns the degree to which the problems are interrelated so that they cannot be treated separately. There is often no conclusive answer or decision in health care; this variation on professional judgment is in fact necessary because of the varied inputs into the system. Solutions to health care problems are also often dispersed across many locations and individuals.

Ambiguity: This dimension reflects a situation where sufficient data cannot be gathered to assess the needs, or where the information is vague enough so that a fully rational decision is impossible. Complex systems such as health care are only partly predictable. As pointed out by a participant in Christensen, Levinson and Dunn's study (1992): "There is no point at which you say comfortably, 'Yeah, I did as much as I can and I couldn't do any more.' You never reach that point" (p. 426). The unpredictability of health care services causes health professionals to make continuous and multiple unplanned decisions.

Dekker (2009) refers to the "discretionary space" where workers have room to maneuver when making decisions, but is, however, "a final kind of space filled with ambiguity, uncertainty and moral choices" and "a space that is typically devoid of relevant or applicable guidance from the surrounding organization, leaving the difficult calls up to the individual operator or crews" (p. 183).

Complexity is one of several characteristics that define a health care organization as a high reliability organization (HRO). HROs have the potential to cause failures that lead to catastrophic consequences and can be defined by eight characteristics, as outlined by Roberts and Rousseau (1989):

(1) hypercomplexity, (2) tightly coupled, (3) extreme hierarchical differentiation, (4) many decision makers working in complex communication networks, (5) high degree of accountability, (6) frequent, immediate feedback regarding decisions, (7) compressed time factors, and (8) synchronized outcomes.

Treatment decisions in health care are particularly challenging, as they are often based on a shortage of information, use complex cognition processes and are inherently affected by heuristic biases (Goldberg, Kuhn, Andrew & Thomas, 2002).

It is clear from this discussion that health professionals work within a highly complex and technical system under circumstances that are mentally and physically demanding, where they are also often under incredible time pressures to make decisions without complete information, and where they are working interdependently with others in systems that lack effective coordination.

Inevitability of mistakes. Medical practice is inherently uncertain, which is why errors are always possible. Health professionals work in a reality where the likelihood of harming a patient is very high. As elucidated by Vogus et al. (2010), "health care presents a challenging paradox by pairing the mandate to 'do no harm' with mounting evidence that much harm is done in the course of delivering care" (p. 60). Reason (2011) also alludes to this paradox; although health care is by nature an environment where slips, lapses and mistakes are highly likely, health professionals are ill prepared to deal with their own fallibility. Lowe (2006) also speaks of the inevitability of human error and explains that errors are the result of "latent conditions of the system where health care providers are merely inheritors not instigators of those errors" (p. i73). Reason (2008) also calls those at the sharp end of operations inheritors of a complex series of failures.

In an environment of unpredictability, efficiency and urgency, human errors, in these situations, are not only possible, they are inevitable.

It is clear that, while health professionals work in an environment that gives them freedom to make their own choices, it is also filled with ambiguity, uncertainty and morally complex choices. As Goldberg et al. (2002) remarks on the process of decision making in medicine: "The complex nature of cognition, the inevitable shortages of information, and our heuristic biases make this process highly fallible, particularly under conditions of stress" (p. 288).

Unfortunately, there is no acknowledgement of the inevitability of mistakes: "We don't talk much about errors because deep down we believe that individual diligence should prevent errors, and so the very existence of error damages our professional self-image" (Goldberg et al., 2002, p. 730). Errors are considered anomalies in health care (Dekker, 2013).

Legal liability. One of the most frequently cited factors in the culture of silence is related to a system reality, that of medical lawsuits. As Hilfiker (1994) so aptly points out in his dissertation, where else is a professional regularly sued for significant sums of money because they made a misjudgment? He notes that even the word 'malpractice' carries the implication that someone has done something terribly wrong. Hilfiker's plea for a more fair system of compensation where patients are compensated for injuries resulting from legitimate mistakes has still not been heeded, despite similar concerns from authors since then. Smith and Forster (2000), for example, maintain that, although medical lawsuits are supposed to deter accident-producing behaviour, the health system is deeply flawed and fails to serve the goals of both compensation and deterrence. As consumers become more assertive and insistent, with unrealistic expectations, the cost of malpractice suits continues to increase.

Dekker (2009) also elaborates on the negative consequences of leaving the power to draw the line to the judiciary. He maintains that "threats of prosecution do not deter people from making errors, but rather from reporting them; instead anxiety leads to defensive medicine, not high-quality care, and even

to a greater likelihood of subsequent incidents" (p. 178). Dekker's (2009) reflective note on culpability sums up the many problems associated with the system's treatment of errors:

> "The social constructionist argument about culpability is that by seeing human error as a crime, we have evoked just one language for describing and explaining an event, relative to a multitude of other possibilities. If we subscribe to this one reading as true, it will blind us to alternative readings or framings that can frequently be more constructive" (p. 180).

Expectations of society. This expectation of doing no harm arises not only from unrealistic views generated within the medical community, but also society (Baker, Day & Salas, 2006; Peters & King, 2012; Smith & Forster, 2000; Taft, 2005; Wears & Wu, 2002). There is a prevailing expectation outside the health care profession that medical mistakes are unacceptable. Patients demand error-free care, and expect those who provide health care to achieve the unachievable; when they do not, in the patients' eyes, the health professional is seen to have a failure of character, and becomes a fallen hero. This myth of perfection is part of "a dysfunctional self-perception of professionals as part of the unattainable expectations of patients and families" (Smith & Forster, 2000, p. 40), and brings with it an unrealistic expectation for entitlements to security and well-being on the part of society. Paparella (2011) states:

> "Perfection in all aspects of health care also has become a societal expectation over the years, and it creates significant challenge to the health care community when an error or adverse event does occur…the tenet of health care perfection is that 'good nurses (pharmacists, or physicians) don't make errors' which often is perpetuated by the legal community, the media, and sometimes even our own profession to uphold" (p. 263).

Organizational culture. The next layer of a health professional's world and another organic environment for growing shame is that of the organization. Four significant factors contribute to an ecosystem of shame at the organizational level:

- a culture of blame;
- a culture of silence;
- organizational pressures; and
- hindsight bias.

Figure 4 continues to build on the previous figures to highlight the growing complexity of the negative influences on an individual. This section explains the significance of the organizational culture on an individual who makes a mistake.

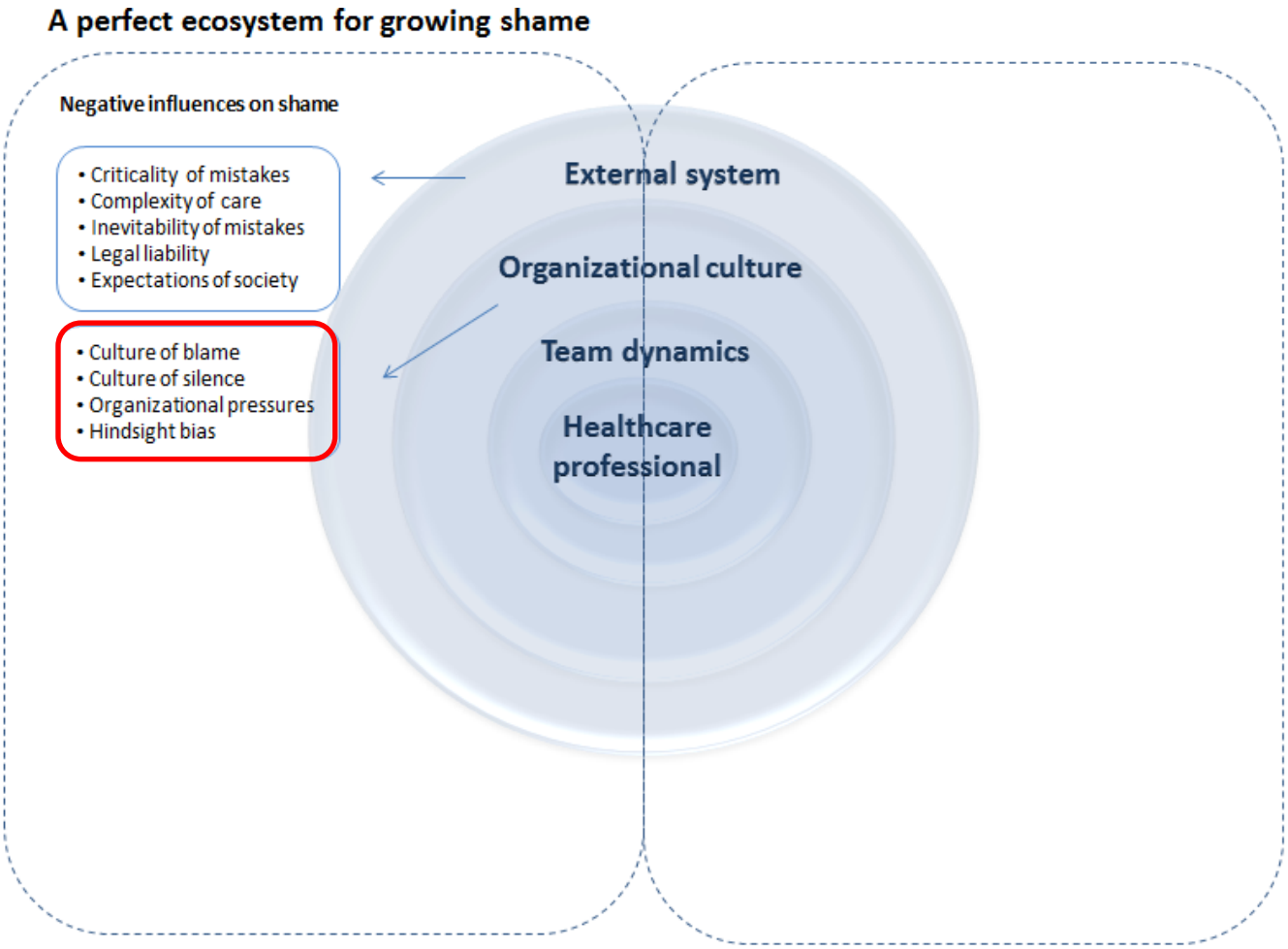

Figure 4. Factors that contribute to an ecosystem of shame at the organizational level

A culture of blame. Khatri et al. (2009), define a blame culture as follows:

A culture of blame is a set of norms and attitudes within an organization characterized by an unwillingness to take risks or accept responsibility for mistakes because of a fear of criticism or management admonishment. This culture cultivates distrust and fear, and people blame each other to avoid being reprimanded or put down, resulting in no new ideas or personal initiative because people do not want to risk being wrong…such a culture evolves out of a bureaucratic management

> style that is highly rule-oriented, compliance-driven, and focused on assigning blame or accountability to individuals even for system-level failures. (p. 314-315)

According to these authors there is significant evidence linking the blame culture in an organization to lower quality and safety of patient care; they further maintain that this blame culture is a major source of medical errors and is ubiquitous in health care organizations.

Because of this culture, discussions about a health care accident end when a human error is identified, even though a more detailed investigation would frequently show that the system within the organization was what caused the catastrophe.

A culture of silence. Within this culture of blame, it is understandable why health professionals often choose to remain silent; they would likely hesitate to openly share information about their mistakes because they fear punishment from their employers or judgement from their peers. Even as recently as 2014, one study reported that "open disclosure about adverse events was not routine within organizations and shared between staff members" (Ullstrom et al., 2014, p. 329). This blame culture leads to underreporting of errors in health care; unfortunately, it is also the case that those teams that most need improvement are least likely to surface errors (Edmondson, 2004). Khatri et al. (2009) note that leadership is aware of less than 5% of the errors in their system, while front line staff members know about all of them.

In a recent essay, Reason (2011) maintains that unsafe acts are still seldom discussed or shared in health care, which is in stark contrast to other fields such as aviation, for example, where mistakes are similarly critical, but discussed and explored openly. It is well established in the literature that health care has long had a tradition of a culture of silence – or a "curtain of denial and nondisclosure" (Smith and

Forster, 2000, p. 40) – in which errors are at the very least not discussed, and in the extreme are discounted, denied or covered up.

Reason's (2001) theory of the "vulnerable system syndrome" explains the nature of the health care organization and the characteristics within them that prevent openness and learning: he describes three organizational pathologies – blame, denial, and pursuit of financial rather than safety excellence – that interact to make organizations more closed to learning from mistakes and therefore liable to unsafe practice. These organizations target individual error makers at the front lines and fail to question or recognize systemic causes for errors. This punitive mindset is one of the greatest obstacles to progress in patient safety, according to a well-known patient safety expert, Lucien Leape in an interview (Robeznieks, 2006). Health care culture discourages employees from admitting mistakes, thus greatly reducing the number of opportunities to learn from mistakes.

The culture of silence or closing oneself off from others might also be influenced by the norm of "emotional distance" (Robbins & Galperin, 2010, p. 3) that is common in a hospital environment. In one study (Newman,1996), one of the participant physician explains that the practice of medicine, in which one has an ethical obligation to maintain a professional distance between oneself and the patient, tends to drive health professionals away from their own feelings and from getting close to people – which might exacerbate the tendency towards withdrawal when they feel shame.

Organizational pressures. There are a number of organizational issues that inhibit error reporting, including work design and production pressure. Edmondson (2004) explains that, rather than reporting or discussing an error, the way the organization is set up and the priorities within it drive health professionals to find quick fixes and workarounds for problems: "Firstly, health care's emphasis on individual vigilance encourages nurses and other health professionals to take personal responsibility to

solve problems as they arise…Secondly, efficiency is seen as critical in the increasingly cost conscious world of health care" (p. ii). Health professionals are therefore forced to work outside the zones of safe practice because of external system pressures. These workarounds "require tacit agreement among the team to persist with the status quo rather than 'rocking the boat' in the service of a shared goal such as finishing the day's OR patient list" (Espin, Lingard, Baker & Regehr, 2006, p. 166).

With decreasing resources and increasing patient expectations, increasing accountability and scrutiny from regulatory bodies, organizations are being forced to put their best face forward, to rationalize rather than openly discuss mistakes. Organizations might also avoid investigations about close calls, as they see these not as potential mistakes, but as successes (in that they successfully avoided harm).

Hindsight bias. Another factor, hindsight bias or that feeling that one should have known better, might also keep health professionals from speaking up (Berman, 2006; Cook, 2005; Rivard et al., 2006). If we look at a mistake in hindsight, we tend not to differentiate between correlation and causality. Once an outcome from an error has occurred, our judgment is biased; we think that because a cause or reason is obvious after the mistake, it should have been obvious to us before the mistake. In other words, hindsight bias makes us believe that events that have happened were potentially foreseeable – and if they happened, it is because we failed to live up to our standard, leading us directly back to shame and silence.

Team dynamics. Espin et al. (2006) maintain that we need to be examining patient safety issues from the point of view of the microsystems of the health professional team. The following are some of the factors within an interprofessional health care team that might inhibit openness, and infuse the ecosystem with shame:

- interprofessional differences;

- shifting of teams;
- hierarchy of teams; and
- hidden curriculum.

This section elaborates on the importance of this microsystem, and Figure 5 positions it within the overall ecosystem.

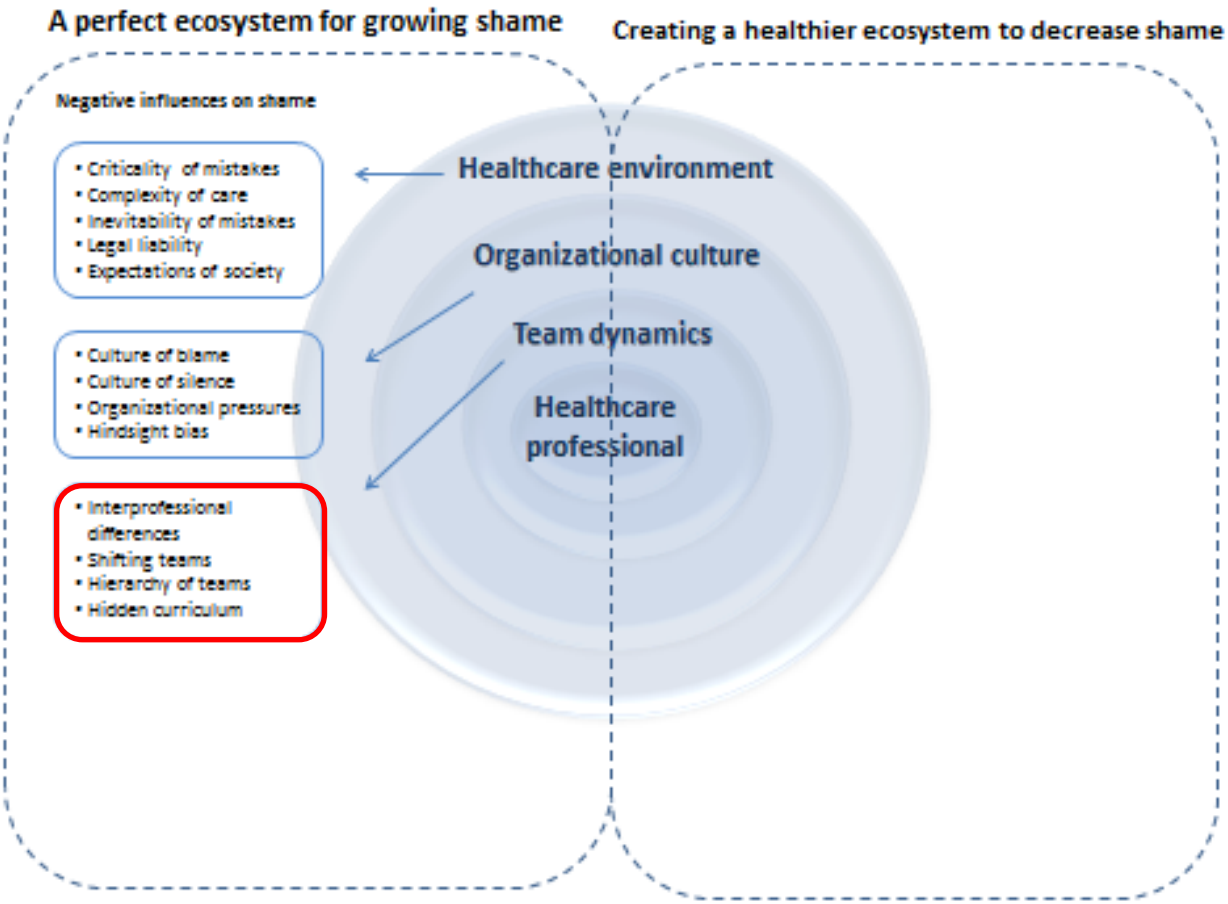

Figure 5. Factors that contribute to shame at the team level

Interprofessional differences. One of the key challenges to openness and trust within an interprofessional team is related to professional differences between disciplines that hinders effective teamwork. The abundance of patient safety literature generated over the past few years on teamwork and

communication (as described, for example, in a literature review by Lo, 2011) and, more recently, on interprofessional education (Anderson, Thorpe, Heney & Petersen, 2009; Brock et al., 2013; Canadian Interprofessional Health Collaborative, 2010; Kearney et al., 2010; King & Anderson, 2012; Thompson & Tilden, 2009), is evidence that interprofessional relations are recognized as a key element to improving patient safety.

Edmondson (2004b) explains the impact of cross-boundary teamwork with a focus on the social affective and unconscious influences on groups and members: "when members of a work team communicate across tacit boundaries imposed by rank or identity group, this can inhibit the transfer of valid data. Along these lines, nurses and physicians working as part of the same team (hospital unit) face identity group boundaries confounded with status differences that can affect within-team communication" (p. 71). These boundaries also contribute to an interprofessional etiquette of 'knowing one's place,' where health professionals only formally report events they deem to be in their narrow scope of expertise or practice; this informal etiquette prevents one discipline from judging or discussing errors with another. One study tells of a nurse who explains why she is reluctant to discuss errors with a surgeon: "You're overstepping…it's not your discipline of practice" (Espin et al., 2006, p. 168).

Health professionals have preconceived maps of their roles within a team based on their learned culture, beliefs and cognitive approaches; this results in poor understanding of each other's roles, and causes conflict and ineffectiveness within the team (Espin et al., 2006; Hall & Weaver, 2001). Fitzsimmons and White (1997) explain these boundary differences with concrete examples:

> The professional differences exist as a product of training and philosophical approaches underpinning the relevant professions. The nursing profession (Wiles and Robinson, 1994) views health through preventive care, community nurses extending this approach holistically to the individual, their families and their environment. Doctors (Pratt, 1995) tend to focus on the

> treatment of illness to achieve health. Social workers (Birchall and Hallett, 1996) are primarily concerned with behaviour and any threat this might pose to the health of an individual or society.
>
> In addition to these differences in perspectives, there is also a tension in the various approaches to delivery. Doctors are 'patient oriented,' responding to a problem presented to them by individual patients. Community nurses could be described as 'circumstance oriented,' responding by circumstances and their potential for causing future health risks. Social workers are 'crisis oriented,' reacting to an immediate threat or the damage incurred as a result of a specific incident. These different orientations may manifest themselves in several ways but lead to frictions that can breed hostility and prevent effective teamwork. (p. 96-97)

Shifting of teams. One of the other main challenges to creating a team culture of trust and openness is the constant shifting of the members within an interprofessional team. Research shows that familiarity among group members can reduce the tendency to suppress communications about errors or problems (Edmondson, 1999); this familiarity is difficult to achieve when teams are constantly changing as they do in health care. Edmondson (2012) explains health care teams in terms of her construct of teaming: these are situations where teams are always changing and thus complex and uncertain, in that they are filled with unexpected events that require decisions and changes in course. In these situations, team members who serve different functions on the team – and who have their own specific expertise, values, norms and language – will come into conflict. And because the work relationships are temporary, it is neither efficient nor sometimes even possible to invest the time into understanding or getting used to new colleagues' work styles, strengths, and weaknesses. Edmondson uses the example of emergency rooms to explain this temporary co-location:

> In this setting, physicians, nurses, and technicians with constantly varying schedules depend on one another to make good patient care decisions and execute them flawlessly in real time. More

> often than not, people scheduled on the same shift do not have long-standing work relationships and may not even know one another's names. (p. 77)

Hierarchy of teams. Another barrier to openness is the tendency not to question the physician's decisions or opinions. Although the hierarchy of decision making, with the physician often being the person most responsible for the ultimate decision, can be effective and sometimes necessary during certain operations and task, it can also be an obstacle to openness and safety. According to Perry (2006), patient safety is compromised "by the omnipresent belief that the physician's area of interest is the central and only relevant source of information" (p. 849). Vogus et al. (2010) also maintains that physicians' tendencies to maintain control and discretion over their work is one of the main culprits to safety improvement.

Within teams, the shared perceptions about the consequences of making mistakes also influence whether or not errors are discussed. As explained by Edmondson (2004):

> The ways past errors have been handled are noticed, and conclusions are drawn, which then are strengthened by ongoing conversations among unit members. In this way, perceptions may become reality, as the perception that something is not discussable leads to avoidance of such discussions. These kinds of perceptions, when shared, contribute to a climate of fear or of openness, which can be self-reinforcing, and which further influences the ability and willingness to identify and discuss mistakes and problems. These climates are characterized in part by the nature of relationships within and between professional identity groups. (p. 86)

The hidden curriculum. There is a recognized phenomenon in health care practice that is called the "hidden curriculum" or that set of influences or implicit messages about values and practices that individuals are exposed to at the institution and culture level through everyday habits and interactions (Hafferty, 1998; Liao, Thomas & Bell, 2014). The hidden curriculum is often in conflict with the way

students are taught in the academic setting, and also often sends the message that nobody should talk about mistakes (May & Plews-Ogan, 2012). The hidden curriculum has a particularly negative effect on students, trainees or newer employees, who often realize that how they were trained is "not the way we do things around here." As a result, the team culture can be disrespectful towards the students, who can quickly become assimilated in order to feel they belong to the team (Liao, Thomas & Bell, 2014; Tregunno, Ginsburg, Clarke & Norton, 2013).

The health professional. There is ample evidence in the literature of the emotional and behavioural impact of errors on health professionals, which contribute to their tendencies to feel shame. The factors that influence shame at an individual level include:

- perfectionism;
- emotional reaction to shame;
- behavioural reaction to shame; and
- presumption of control over outcomes.

Figure 6 completes the picture of the ecosystem that grows shame by illustrating these five elements at the individual level.

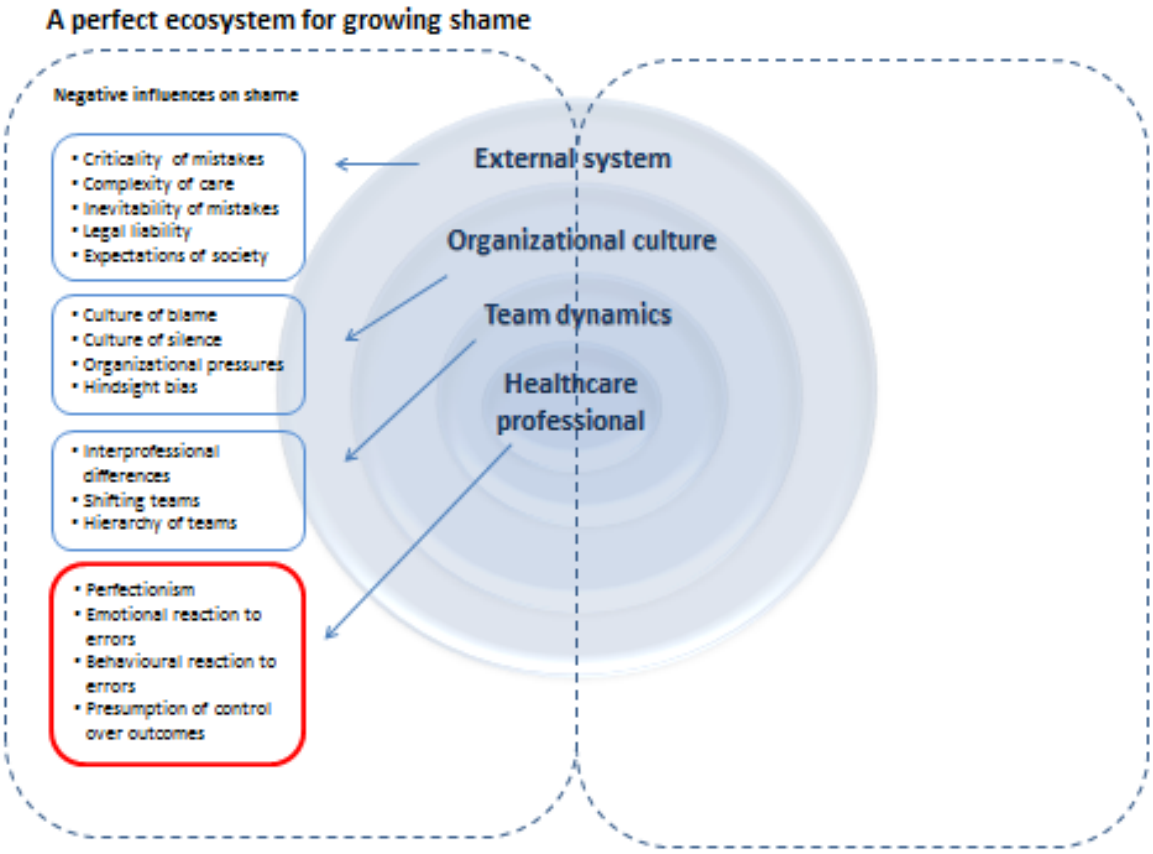

Figure 6. Factors that influence shame at an individual level

I noted at the end of the section on the emotion of shame that the effects from the emotion of shame are magnified when an individual's standards are:

- unreasonably high;
- central to their definition of themselves; and
- related to their profession.

This section will also show how these are particularly relevant to health professionals.

Perfectionism. The Hippocratic Oath "first do no harm" is reflected in the ethics of health professionals, so that the expectation is that as a health professional, you will never harm a patient, whether deliberately or by mistake. Brown (2012) uses a surgical metaphor to emphasize how

perfectionism is instilled in health professionals: “when they teach surgeons how to suture, they also teach them to stitch their self-worth to being all powerful.”

Health professionals are in the business of healing, and doing harm is the antithesis of what they aim to achieve; the work of a health professional is often referred to as a vocation or a calling, rather than just a job (Rathert, Ishqaidef & May,2009; Reason, 2011). This “yoke of perfection” (Hilfiker, 1984) has been recognized for many years. In their study of self-efficacy, perfectionism and stress in Canadian nurses, O’Brien and Page (1994) define perfectionism as an over concern about avoiding errors and an equal over concern with achieving unrealistically high standards. It is well documented that health professionals set a very high standard for themselves and their performance on the job (Berman, 2006; O’Brien & Page, 1994; Peters & King, 2012; Vincent, 2010). In fact, it has been said that health professionals “are raised in a culture of trained perfectibility” (Reason, 2011, p. ix) where the expectation is that, once trained, health professionals will be perfect in all the work they do. Health professionals themselves foster this culture of perfectionism, and have a personal sense of responsibility for making sure the care they give is perfect; they strive not for mediocrity, but for the highest standard of flawlessness. Dekker (2013) maintains that fallibility is a foreign concept in health professional training and culture. Hilfiker (1994) recognized this some 30 years ago: “Most people – doctors and patients alike – harbor deep within themselves the expectation that the physician will be perfect. No one seems prepared to accept the simple fact of life that physicians, like anyone else, will make mistakes” (p. 119). One author goes as far as to suggest that health professionals can use perfection as a benchmark, as though it is an achievable goal (Buerhaus, 2007).

Although perfectionism can have positive effects – in that it drives people to higher standards – it can also be detrimental. Maladaptive perfectionism has three key attributes: setting unrealistically high standards for oneself; directing high expectations towards others; and feeling that others expect too much

of you (Taylor et al., 2002). Peters and King (2012) list the early warning signs of unhealthy perfectionism in health care:

> all-or-nothing thinking ("no one understands how important this is"); failure to delegate ("no one will do it as well as I can"); inability to forgive oneself or others for small mistakes; procrastination to avoid the possibility of an error; dissatisfaction with success; and a continual striving for yet more achievement without praising others. (p. e1674)

In an environment where there is constant pressure to do more work, do it faster, and with fewer resources – all factors that are counterintuitive to a health professional's perfectionist tendency (Peters & King, 2012) – it is obvious what a struggle it must be for a health professional to strive for perfection.

It is possible that this tendency for perfectionism may be less pervasive with the newer generation of health professionals. Nursing literature in particular alludes to the differences in values between generations of nurses (Leduc & Kotzer, 2009; Hendricks & Cope, 2012) such as how they communicate and their perceptions of work and work-life balance. However, whether these differences impact perfectionism has not been established and requires further research.

Emotional reaction to errors. Health professionals tend to have extreme reactions to mistakes. Smith and Forster (2000) list shame, humiliation, agony, anguish, devastation, panic, guilt, remorse sadness, anger, self-doubt and self-blame as some of the effects of errors on health professionals. Christensen et al. (1992) use the words dysphoric, agony and anguish to describe what they found to be the emotional impact of errors on physicians. In the words of the participants of their study: "I was really shaken. My whole feelings of self-worth and abilities were basically profoundly shaken" and "I was just appalled and devastated that I had done this to somebody" (p. 426).

A survey of 3171 physicians in Canada and the United States undertaken by Waterman et al. (2007) assessed the impact of medical errors on physicians, and found that it was substantial; errors in

which respondent physicians had been involved affected them in ways such as their job satisfaction, confidence in their ability as physicians, professional reputation, anxiety about the potential for future errors, or ability to sleep.

Confirming this view, one of the participants in a study done by Christensen et al. (1992) reflects on his mistakes: "It is a crime. I'm not sure why or how it gets translated that way, but it is. Medicine has always had this very high ethical standard and to fail that standard is to be guilty" (p. 424). As a result of their study, the authors conclude that a discussion about the emotional impact of mistakes is "equivalent to a descent into the underworld of medicine. It is a journey into a place of shame, fear, and isolation" (p. 430).

These emotions begin early on in a health professional's career, as revealed by the research of Lindström et al. (2011) on medical students' experience of shame. They noted that in the students' reflections about shame experiences, they often used words such as embarrassment, neglect, humiliation and disgrace, as well as terms of negation such as insufficient, insensitive, uncomfortable, unwarranted, unprofessional and unpleasant to describe their performance. The following are some of the direct quotes describing the emotional feelings – some even affecting them physically – after making an error (Lindström et al., 2011, p. 1019):

"I wanted the ground to open up and swallow me."

"I felt sick."

"I was totally speechless."

"I could hardly breathe."

"Everything turned black."

Lindström et al.'s (2011) study also revealed that the emotion stayed with the students for long periods of time. Many students describe emotional and physical symptoms that returned any time they

recalled the shame. For example, one student commented "I willingly admit that, though more than 6 months have passed, I feel an icy lump in my stomach when I write down the memories" (p. 1019).

There have also been studies related to feelings of shame in the nursing profession, once again with a focus on students. Kaya et al. (2012) measured shame proneness in nursing and midwifery students, and found that they experienced high levels of shame. In their exploration of shame and humiliation in emergency departments framed with a case study, Sanders, Pattison and Hurwitz (2011) found that shame can have a "disintegrating effect" (p. 84) on nurses' personal and professional integrity. In the case study that framed their discourse, the authors compared the nurse's experience with shame as a "miasma of uncontrolled vulnerability" (p. 91).

The literature search did not uncover any studies of the effect of shame on pharmacists, but considering that they work in the same environment of complexity of care, criticality and inevitability of mistakes, and the same organizational cultures, we can expect that studies of pharmacists might lead to similar conclusions. In fact, there has been recent attention in the media regarding medication mistakes which highlighted the effect of these mistakes on pharmacists (Johnson, 2015).

Most of the literature uncovered about emotional reactions to mistakes in health care were descriptive in nature, and providing recommendations for how to help health professionals cope after a mistake, rather than providing a theoretical understanding of the process, which this study aims to do. Mizrahi's (1984) study did explore medical students' reactions to mistakes, and divided them into three types of defense: denial, discounting and distancing. Crigger and Meek (2007) undertook a study using some grounded theory techniques with 10 participants on the process nurses went through after a mistake. The study did not focus on shame, but did focus on the emotional impact of mistakes and how the nurses reconciled themselves following a mistake. The theoretical framework they developed also did not take

into account the interactions with others, but rather focused on self-reconciliation. This early research proved useful in validating components of my grounded theory (see Findings and Analysis).

Second victim. There is a growing body of literature on what was coined by Albert Wu (2000) as the "second victim," and fully explored by Sydney Dekker in his book entitled "Second Victim: Error, Guilt, Trauma, and Resilience" (Dekker, 2013). The first victim is the patient who was harmed, while the second victim is the health professional who is traumatized by the event, as explained by Dekker (2013):

> The first victim is confronted with sheer randomness—why me? Why this time? He or she is a passive recipient. The second victim is confronted with high specificity, with the consequences of his or her own agency. (p. 14)

Although this label has not been widely accepted by health professionals (see Implications section), the discourse in Dekker's 2013 is helpful in understanding some of the deeper emotional reactions experience by health professionals after devastating mistakes.

Behavioural reaction to errors. As discussed above, health professionals feel pressure to be perfect in a situation where it is impossible to do so. The perceived need to appear infallible is very high in medicine, which is why health professionals are driven to hide any imperfections so as to maintain their professional image of infallibility (Bond, 2009; Edmondson, 1999; Newman, 1996; O'Brien & Page, 1994; Parent Bancroft, 2007;). As noted by Berman (2006): "To hide mistakes is a natural human impulse. To err may be human, but to feign infallibility is unfortunately human as well" (p. 127).

Asking for help, admitting errors or needing advice are all behaviours that are seen as risky to someone who is trying to appear infallible. These tendencies inhibit learning and the benefits that come from collaborative decision making and team communications. In extreme situations, a health professional's need to satisfy professional and cultural expectations of perfectionism could lead to

breaches in integrity, concealing information, delaying sharing information, record changing, and other forms of dishonesty (Taft, 2005).

Of course, individuals are not blank slates – "they bring prior experiences, professional and personal attitudes, and preexisting beliefs and assumptions about the world and about themselves to the event" (Dekker, 2013, p. 25). But generally, when we feel shame, we want to withdraw from those around us, acknowledging that we are somehow suddenly outside the moral community. For some, the only way to regain entrance into that moral community is by doing so 'kicking and screaming' or by becoming enraged and pushing their horrible feelings onto others, or attacking others to shift the blame. In explaining health professionals' reaction to mistakes, Dekker (2011) explains their withdrawal or dismissal of mistakes as rationalizations or normalizations of deviance. From what we understand about shame, these reactions – trying to dismiss mistakes as unavoidable or normal – might also be the result of feeling shame. Another technique a health professional might use to downplay or hide from a mistake is cognitive bias; they will look for any explanation outside of the obvious if it means avoiding being blamed or avoiding shame (Rivard, Rosen & Carroll, 2010).

Presumption of control over outcomes. As a final note on what the health professional him/herself contributes to the ecosystem of shame, Dekker (2005) notes that one of the reasons mistakes affect a health professional so much is that they presume they have full control over the outcomes for their patients when, in fact, mistakes are a regular part of doing normal work. He quotes Vaughan (1996) to emphasize his point: "Mistake, mishap and disaster are socially organized and systematically produced by social structures; …embedded in the banality of organizational life" (p. xiv).

This section has explored why the health care environment is a perfect ecosystem for growing shame when a mistake is introduced, whether at the level of a system, organizational, team or individual. Health professionals are immersed in a highly complex environment where mistakes are inevitable, yet

they are expected to be perfect and never make a mistake. They are constantly under pressure to do better, faster and with fewer resources, all the while threatened with blame and potential lawsuits if things go wrong. They work with constantly changing interprofessional teams, a situation that brings with it many challenges to teamwork and communications. Their expectations for themselves are extremely high, and any mistake is a failure, a blight on their standard of perfection. It is no wonder that shame plays a big part in health care culture.

The next section of this literature review will explore what is being done at these various levels to create an environment that might be more conducive to openness and trust rather than shame and blame.

Creating a Healthier Ecosystem to Decrease Shame

One of the key assumptions in much of the literature on patient safety is that, to improve safety, health professionals need to be able to speak openly about mistakes, as explained by Smith and Forster (2000):

> A guiding premise for our ideas and proposals is that mistakes in medicine must be 'let out of the closet.' We believe that a generalized practice of open discussion and disclosure about mistakes will lead to better patient outcomes, increased trust within patient–professional relationships, improved professional morale, improved health care delivery systems, fewer lawsuits, and a more realistic view of medicine's capabilities and limitations. (p. 39)

In a psychologically safe environment, where openness, trust and respect are nurtured, negative or disordered shame is less likely to thrive. To improve patient safety, we must pay attention to psychological issues, and shame in particular, that inhibit the reporting of mistakes.

There are a number of perspectives on how to achieve this openness and build a healthier ecosystem where shame is not such a pervasive issue. I will explore these once again from the point of

view of the four levels of the health care environment: the external system, the organization, the health care team and the individual.

The external system. Those factors that influence shame in the health care system – the criticality and complexity of care, the inevitability of mistakes and legal liability – are not likely to ever change significantly. However, the patient safety movement that has grown since the early 1990s and that started in earnest in Canada with the release of the Baker and Norton study (2004) might mitigate some of these factors. Also, the inclusion of patients in their health care is slowly making a difference to their safety (Emanuel et al., 2011).This section will provide a brief overview of the following influences at a system level:

- patient safety movement; and
- patient engagement.

Figure 7 begins to build the right side of the diagram, showing at each level of the system what is being done to reduce the impact of mistakes on health professionals. The following section elaborates on the system level influences.

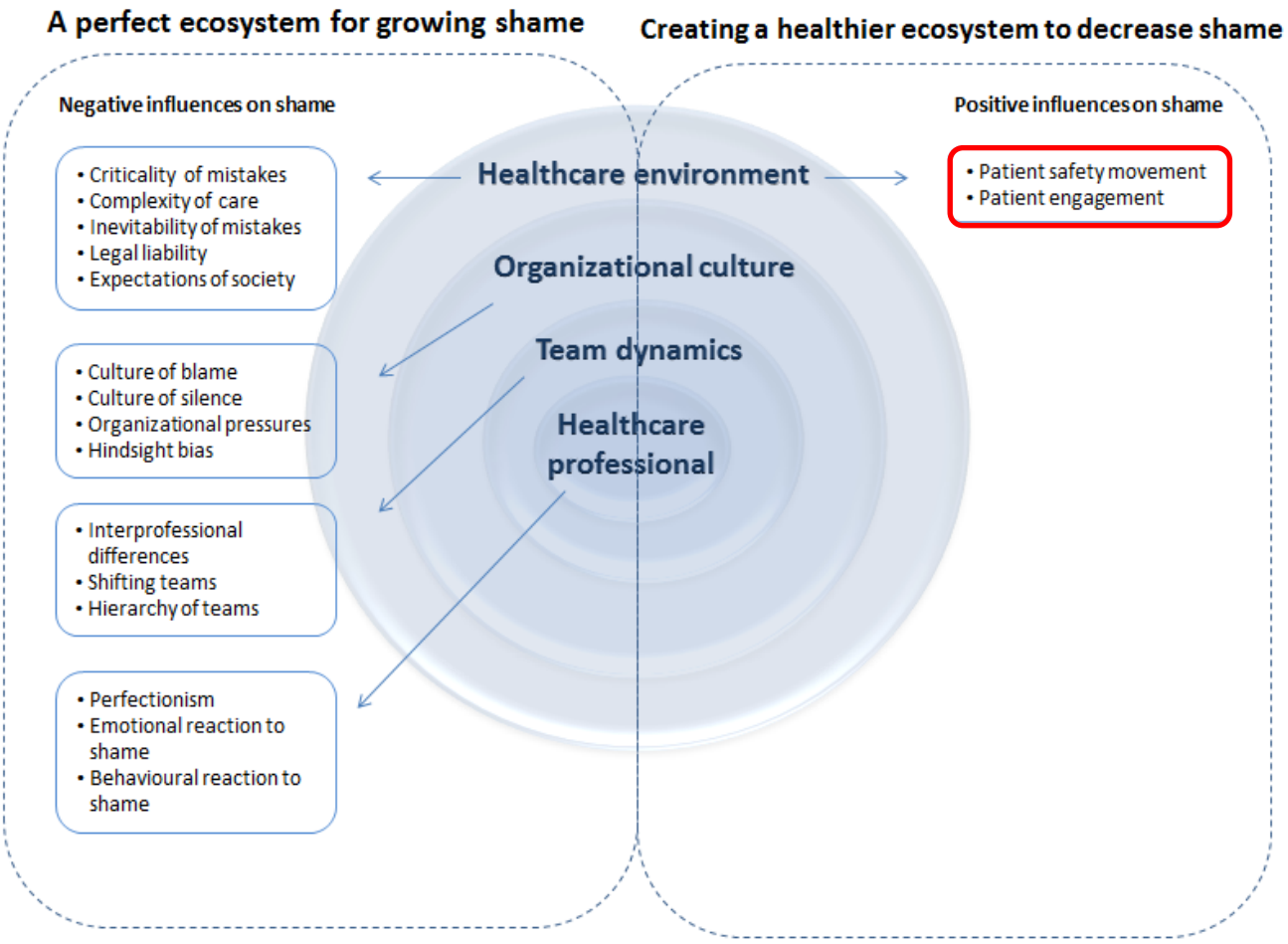

Figure 7. Positive influences on shame at the system level

Patient safety movement. In Canada, the National Steering Committee on Patient Safety was formed in 2001 to begin to address the issue of patient safety. Their report, entitled *Building a safer system: A national integrated strategy for improving patient safety in Canadian health care*, was released in 2002, and included a number of recommendations to advance patient safety in our health care system. These recommendations fell into one of five groups:

1. Establish a Canadian Patient Safety Institute (CPSI) to facilitate a national integrated strategy for improving patient safety: The CPSI was indeed established in 2003, and its priorities include

building a national integrated patient safety strategy and implementing system changes through education, research and partnerships.

2. Improve legal and regulatory processes: This recommendation involved finding ways to encourage non-punitive reporting, appropriate accountability, and a focus on improvement through education rather than blame and punishment in legal, regulatory and human resource processes.
3. Improve measurement and evaluation processes: This was aimed at identifying ways to monitor patient safety incidents through reporting, specific indicators, targeted funding for patient safety research and information technology infrastructures that support identification, reporting and tracking of patient safety data.
4. Establish educational and professional development programs: A number of educational programs have since been implemented through the CPSI, including the Patient Safety Education Program – Canada (PSEP-Canada) and the Patient Safety Officer Course (PSOC). The CPSI has also developed safety competencies that identify the knowledge, skills and attitudes required by all health professionals to make patient care safer. Graduate degree programs have been initiated recently in Canada (at the University of Toronto and Queen's University, for example) and patient safety as a topic is gradually being incorporated into the curriculum in health sciences.
5. Improve information and communication processes: This recommendation aims to encourage organizations and researchers to make available to the public the reports on measures of health care safety, educational materials and other patient safety resources.

The discipline of patient safety is still a relatively new one within health care professions, and crosses a number of disciplines including health administration, cognitive psychology, human factors engineering and organizational behaviour and management. It is very difficult to measure the impact of

the patient safety movement on the safety of patients, due to the varying methods for gathering information. This variability is influenced by how and who determines that someone has been harmed by a mistake, and the fact that many mistakes are simply not recognized or reported. However, it is clear that the patient safety movement has made major strides in raising awareness of patient safety, and stimulated a large body of educational resources and research. It has also spawned a number of patient safety oriented organizations, such as provincial health quality councils, the Institute for Safe Medication Practices, the University of Toronto Centre for Patient Safety and the Queen's Joanna Briggs Collaboration for Patient Safety. Leape (2008) acknowledges that improvements to patient safety are "frustratingly slow and halting" (p. 8), but that promising initiatives have been launched that are reducing mistakes and harm to patients.

Patient engagement. One of the other recent influences on health system improvement is the acknowledgement by the health profession that patients are an integral member of the health care team and can help with managing systemic risk (Emanuel et al., 2011). More and more, there is an effort on the part of health professionals to engage patients in their care by being open to their questions and suggestions, by being transparent about risks and by disclosing to them any mistakes that may or may not have harmed them. In the past few years, the legal regulatory bodies have loosened their resistance to the disclosure of adverse events, acknowledging that patients may be less likely to initiate legal action if they believe health professionals are being open and honest. Further, recent legislation in most provinces expressly prevents apologies from being considered an admission of legal liability (Canadian Patient Safety Institute, 2011).

There are newly formed national organizations representing patients concerned with patient safety, including Patients for Patient Safety Canada, and the Patient's Association of Canada. Originally

primarily concerned with supporting victims' rights, these organizations are now more focused on risk prevention activities (Emanuel et al., 2011).

Organizational culture. Many organizations have embraced a strategy of patient safety, and adopt approaches that are intended to foster the openness and psychological safety required to decrease individuals' shame around mistakes that occur in health care. The following are said to be some of the positive influences on shame at an organizational level:

- just culture of safety;
- the systems view; and
- human factors engineering.

Figure 8 continues to build on the positive influences on shame, and this section examines the organizational influences more closely.

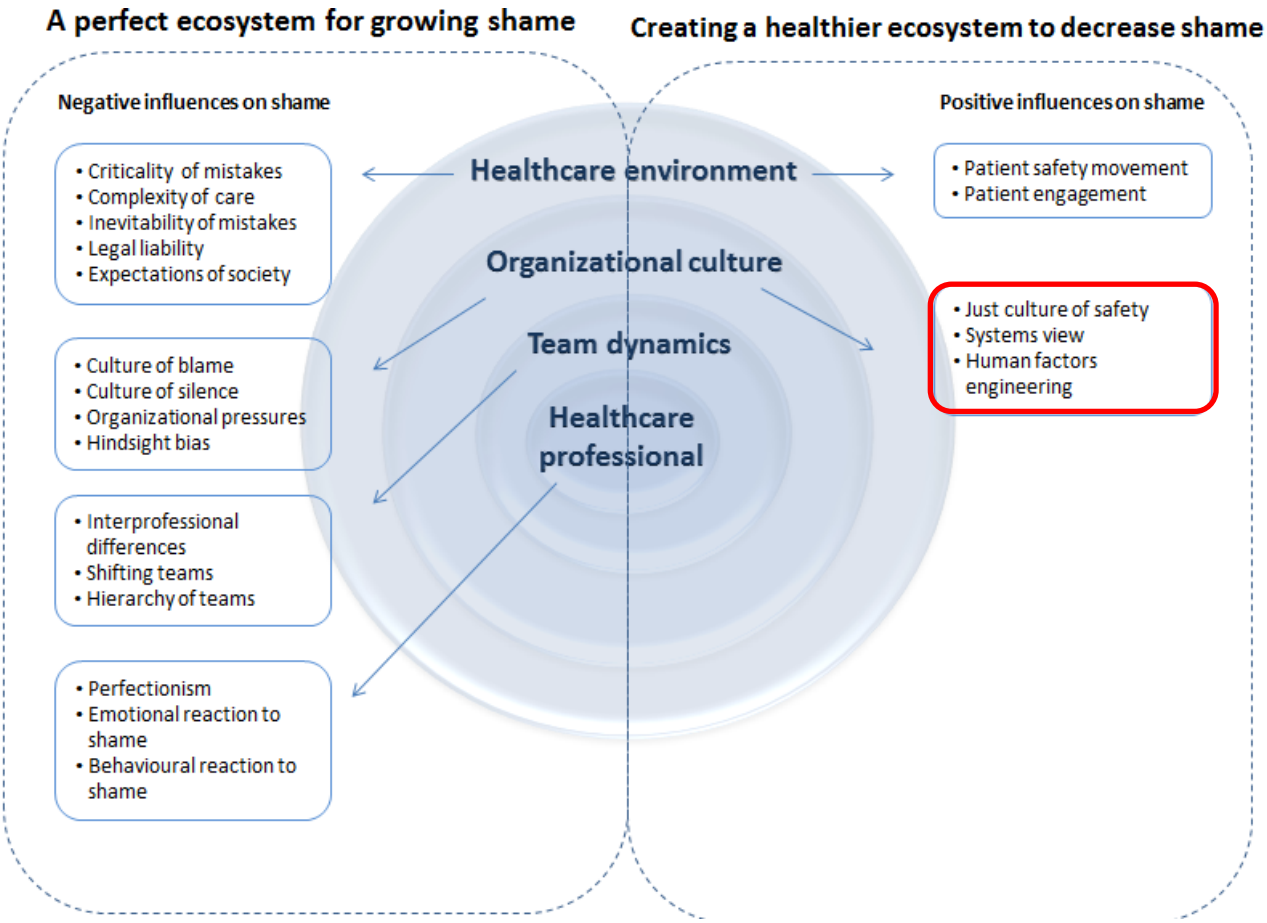

Figure 8. Positive influence on shame at the organizational level

Just culture of safety. The movement towards a just culture of safety as an antidote to the 'shame and blame' environment began in the 1990s, building on work by such experts as James Reason and Sydney Dekker (2007). Reason (1997) defined a just culture as: "An atmosphere of trust in which people are encouraged (even rewarded) for providing essential safety-related information, but in which they are also clear about where the line must be drawn between acceptable and unacceptable behaviour" (p. 13).

In a just culture, people should feel comfortable discussing their ideas about how to improve their work or practice with those who have the authority to make changes. In health care, a just culture of safety is the aim of a patient safety-conscious organization, where everyone shares the same commitment to learn from mistakes and close calls and to make improvements to the organization or team that

ultimately improve the outcome for patients. In the idealized definition of this culture, health professionals are never hesitant to speak up, especially when it comes to the well-being of a patient, and everyone is highly confident that their concern will be heard, be respected and be acted upon (Conway et al., 2011). Communications among team members, in a positive safety culture, are founded on mutual trust, shared perceptions of the importance of safety, and a belief that preventive approaches are effective. The following are 10 dimensions of a patient safety culture as defined by the Agency for Health care Research and Quality (AHRQ) (Powell, 2005, p. 211):

1. Supervisor/manager expectations and actions promoting patient safety
2. Organizational learning—Continuous improvement
3. Teamwork within units
4. Communication openness
5. Feedback and communication about error
6. Non-punitive response to error
7. Adequate and appropriate staffing
8. Hospital management support for patient safety
9. Teamwork across hospital units
10. A focus on hospital handoffs and transitions, where many of the mistakes occur

How to achieve a safety culture. At the organizational level, it is important that leaders create a culture where people feel free to discuss how to improve safety, and where errors are attributed most often to the system rather than the individual.

Khatri et al. (2009) emphasize that, to move from a blame culture to a just culture, health care organizations need to move away from an overly compliance-driven, regulated management system to one that encourages employee participation and involvement in decision-making. One of the common

reactions to errors in an organization is to tighten procedures, but according to Dekker (2003), "increasing the pressure to comply increases the probability of failures to adapt" (p. 236) and employees need to be able to learn to adapt procedures to particular circumstances. They need to develop their own judgment skills, and have the opportunity to take risks, which is how they increase their own awareness of the 'bigger picture' about the goals and constraints of complex situations, and how they learn to plan for the unexpected (Dekker, 2003).

Another key factor in creating a just culture is for management to acknowledge the expertise of staff members who are closest to the work; these are the health professionals who are in the best position to understand the process, recognize issues or concerns, and come up with creative ideas to solve problems and suggest improvements. Runy (2002) explains this approach as "reciprocal accountability" where the leaders and managers of an organization trust that staff will identify safety concerns, and that, reciprocally, staff trust that leaders and managers will listen and follow up on their concerns.

If managers are to hear from those on the front line, they not only have to convince staff that they are not at risk (of embarrassment, criticism or losing their job, for example), but they also have to convince them that they are not wasting their time. In other words, organizations must have a process in place that ensures feedback and suggestions are followed through, so that employees feel their opinions are valued and their efforts worthwhile. This is not always the case in health care organizations, where ideas for improvement do not always come to fruition; as noted by Dekker (2011): "the enthusiasm with which we encourage people to report is seldom matched by our ability to do anything meaningful with the reports" (p.33).

Organizations can also create openness about mistakes by avoiding language that could be threatening, such as using the word "analysis" instead of "investigation." For example, Morath and Leary (2004), give examples of how the language used to discuss mistakes can have an impact on how safe an

employee feels. The authors suggest using new language such as “examination” rather than “investigation” or asking “what happened?” rather than “who is to blame?”

Another tool organizations might use to help employees be open about patient safety is using an anonymous reporting system. Although there is a danger than anonymity may send the message that reporting errors is risky, it might also allow team members to avoid retribution, to communicate about sensitive topics, and interact openly. Although the literature is not clear on the merits of anonymity, some studies have shown that providing an anonymous channel for reporting errors increases the number of reports filed (Lazarus, 2011; Wu, 2011).

Vogus et al. (2010) expand on a number of methods that promote safety culture including the following:

- Orderly challenging: encouraging staff to provide constructive feedback in the moment, which might prevent mistakes or the impact of mistakes that do occur.
- Mindful organizing: where organizations make it clear that staff should be
    - preoccupied with failure, or have an ongoing wariness that encourages them to analyze possible vulnerabilities, or as otherwise stated by Rivard et al. (2010, p. 1637), to “actively imagine possible future failures;”
    - reluctant to simplify interpretations by actively seeking divergent viewpoints;
    - sensitive to operations, or keeping in mind the ‘big picture’ of operations by being constantly aware of new information; and
    - deferent to expertise, so that those with the greatest expertise to handle a situation make the decisions, regardless of formal rank. Christianson (2012) maintains that deference to expertise moves decision making to the front-line, and guards against blind spots.

- Relational coordination: where caregivers work smoothly across different functions, within a situation where there is high interdependence, uncertainty and time constraints.
- Rigorously reflecting on safety outcomes: where staff members participate in after-event reviews, or guided investigations that encourage learning from both failures and successes. (Although this is supposed to happen during mortality and morbidity (M&M) rounds, according to Vogus et al. (2010), these have been ineffective vehicles for improving patient safety, as they reinforce shame and blame, individual accountability and individual workarounds.)

The systems view. More often than not, patient safety incidents are the result of what is called system errors – where a number of cracks in the system happen in a sequence, where checks and balances are not in the right place if they exist at all, and where the outcome of a number of steps in the process is that a patient is harmed or almost harmed.

James Reason (1990) popularized the systems view of accidents through his 'swiss cheese' model, which is a metaphor for showing how hazards, on the one end, cause losses or harm on the other end. Each slice of cheese represents a barrier that could prevent the hazard from reaching the patient, but there are holes in the barriers at random places that sometimes let the hazard through. When all of these holes are aligned – or when a series of unfortunate breakdowns occur – the hazard reaches the patient and harm occurs. The model was meant to emphasize that the reason for harm is often the health care system or simply randomness, not the individual or their deliberate actions.

In other words, if an organization considers errors from a systems point of view, it accepts that mistakes will happen and that it is not always the fault of one individual. In analysing an incident, the organization considers the complexity of the system, including the characteristics of the workplace, the

work environment, the pressures and the difficulties experienced by the workers. Ideally, the investigation considers all of the possible factors related to the incident.

Cook and O'Connor (2005) explain that accidents or mistakes are "signals sent from deep within a system about the sorts of vulnerability and potential for disaster that lie within" (pp. 84-85). The authors maintain that organizations therefore need to ask *how* an accident happened, not *why*, using questions such as:

- How did the conditions that permitted the accident arise?
- How did the people involved with the accident recognize the potential for it?
- How did they react to it once it began to evolve?
- How did incentive in the world lead the system to march toward, rather than away from, disaster?
- How did the workers recognize that disaster was brewing, and how did they know what actions needed to be taken to avert it? (Cook & O'Connor, 2005, p.83)

Organizational leaders can nurture a systems view by recognizing that mistakes are usually about the process, not the people, and they need to convince staff that this is what they believe. Leaders must also start with the assumption that staff members do not intentionally make mistakes or aim for poor outcomes. Lowe (2006) confirms this view when he states that we need to "start viewing current errors as results of the latent conditions of the system where the health care providers are merely inheritors not instigators of those errors" (p. i73).

Reason (2008) gives an example of when employees were such inheritors of errors, and adds that people sometimes must deliberately violate procedures in order to accomplish a task. He uses the example of the Chernobyl disaster to demonstrate:

> The power plant operators were caught in a system double bind. They were given a task that was not only beyond their experience and competence, but which made violations inevitable. Some of these were written into the plan – disconnecting the emergency core cooling system, for example – others were necessary to allow the electrical engineers from Moscow the opportunity of repeated testing: uncoupling the steam drum and the turbine automatic safety systems. As in many other disasters, the unfortunate operators were the inheritors of a complex series of failures in the system at large. If we are to understand the nature of violations, we have to look beyond the actions of the people on the spot and examine the weaknesses in the total system. (p. 50)

The "people on the spot" in health care are those at what is called the 'sharp end' of the health care system, or those in the front lines who ultimately provide the care to the patients – those who are often blamed for mistakes that were set in motion long before they gave the patient the wrong medications, operated on the wrong limb or made an incorrect diagnosis.

Human factors engineering. Human factors engineering (HFE) is one method to help organizations develop systems thinking. HFE is based on the idea that systems within environments such as hospitals must be designed based on human performance and safety rather than making humans adapt to a potentially unsafe system. The tools and machines within the systems take into account human factors including their capabilities, limitations and other characteristics (Scanlon, Karsh & Densmore, 2006; Gosbee, 2002).

As an example, a software program was recently developed using HFE principles to reduce medication errors at a paediatric hospital (Ellis et al., 2011). One of the most common errors in paediatrics is medication dosing because those administering the drugs must always calculate the dosage based on weight; weight-based calculations are essential for proper dosing, but complex in paediatric settings where patient weights vary widely. The program automatically calculates the dosage based on

weight, but also gives visual cues to verify the dosage (such as representative picture of what a child at a certain weight would look like) and creates error messages to indicate over and under dosing. These cues and messages compensate for human factors such as inattentiveness, interruptions and distractions.

Team dynamics. As noted earlier, the influence of relationships among team members has been recognized as a key factor in creating a safer and more open environment to improve safety. Within the team environment, there are a number of approaches and tools that have been suggested in the literature to promote a climate where team members feel free to discuss errors or patient safety issues. The following will be discussed in this section:

- team psychological safety; and
- leadership, teamwork and communications interventions.

Figure 9 puts these factors within the context of the healthy ecosystem.

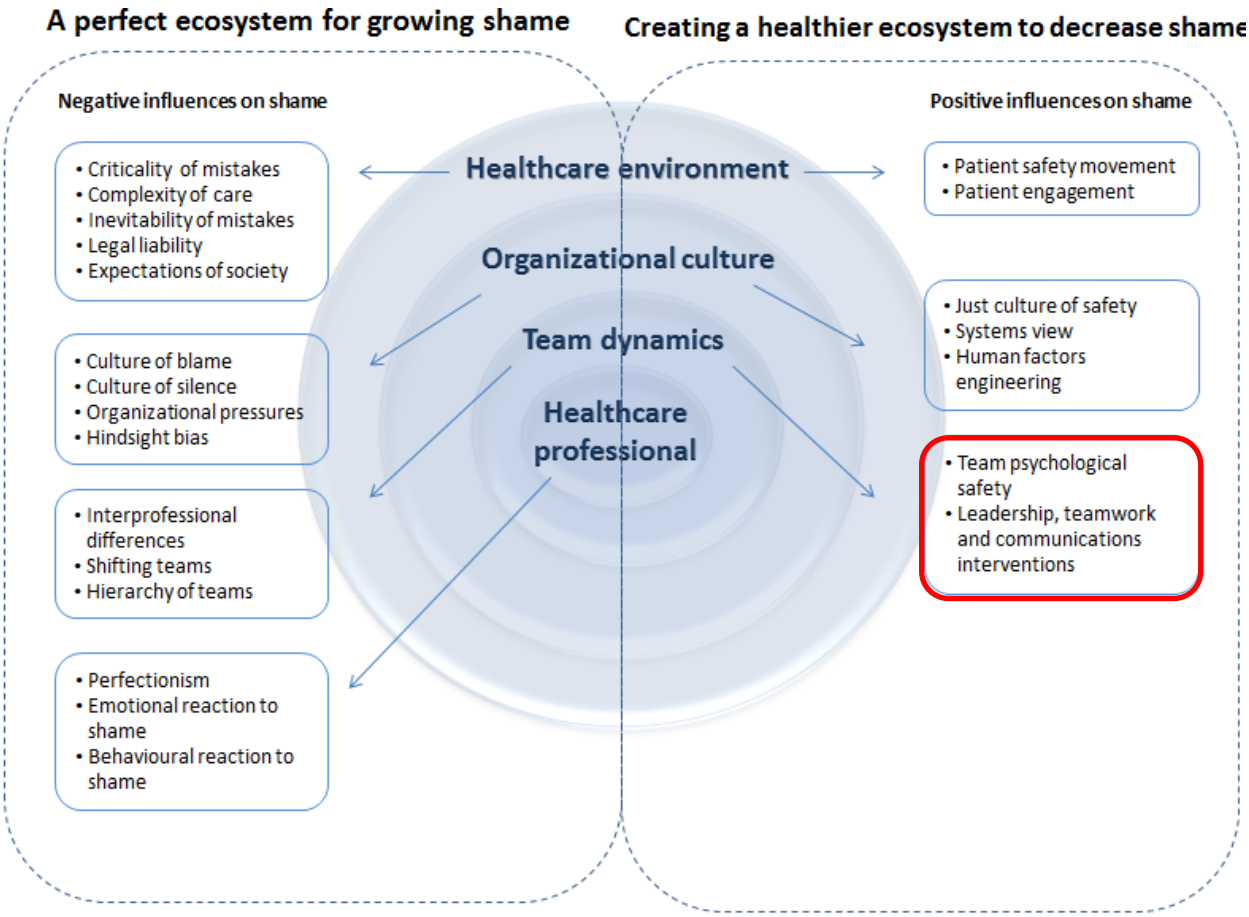

Figure 9. Positive influence on shame in the team environment

Team psychological safety. Psychological safety in a health care organization or team is an environment where individual health professionals are not intimidated by colleagues or supervisors or afraid to speak up when they believe what they have to say will improve patient care or call attention to a potentially dangerous situation. As a result, health care providers are more engaged in their work, more likely to be cognitively vigilant, more empathically connected to their patients, more observant of processes that can be improved, all of which will lead to improved patient safety (Rathert et al., 2009).

Edmondson's extensive work (1999, 2003, 2004a, 2004b, 2011) on psychological safety is premised on the assumption that people are constantly managing the impression people have of them, and

are thus hesitant to behave in ways that could threaten any positive images others hold of them. The four risks to this image are being seen as ignorant, incompetent, negative or disruptive. In a psychologically safe environment, team members do not feel that these are risks; they feel safe to take interpersonally risky learning behaviour, such as help seeking, experimentation and discussion of error (Edmondson, 2003).

It is important to note that psychological safety does not imply a too familiar environment where all individuals are close friends, which distinguishes it from group cohesiveness. With group cohesiveness, members of a team might actually be less willing to disagree and challenge each other's views (Edmondson, 2003). On the other hand, in a psychologically safe team, members have confidence that their colleagues will not embarrass, reject, or punish someone for speaking up. In her study, Edmondson (1999) found that, in a psychologically safe team where members believe others' intentions to be helpful rather than critical, people are more likely to interpret negative feedback as friendly rather than unfriendly.

Whereas it is an organization's role to create a just culture or to view errors from a systems point of view, and a team's role to promote an healthy team climate, it is the individual on a team who has the most influence on creating psychological safety through the ongoing interpersonal interactions among close coworkers: "although words and actions of top management may contribute to perceptions of psychological safety...the most salient influence is the perceptions of those individuals with whom an individual works most closely" (Edmondson, 2003, p. 259).

Leadership, teamwork and communications. One of the key influences to openness is empowering team members to identify patient safety issues. It is important to place responsibility of identifying close calls and hazards to all health professionals, rather than those who are designated responsible for safety. One of the implications of research conducted by McKee, West, Flin, Grant and

Johnston (2010) was that organizations should "release creativity in frontline staff, disperse leadership and enable problem sensing and solving" (p. 5). One example of a solution to empowering staff is the Comprehensive Unit-based Safety Program (CUSP) which health care teams can use to develop a broad patient safety strategy by incorporating concerns and the wisdom of staff members who work directly with patients (Cooper & Makary, 2011).

The literature also emphasizes the need for not only empowering front line staff, but also equalizing the power dynamics within a team. Arford (2005) suggests the following strategies for nurses to foster goal-directed, open, dynamic, patient-centered communication in a team:

1. Unit-based advanced practice nurses to manage interprofessional teams.
2. Development of nurses to enhance competency that is required to empower autonomy.
3. Policies and procedures to equalize power dynamics.
4. Nurse-to-nurse coalitions to increase the centrality of non-productive nurse-physician conflict.
5. Daily behaviours that are reflective of equal valuing of all professionals' contributions to patient care. (p. 76)

Similarly, Powell (2004) calls for team-based medicine, where residents and nurses are encouraged to question the decisions of attending physicians.

Edmondson (2004a) explains how a team member can advance patient safety by being an observant questioner rather than an adaptive conformer. Essentially, observant questioners are not comfortable working around problems; rather, while they might come up with a solution to fix an immediate problem, they will pursue the problem to ensure the next time the situation occurs, the problem does not reoccur. The observant questioner is also not concerned with glossing over others' mistakes; rather, they approach the person who made the mistake for the purpose of helping the other person learn from their mistakes (without blaming and shaming). Observant questioners are also willing

to admit mistakes and share them with others so that everyone can learn from them. Finally, observant questioners are always looking for ways to change for the better, rather than being content with the status quo.

Team leaders can play a major role in creating transparency and trust in a team that will help trigger an important mechanism of mindfulness and an overall heightened awareness of safety issues (Weick & Sutcliffe, 2003). The ideal environment of such transparency and trust can be described as one of continuous quality improvement (CQI), where team members are empowered to observe and evaluate processes and make suggestions about how to improve them without fear of reprisal (Halbesleben & Rathert, 2008).

Conway et al. (2011) offer insights into how team leaders and members can lend support to staff following an event or crisis. They assert that tending to the "complex sorrow" (p. 17) of the staff members who are affected by an event, in the spirit of "never worry alone" (p. 11), will provide much needed support and lead to better insight as to what went wrong.

There is an overwhelming volume of literature on how leaders can improve teamwork and communications, which is too extensive to cover here, but which is thoroughly reviewed in *Teamwork and communication in health care: A literature review* (Lo, 2011). The document covers a number of educational interventions as well as tools and techniques such as:

- briefings and debriefings;
- SBAR (a tool to ensure all the important elements of an transfer are covered, including Situation, Background, Assessment, Recommendation);
- using assertive language to support patient safety;

- using common language agreed upon by all team members to describe critical issues or observations, ensuring consistency and comprehensiveness in communication;
- closing communication loops, or repeating information back and forth between two people until the message is clearly understood;
- active listening;
- callouts (clearly spoken phrases that indicate a phase of a process); and
- DESC (an acronym that stands for Describe the situation, Explain concerns, Suggest alternatives, Consequences stated).

An important contribution to the literature on interprofessional teamwork is the textbook by Reeves, Lewin, Espin and Zwarenstein (2010) which explores "the complex array of elements, factors and issues which affect the ways in which professionals work together" (p. 1) and elaborates theories to contribute to a better understanding and improvement of interprofessional teamwork.

Team members can also play a role in creating a more open and safe environment for talking about mistakes. One of the keys to creating more psychological safety is to support one's colleagues when they have made a mistake. Newman (1996), in his study on the emotional impact of mistakes on physicians, explains that one way to do this is to share our own experiences with mistakes to expose our own vulnerability. One of the most effective ways to have someone open up is to let them know they are not alone in their imperfection. This seems to be the implication in Brown's suggestion for helping others cope with shame (2010a):

> If we're going to find our way back to each other, we have to understand and know empathy, because empathy is the antidote to shame. If you put shame in a Petri dish, it needs three things to grow exponentially: secrecy, silence and judgment. If you put the same amount of shame in a

> Petri dish and douse it with empathy, it can't survive. The two most powerful words when we're in this struggle are 'me too.'

Tucker and Edmondson (2003) boldly suggest that we have to change our view of the ideal employee in a health care team in order to change the psychological dynamics that inhibit change and patient safety improvement. They suggest that ideal employees are not those who can easily handle any problem that comes along on their own, without the help of managers or other, but rather one that is a "noisy complainer" who speaks up when something goes wrong, a "noisy troublemaker" that lets others know when they have made a mistake (with the intent of learning rather than blaming), a "self-aware error-maker" who lets others know when they have made a mistake so that others can learn from the event, and a "disruptive questioner" who won't leave well enough alone (p. 68-69). Although this is a different perspective to consider, Edmondson and Tucker's suggested approach to mistakes is not likely to be taken up by health professionals who are intimidated to speak up because of all of the factors that lead them to feel shame as discussed in this literature review.

The health professional. There are a small number of suggestions, including therapeutic interventions, in the literature on the psychology of shame that might help individuals better cope with and manage shame. There is a lack of literature on dealing with how to cope with shame in health care, however. The following is a limited preliminary review of some suggested interventions, providing the researcher with some orientation to the field of study, without necessarily contaminating the qualitative research itself, for which the theory should be grounded in the data collected. Figure 10 summarizes the main influences that might help the individual at a micro system level.

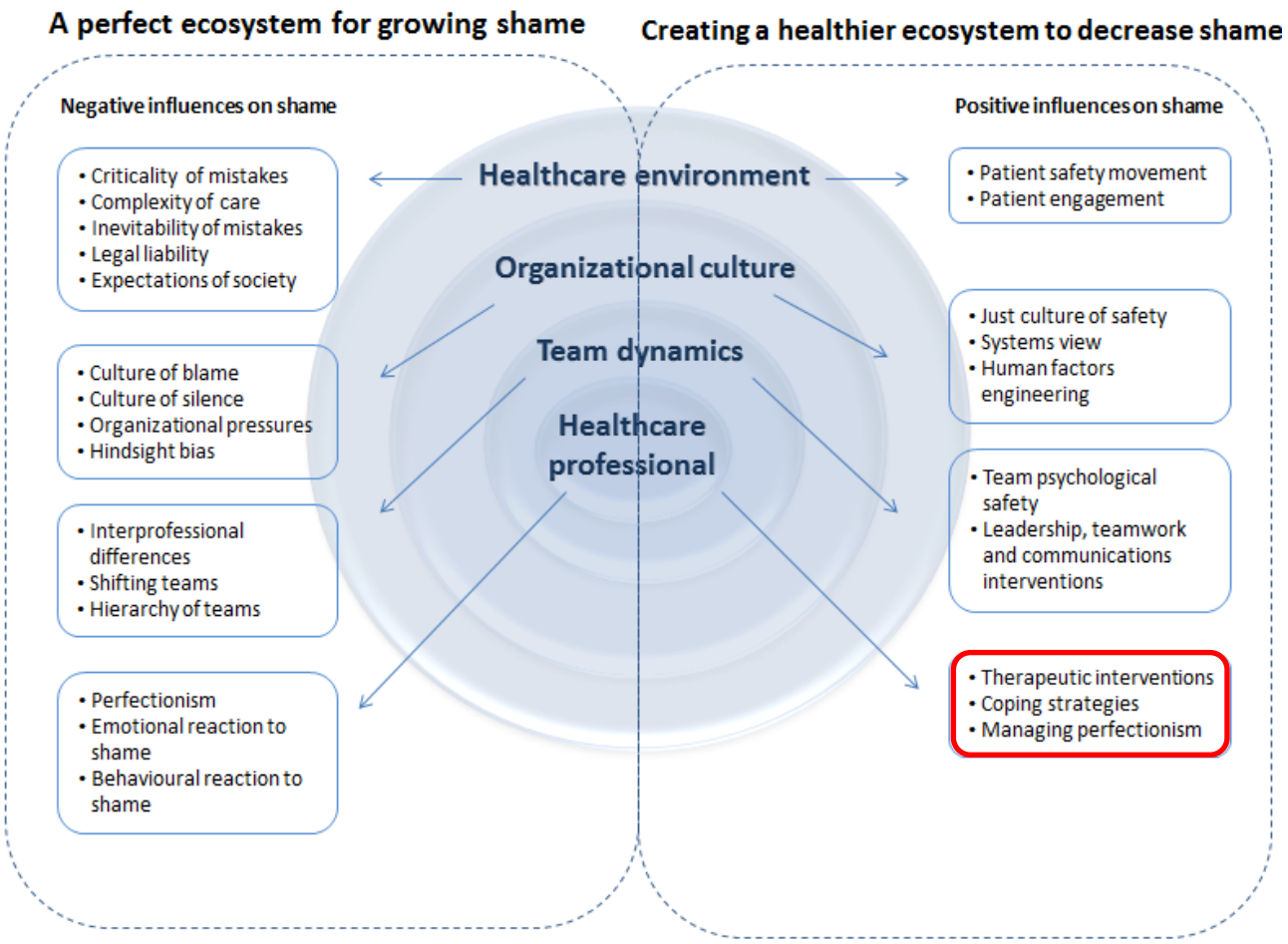

Figure 10. Positive influence on shame in the individual

Therapeutic interventions. Tangney and Dearing (2002) offer a number of approaches for therapists to help people cope with shame:

1. Simply helping the client verbalize the events and associated experiences helps them look at the shame episode more logically, and possibly reassess their global evaluation of themselves.
2. Helping the client make this cognitive reevaluation, or help them step back and look at the big picture.

3. Explaining the difference between shame and guilt, so that they understand the difference between condemning a behaviour and condemning the self.
4. Providing an accepting climate for the client, or providing a positive space where clients feel safe to express themselves and share their feelings.

A developing therapeutic technique for dealing with shame is compassionate mind training (CMT), which arose in response to the recognition that shame is a major component of a range of mental health problems (Gilbert & Procter, 2006). Because individuals feeling shame not only feel the outside world turning against them, but also feel their internal world turning critical, hostile and persecuting, there is no safe place to help soothe or calm the self. CMT "helps shame-prone and self-critical people create, within themselves, a focus for self-soothing and compassion that would reduce the sense of threat, increase a sense of safeness and thus work with shame material" (Gilbert & Procter, 2006, p. 354). With CMT, the therapist helps the shame-prone person to acknowledge the disappointment and fear associated with failure, and learn to accept, tolerate and work with that fear, rather than activating the attack-self-criticism and submissive defence pathways (Gilbert & Procter, 2006).

Neff (2003) explains that self-compassion is "an emotionally positive self-attitude that should protect against the negative consequences of self-judgment, isolation, and rumination" (p. 85) and lists the three main components of self-compassion:

1. Self-kindness: being understanding rather than critical towards oneself in the face of failure.
2. Common humanity: seeing experiences as a component of a larger human experience, so that we are not separate or isolated.
3. Mindfulness: being mindful of our shame, but not over-identifying with the emotion. — holding painful thoughts and feelings in balanced awareness rather than over-identifying with them.

Coping strategies. Lewis (1992) suggests a number of methods that people use to rid themselves of shame. The first and simplest, he suggests, is to acknowledge and own the shame then allow it to dissipate with time. The second most common method is denial and forgetting, where denial can actually prevent shame from occurring. Lewis also notes that laughter, or laughing at oneself, is often used to cope with shame; this allows a person to distance him/herself from the emotional experience, which helps take the person's focus off the feelings of shame. Finally, someone who feels shame might also confess, which gives the person respite from the self-evaluation and self-criticism and instead allows them to focus on the positive virtue of confession; they might think, for example, "Well, I'm not good, but at least I can own up to my faults" (Lewis, 1992, p. 132).

Van Vliet (2009) identifies four "attributional pathways to recovery" from shame (p. 144-146) that individuals can use to help them cope with shame:

1. Identifying external causes and influences: identification and understanding of external factors that contributed to the event, where internal causal attributions and self-blame (i.e. 'This was all my fault') shift towards shared and external attributions of causality (i.e. 'This was not just me').
2. Shrinking global self-judgment: shifting from characterological attributions (i.e. 'I am a bad person') to behavioural attributions (i.e. 'What I did was bad').
3. Believing in the possibility of change: an increased sense of agency by shifting from the belief that a situation is permanent towards the belief that positive change was possible and that they could take action to produce change.
4. Decreasing discrepancy between the actual self and ideal self: If shame involves a discrepancy between one's self-concept and self-ideals, then recovery involved decreasing this gap through

enhancing the self-concept at one end and embracing a more realistic self-ideal at the other end.

Interestingly, Dekker (2013) notes that traumatic events such as mistakes can either shatter or at least change attributional assumptions that had been stable throughout a health professional's life.

Managing perfectionism. A study exploring idealism in nursing (Taylor et al., 2002) emphasized the importance of managing idealism or perfectionism, which, as we have seen, can lead to shame. These researchers outlined an "action plan for recognizing and managing idealism" (p. 329), which included advice for what to do before practice such as "realize that plans do now always work, so set realistic goals" and "recognize and label my own expectations and behaviour as idealistic." Advice for what to do during practice included "own up to my idealism and tell the other person/people" and "maintain my high standards, but try to adjust my own responses to less than 100% ideal outcomes." After practice, the authors suggest to "review my practice by 'resetting my level of idealism, through feedback,'" "be satisfied with being the best I can be, which could be less than 100% on the day" and "admit to my limitations and constraints without a sense of failure and guilt"(p. 329).

Brown (2006, 2007, 2010) offers a number of insights about how to cope with shame, and in particular, how to manage our tendency to be perfect. She maintains that those who can best cope with shame are what she has termed "wholehearted people," or those who have a strong sense of worthiness because they have the courage to be imperfect, and have the compassion to be kind to themselves and to others. This philosophy clearly resonates with what we know about health professionals, who are driven to be perfect.

According to Brown, these wholehearted people are authentic people, in that they are willing to let go of who they think they should be in order to be who they are; they fully embrace their own vulnerability. Brown expands further why vulnerability can be positive: "although vulnerability is the

core of shame and fear and our struggle for worthiness, it appears that it's also the birthplace of joy, of creativity, of belonging, of love" (2010).

This section on creating a healthier ecosystem to decrease shame has reviewed some of the existing literature on what the system, organizations and teams are currently doing that might improve patient safety, increase psychological safety and decrease shame. These approaches include creating a culture of safety, viewing errors from a systems point of view, creating team dynamics that encourage reporting, and nurturing psychological safety among team members.

Summary

It is clear from the literature review that there are a number of factors that exist in the health care environment, organization, team and individual that create a perfect ecosystem for growing shame when an error is introduced. The review also demonstrated there is a great deal of evidence to indicate that the emotion of shame might be a significant impediment for health professionals to overcome, even though there is a dearth of literature specifically related to shame and health professionals. The review has uncovered very little research that explores the psychosocial process of health professionals coping with mistakes. Furthermore, although there is significant discussion in the literature about organizational and team interventions for creating a just culture or psychological safety, there is very little research on how individuals in health care might cope with or manage shame associated with making mistakes.

Methodology

Introduction

This chapter explains the methodological approach used in this study. It demonstrates how I explored ontological, epistemological and methological questions to determine the best approach to answer the research questions within my paradigmatic philosophy. This chapter also explains grounded theory in detail, and more specifially the methods and strategies used in this constructivist grounded theory study.

Research Paradigm

This section is intended to situate the research within a theoretical framework to help the reader understand the paradigmatic underpinnings behind the choice of the methodology.

Researcher's philosophical position. Once I had chosen my general topic for my research, but prior to developing my research questions, I undertook a deliberate reflection about my views of research, knowledge and the nature of reality More specifically, I wrote out my thoughts about the following questions:

1. What is the nature of reality?
2. What is the relationship between researcher and participant?
3. How do we know the world or gain knowledge of it?

By reflecting on these questions and my answers, I came to establish my epistemological and ontological philosophy for my research before I decided what type of research questions I would endeavour to answer, and what methodology I would use. I wrote in my notes that "reality is what we perceive it to be, and that it is ever-changing with our experience, what we see, what we learn, and with

whom we are in contact" (personal memo, November 2011). I wrote that the knowledge we gain is always in relation to our experience, that it was co-constructed with those with whom we interact, and that "knowledge is everything that expands our reality and allows us to see outside our current picture of the world as we know it" (personal memo, November 2011). I noted that my role as a researcher was to gain knowledge from those who had experience with the problem being studied, but that this knowledge would inexorably be influenced by my own biases, experience and perceptions.

I believe that our social world is complex and ever-changing, and there are no simple explanations for how and why people behave the way they do. I believe that the best way to study, unpack and decode the patterns of a particular social world is by understanding it through the experience of those who live in it. This is where the answers lie, this is where we can come closest to reality, this is where knowledge is created.

I also believe that only by putting myself into the research – by acknowledging my role in the creation of knowledge – can I truly understand what is being described in the data. The knowledge constructed from the data arises through the interaction between the self-reflective researcher and participants.

Because of these beliefs, my research must build on the strengths and resources of the participants of the study, with the assumption that a collaborative, equitable partnership between the researcher and the participants will generate more valuable information and analysis.

This is how I came to understand that my epistemology fit a social-constructivist perspective, or that knowledge is co-constructed as a social experience. I also determined that my ontology represented a relativist point of view, or that reality is relative to meanings that are developed through experience and interactions.

In determining what methodology to use to answer research questions, it is not only important to consider the researcher's ontological and epistemological philosophy, but also the nature of the questions themselves and how they are best answered. The following section explores both these considerations.

Methodological considerations. Once I identified the aim and research questions for my study and understood my epistemological and ontological beliefs, I began to explore what methodology would be the best fit from both of these perspectives.

Since my research interest was focused on understanding a psychosocial process from the point of view of those experiencing shame, it became clear that quantitative methodologies were not going to be suitable for my research. I was not seeking causal explanations or aiming to predict through deduction; rather, I was seeking to understand a process through inductive analysis, which aims to systematically generate theory grounded in empirical observations.

I was seeking to gain a deeper understanding of the experience of health professionals when they make a mistake, an understanding I could not come to unless these experiences were shared with me at a personal level. As Hollnagel noted, "safety is not a commodity that can be tabulated; it is rather a chronic value 'under our feet' that infuses all aspects of practice" (Hollnagel, 2014).

At one point in the development of my methodology, I considered a mixed method approach whereby I would also measure shame proneness, and consider independent variables such as gender, profession, and number of years in practice. However, as I investigated the literature more closely and as demonstrated in the literature review, it became clear that health professionals are prone to those feelings associated with shame because of the circumstances around mistakes and because of the nature of the work they do. Even if a health professional was not considered someone who is prone to shame, making a mistake that harms a patient is a situation that, in Tangney's terms (1990) is a situation that "differentially

pulls for shame." It was therefore not a priority to measure proneness to shame for the purpose of this research study, although it might be of value for further research that investigates the differences between professions, gender and/or number of years of practice.

In order to answer my research questions, I needed direct access to the participants so that they could explain their answers through their interactions with me, and so that we could reflect together on the issues and responses. To understand their perspective on reality, I need to appreciate their inner experience, and to connect with them at a human level. This level of interaction is only possible through qualitative research.

I began to explore qualitative methodologies in depth.

Qualitative methodologies. The qualitative methodology that would best suit my aim and research question would be one that explained the social process of mistakes, helped me discover the explanation rather than verify a hypothesis or theory, and where the answers to my research questions emerged from the participants' experiences. I was looking for an approach that would create knowledge from observations and creative thinking, not one that would attempt to fit observations into an *a priori* set of structures and ideas.

The four main qualitative approaches include narrative, phenomenology, ethnography and case studies.

Although a narrative approach would lead to an interesting outcome of detailed stories of life experiences with mistakes, and a case study would create a detailed exemplar of an individual's experience with making a mistake, neither would afford the opportunity to explore deeply the social process nor develop a theory about what health professionals go through after making a mistake.

An ethnographic study of the culture in which health professionals work might prove enlightening; however, the culture of health care has been studied extensively. Moreover, the focus of my study, as I have noted, is on the individual experience rather than the group experience.

A phenomenological approach would certainly lead to a better understanding of the phenomenon of mistakes; however, the focus would be on describing – rather than explaining – the meaning of the experience.

Grounded theory. Grounded theory, on the other hand, aims to explain rather than simply describe a phenomenon within the context of those who experience it (Birks & Mills, 2011), Rather than describing a concept or phenomenon as a static construct, grounded theory is meant to reveal the dynamic and processural nature of the phenomenon by analyzing interactions between individuals. This methodology aims to explain how and why participants construct meanings and actions in specific situations, and goes beyond description to the generation or discovery of a theory about a social process. This theory will provide useful insights into the social phenomenon of mitigating shame, and decode the social patterns that are created when a mistake is made.

In addition, grounded theory is an attempt to understand the world around us with sensitivity to social processes, an inductive rather than deductive approach, and a systematic, iterative, analytic move toward abstraction. Grounded theory assumes that the world is complex, that events are the result of multiple factors coming together, often in unanticipated ways (Corbin and Strauss, 2008). It helps identify relevant relationships, key influences of a process or challenges facing individuals or groups. Grounded theory is focused on discovery, making sense of disorder and complex relationships.

Finally, grounded theory researchers are part of what they study, not separate from it – they stand within research process rather than above, before or outside of it. Rather than discovering order **within**

the data, we create an explication, organization, and presentation **of** the data (Cresswell, 2006). It provides an opportunity to connect at a human level, and to bring about social change.

Given that I had already established my epistemological and ontological beliefs, it was then a clear path to deciding how to proceed: grounded theory would be the methodology that would guide my research so that I might develop a theory that was solidly grounded in the experience and shared stories of the participants, or those with the views and expertise of those to best describe the phenomena being studied. My research would result in a co-constructed theory that emerged from a meaningful interpretation of the participants' experiences.

The following sections elaborate further on some of the debates about different grounded theory approaches, on the approach used for this study, which was informed by constructivist grounded theory approach first elaborated by Charmaz (2006), and on the underpinnings of grounded theory. It was important – and some say it is the responsibility of the researcher (Walsh et al., 2015) – to build a solid understanding of grounded theory before embarking on research using this methodology.

Different approaches to GT. Grounded theory has its roots in the Chicago school of sociology and, as described below, in symbolic interactionism. As a way of demonstrating the validity of qualitative research in a positivist research environment, Barney Glaser and Anselm Strauss laid out procedures for the generation of theory from qualitative empirical data in their book, *The Discovery of Grounded Theory* (1967). The authors used inductive methodology to develop theoretical explanations of social action and processes, which was gleaned from qualitative data using a comparative, emergent and open-ended approach. Strauss and Corbin, then Charmaz, elaborated more constructivist approach, taking a more relativist perspective, and emphasizing reflexivity of the researcher and his or her role in the construction of the data (Mills, 2007; Gentles, Jack, Nicholas & McKibbon, 2014). According to Charmaz (2014),

constructivist grounded theory "includes the iterative logic that Strauss emphasized in his early teaching, as well as the dual emphases on action and meaning inherent in the pragmatist tradition" (p. 12-13).

Glaser objected strongly to the idea that constructivism is relevant to grounded theory (Glaser, 2012). He maintained that the emergence of the theory is objective and not interactive, and that adding the interpretation of the researcher is an intrusion. Glaser insists that the researcher discovers the truth within the data without the need for interaction or interpretation, that the data emerges from "the careful tedium of the constant comparative method and theoretical sampling" (Glaser, 2012, p. 30).

Constructivists, on the other hand, maintain that past grounded theory approaches had only a "cloak of objectivity" (Charmaz, 2006) that masked the importance of interaction with the researcher. Charmaz maintains that it is only by acknowledging the influence of the researcher's perceptions and influence that we can account for it, and ensure it does not interfere with the data; she maintains that "the constructivist approach perspective shreds notions of neutral observer and value-free expert" (Charmaz, 2014, p. 13). Charmaz's approach emphasized the inevitability of co-construction of data between researcher and participant. The constructivist paradigm also views knowledge as actively constructed and co-created as the product of human interactions and relationships, compared to the positivist paradigm that assume true reality that is reachable by a detached, objective researcher (Watling & Lingard, 2012).

With social constructivism, meanings are formed through interactions; researchers therefore seek understanding of the world through the participants' point of view while acknowledging their own bias. Concepts and theories are constructed by researchers out of stories that are constructed by participants who are trying to explain and make sense out of their experiences and/or lives (Corbin and Strauss, 2008). A constructivist approach "places priority on the studied phenomenon and sees both data and analysis as created from shared experiences and relationships with participants and other sources of data" (Charmaz, 2014, p. 239).

Constructivist grounded theory: my approach. The constructivist grounded theory approach, as elaborated by Charmaz, was therefore clearly best suited to my epistemological and ontological beliefs, and most compatible for what I aimed to achieve. Although the rigorous, systematic and analytic methods I used were derived from Glaser and Strauss (1967) and were further developed by Corbin and Strauss (2008), I did not abide by their objectivist and positivist assumptions, where the researcher is assumed to be objective and where truth is simply discovered. My research paradigm was distinctly aligned with a constructivist approach, which emphasizes the inevitability of co-construction of data between researcher and participant, and recognizes multiple and emergent individual realities. Because I also believe that knowledge is created from the interactions of individuals within society, and that the researcher is an integral component of those interactions, I drew extensively from the social constructivist grounded theory approach elaborated by Charmaz (2006). The theory I developed was be a co-construction of interactions between myself and the participants, although largely shaped by participants' experience, stories and personal perspectives (Denzin & Lincoln, 2000).

Underpinnings of grounded theory methods. With grounded theory methods, "the conceptual understanding needs to emerge from the researcher's immersion in and interplay with the data, rather than from preconceived theories founded on speculation" (Van Vliet, 2008, p. 235).

To develop grounded theory, the researcher analyzes the data gathered from the multiple perspectives of the participants, and "raises them to the abstract level of conceptualization to discover the underlying or latent pattern" (Glaser, 2012). The methods suggested for developing grounded theory enable the research to capture some of the complexity and variability of the world around us (Morse, 2009).

The following sections describe two key principles of grounded theory research: theoretical sensitivity and symbolic interactionism.

Theoretical sensitivity. Key to conducting research using a grounded theory approach is to keep an open mind and remain theoretically sensitive. Theoretical sensitivity is the ability of the researcher to analyze the data in abstract terms, and identify and understand connections and relationships within that data. Charmaz (2014, p. 244) maintains that, to gain theoretical sensitivity, "we look at studied life from multiple vantage points, make comparisons, follow leads, and build on ideas." It means acknowledging your own preconceptions, and that you are co-constructing the data; however, in acknowledging them, you are also recognizing that you need to wander outside of your perspective to explore other perspectives. The more you are aware of subjectivity in analysis, the more likely you are to see how you are influencing the interpretation of the data and recognize what is not your own perspective.

In the data collection phase in grounded theory, the researcher allows the participant to take the discussion in whatever direction he or she chooses during the interview; the researcher might provide some guidance and cues, but for the most part, fosters an open and reflexive conversation.

Being theoretically sensitive also means interpreting the data without first imposing an existing framework. The researcher allows empirical data to emerge from the meaning behind participants' words by gaining intimate familiarity with the phenomenon under study. By avoiding forcing the data into a pre-existing theory, the research allows generality to emerge from the analysis. The act of coding with gerunds, a process recommended by Charmaz, "fosters theoretical sensitivity because these words nudge us out of static topics and into enacted processes" (Charmaz, 2014, p. 245).

Finally, the basic tenet of grounded theory often emphasized by Glaser is to continuously ask "What is this data a study of?" (Glaser, 1978, p. 57). By doing so, we are nudged to "discover that particular meanings and actions in our studied world suggest theoretical links to compelling ideas that had not occurred to us" (Charmaz, 2014, p. 246).

Symbolic interactionism. Grounded theory is founded on the theoretical perspective of symbolic interactionism, which was first identified by Blumer (1969). Symbolic interactionism is based on the principle that "social action and interaction are symbolic in nature, people interpret the objects in their environment and the behaviors of others around them and, rather than reacting directly, respond on the basis of their interpreted meaning of those objects and actions (Milliken & Schreiber, 2012). Blumer (1969) stated that symbolic interactionism rests on three premises:

1. "Human beings act toward things on the basis of the meanings that the things have for them;"
2. "The meaning of such things is derived from, or arises out of, the social interaction that one has with one's fellows;" and
3. "These meanings are handled in, and modified through, an interpretative process used by the person in dealing with the things he encounters" (p.2).

Milliken and Schreiber (2012) maintain that "the ontology, epistemology, method, and techniques of grounded theory are all steeped in symbolic interactionism, such that the two cannot be divorced" (p. 685). They explain that, by appreciating that symbolic interactionism is foundational to grounded theory, researchers will better understand "the complex interactions in the data, within the researcher, between the researcher and participants, and between and among inductive, deductive, and creative thinking" (Milliken & Schreiber, 2012, p. 693)

The reason this perspective is important in constructivist grounded theory is that it essentially recognizes that we construct our own social structure based on the meanings we have for things and the interactions we have with others; meaning takes place within the context of relationships we have with others, and is modified through our own interpretations. Symbolic interactionism recognizes that the view of the self can be a "continual unfolding process" and that "developing new ways of being in the world

contributes to the self as a process and the reconstruction of self and identity after loss or change" (Charmaz, 2014, p. 268). This focus on process is an essential component of grounded theory. The theoretical framework I develop will therefore be steeped in the interactions individuals have amongst each other and within the world they experience.

Also central to constructivist grounded theory is the notion that participants are actively involved in constructing their own reality; it assumes "people are reflective, creative, active and social creatures" and that this ability "allows us to rethink, recast, and redirect our views and actions" (Charmaz, 2014, p. 270). We are not passive players in an external reality; rather we are agents of our own constructed reality.

Charmaz (1980) also adds two more premises to Blumer's three premises noted above, to clarify its significance to constructivist grounded theory:

1. "Meanings are interpreted through shared language and communication; and
2. The mediation of meaning in social interaction is distinguished by a continually emerging processual nature" (p. 25).

Methods

As noted above, my study is constructivist grounded theory research, where I will use the rigorous, systematic and analytic methods that originated with Glaser and Strauss (1967) while adhering to the constructivist approach elaborated by Charmaz (2014).

This section clarifies the methods used for the study, including initial purposive sampling, data collection, memo writing, constant comparison, coding, data analysis, theoretical sampling, diagramming, theory development and ensuring rigour.

Initial purposive sampling. Initial purposive sampling was undertaken in two Canadian academic paediatric hospitals. Having participants from two organizations rather than one increased the possibility of saturation. Limiting to two organizations allowed the researcher to spend prolonged time in the field and to become familiar with and somewhat integrated in the organization, so as to build rapport and a psychologically safe space for the researcher to discuss shame with the participants. Health professionals in all units within the hospital were eligible for the study.

The acute care setting was chosen for the study, as this is the environment where there are many levels of negative influences on shame, whether at the level of the health care environment, organization or teams, as described in the Literature Review. Paediatric hospitals were chosen for this study, as the consequences of a mistake are possibly even more overwhelming than in adult hospitals, and can have a profound impact on health professionals, as well as the patient and families (Sears, O'Brien-Pallas, Stevens & Murphy, 2013). In fact, it is possible that health professionals caring for children might feel shame more intensely because of the extreme consequences of their mistakes. Furthermore, there is much less research in the area of patient safety in the paediatric setting than there is in the adult setting (Matlow et al., 2012).

The participants of this study were health professionals in medicine (staff physicians and residents), nursing (registered nurses and registered practical nurses [Ontario] or licensed practical nurses [Alberta]), pharmacists or licensed pharmacy assistants. It was considered important to interview physicians and residents, as they are normally the most responsible health care professional; it was also important to interview nurses as they generally have the most interaction with the patient and are at the "sharp end" of care; pharmacists were also interviewed because medication errors are the most common error in acute and paediatric care (Matlow et al., 2012). Other health professionals, such as occupational therapists and physiotherapists for example, were excluded from the study not because their experiences

with mistakes might be less important or emotional, but to improve the homogeneity of the sample, especially considering the size of the sample. The participant pool for physicians, nurses and pharmacists was also much larger than that for occupational therapists or physiotherapists. Other employees involved in the process who are health care *providers* rather than professionals, are not licensed nor bound by some of the professional ethics and standards that have been described in the literature review that have an impact on the effect of shame; these were therefore also excluded.

The initial purposeful sample included a representative sample of each of the professions and at least two in each profession from each organization. The sample size was increased until saturation (see theoretical sampling below), in keeping with the grounded theory methods. General guidelines for a grounded theory study suggest between 20 and 30 participants (Charmaz, 2006).

Recruitment. One of the biggest challenges anticipated for this research was recruiting participants willing to talk openly about making mistakes and the emotional process they go through afterwards. A key success factor was establishing a relationship with the site investigator at each organization. In one case, this was the Director of Patient Safety and Quality and in the other was the Associate Investigator of the research institute. Each of these individuals distributed emails to all staff and distributed posters to advertise the study. They also provided a link to the key players in the organization who could create awareness and promote the study, including the directors of pharmacy, medicine and nursing. These individuals in turn promoted the study through word of mouth, emails, posters and sign-up sheets, and also provided opportunities for direct access to potential participants through formal and informal staff meetings (I attended six meetings at one institution, and one in the other). One of the institutions was bilingual, which required that I have all materials translated to French; as I am bilingual, I also offered to conduct the interviews in French. I made short presentations at advisory committees, staff meetings and/or training workshops to explain the purpose of my study and

the expectations for participants. These activities allowed me to become more familiar with the setting and, through opportunistic conversations, build the foundations of a relationship with the participants and shape my approach to the interviews.

Data collection. With grounded theory, the researcher is expected to proceed with contiguous data collection and analysis with an open mind, allowing the questions and issues that emerge from the analysis to guide the next steps in the research (Morse et al., 2009).

The method for data collection was semi-structured one-on-one interviews using open-ended questions. This collection procedure was chosen because the most data dense interviews (Corbin and Morse, 2003), suited to grounded theory, are those that are unstructured or where the participants and researcher are not distracted from the essence of their stories by a predetermined set of questions. This format for the interviews was also chosen because of the emotion being studied. The very nature of shame makes it a very difficult topic for a person to open up and feel safe to discuss their experiences; in fact, exposing emotion of shame can also be a shameful experience (J. Van Vliet, personal communication, November, 2012). It is clear that a focus group or any other less psychologically safe environment would not be suitable for this research.

The study took place between November 2013 and July 2014, and the interviews were conducted during a time that was convenient for each participant and that did not disrupt their work or disturb patients.All were conducted in English (even though participants were given the choice to speak in French if they wanted). All but one participant were interviewed once; one participant was interviewed twice. The interviews were recorded, and took on average 30 minutes in length, spanning from 20 to 180 minutes, and were transcribed verbatim by the researcher. Participants were given the choice of where to meet; two chose their own homes, four chose their office, one chose a public coffee shop, and the rest

chose a private room within the institution. The times and dates for the interviews were also set by the participants to allow them to fit the meeting in to their schedules.

Because of the sensitivity of the topic studied, I used methods to build rapport with the participants to help them feel psychologically safe in the process. I used techniques that are founded on the work on psychological safety as described in Edmondson (1999, 2004), such as acknowledging my own fallibility (where and when the opportunity presented itself), responding in a non-judgmental manner, showing empathy, validating that the participant was not a bad person because of a mistake, and reassuring the participant that their responses are confidential. The interviews were also informed by Van Vliet's study (2009) in which she interviewed participants on their experiences with shame using grounded theory methods. Finally, I also used guidelines from Corbin and Morse (2003) to mitigate distress in the interview and to establish a degree of comfort and trust, including:

- ensuring consent and purpose of interview are reviewed thoroughly;
- allowing participants to retain control of the interview;
- reducing status differences between the researcher and the participant;
- conducting interview with care and sensitivity;
- being authentic, credible, intuitive and receptive;
- providing a sense of presence or of being through focused listening;
- ensuring that the interview is a conversation and an exchange, not an interrogation;
- pacing the interview to ensure the participant is fine to continue;
- confirming that the participants can withdraw at any time for a study without penalty; and
- giving the participant a choice to end the interview when there are signs of distress.

The goals of the interview questions were to draw from the participants their stories about their own experiences of shame related to mistakes, their thoughts on the effect of shame on patient safety, and

their ideas on how individual health professionals might better manage or cope with shame. I aimed to create the "conversational intimacy" described by Corbin and Morse (2003, p. 338) where participants felt comfortable telling their story.

In order to help the participants direct the conversation, the questions asked during the interviews were focused on encouraging the participants to talk about themselves and tell their stories. The first question was usually very general, asking why they were interested in participating in the study, or why they thought the study topic was important. To ease into their own stories, I first asked if they knew about any mistakes made by others, and to describe how they thought those individuals felt. I would then ask them to explain what they did to help those individuals, or what they would want to hear if they made a mistake. By this point in the conversation, most participants had begun to tell stories about their own experiences with mistakes; if they hadn't, I would ask them directly to talk about their own mistakes, using a questions such as "Think about a time when something you did on the job caused or almost caused a patient harm. What do you remember from the moment it was discovered? How did you respond? Can you describe how you felt about the mistake?" Most participants eventually shared their own experiences with mistakes, although many spoke of their first mistakes, or mistakes they felt were not serious. I would also ask them what they did to cope with the mistake, or how they would support a friend or colleague going through the same thing they went through.

During the interviews, I allowed the participants to maintain control, and I was focused on listening to what was beneath the surface of the conversation, trying to understand their views, feelings and intentions. I was looking for the conditions under which their actions or the processes they underwent emerged. I also observed their actions, tone of voice or facial cues to interpret their emotions.

At the conclusion of the interview, each participant was offered information about employee assistance program resources at the organization. The privacy of the participants was protected at all

times, as any identifying information was kept separate from notes or recordings, with data stored in secured locations.

Participant characteristics. A total of 21 individuals (14 female and 7 male) participated in the study: nine from institution A and 12 from institution B, including seven nurses, five pharmacists/pharmacy assistants, five residents and four physicians, as described in Table 1. All of the participants had at least five years' experience in a clinical setting, some up to 30 years, for an average length of experience of 15 years.

Table 1

Participant Characteristics

Pseudonym	Type of health professional	Gender	# years' experience
Olivia	Nurse	Female	11
Tanya	Physician	Female	18
Tom	Pharmacist	Male	13
Fiona	Pharmacist	Female	7
Francis	Resident	Male	6
Susan	Physician	Female	12
Nora	Resident	Female	5
Tarek	Resident	Male	6
Matt	Resident	Male	5
Sonya	Nurse	Female	12
Ellen	Pharmacy assistant	Female	7
Nancy	Nurse	Female	30
Tammy	Nurse	Female	30
Ed	Physician	Male	20
Trent	Resident	Male	6
Tori	Nurse	Female	26
Fatima	Pharmacist	Female	8
Bonnie	Nurse	Female	15
Sam	Pharmacist	Female	30
Peter	Physician	Male	25
Whitney	Nurse	Female	25

Memo writing. One of the key methods in grounded theory is memo writing, which is essentially an exercise to ensure the researcher writes down her thoughts as they occur, before, during and after data

collection and analysis. It is not only a recording of the analytic process, but an essential component to thoughtful, careful and focused analysis of the data. Memo writing is also useful for establishing gaps in the data, so that the researcher can collect data that is relevant and important to the understanding of the process:

> Memos catch your thoughts, capture the comparisons and connections you make, and crystallize questions and directions for you to pursue. Memo-writing creates an interactive space for conversing with yourself about your data, codes, ideas, and hunches. (Charmaz, 2014, p. 162)

I began writing memos while I was exploring the aim of my study, my research questions, and what grounded theory approach I would use. As explained earlier, my early philosophical musings helped me determine that a constructivist grounded theory approach was best suited to achieve my goal and answer my research questions.

During the data collection and analysis phase, I also wrote memos to reflect on what the participants said during the interviews. As I coded the data, I wrote memos to explore what the codes meant and how they might be connected. For example, the following is an example of a short memo about the code “coping”:

> How do you define successful coping? Able to continue working? No longer feeling shame? Able to work effectively? Maybe it is not coping, rather enduring, surviving, subsisting, bearing, tolerating, suffering, withstanding, sustaining. (Personal memo, April 10, 2014)

I also wrote memos to document the methods I was using to ensure they continued to be aligned with constructivist grounded theory. The following memo demonstrates some of my ruminations about theoretical saturation:

> I have stopped interviewing for now, but have not decided for sure that I have theoretical saturation. I'm going to wait to see if I need to confirm things or explore a different area with other participants after I've done the coding -- I have two lined up for the summer if I need them. I am indeed hearing a lot of the same things, but up until the last 2 interviews or so, kept getting another "nugget" that I hadn't explored; on the other hand, I often get "nuggets" just by talking to people about my research (i.e. just a different perspective on the data) -- so am I really gathering worthwhile data, or am I just getting different perspectives on the same data?- All this being said, I feel close to theoretical saturation, mostly because I see patterns while people are talking, and can "code in my head" as I am interviewing (for example, they'll say something and I'll think "oh, that's irrational thinking")...but then again this could mean that I'm making assumptions, or that I have conceptualized too soon. (Personal memo, May 15, 2014)

Memos were also a useful technique to track conversations I would have about my study with individuals who were experts in grounded theory. In particular, I would often discuss my preliminary findings with members of the Grounded Theory Club, for which meetings are held every two weeks virtually out of the University of Victoria nursing department; I would take notes from these meetings and reflect on them in memos.

A memoing format that I found most useful was to create diagrams to how evolving categories might connect together. This conceptual rendering helped shape my thoughts on the process under study,

and allowed me to investigate different perspectives on the data. These visual representations of the connections between codes, categories, ideas and perspectives helped me explore the process being described by the participants, then validate or refute my assumptions or interpretations. These draft diagrams can be found in Appendix A.

My initial diagram was quite complex, as I had not yet been able to narrow the central focus of the process, or determine the main category (Appendix A, Diagram 1). As a next stage in the diagramming, I focused on a smaller section or part of the process, investigating whether this is where the core category might be (Appendix A, Diagram 2).

Diagramming and memoing also allowed me to test theories about the process, using analogies and visuals to try out different perspectives of the participants' experience. For example, one diagram evolved out of a memo about the balance participants had to maintain between containing or hiding their mistake and exposing or telling about their mistake (Appendix A, Diagram 3).

I often went back and forth between a memo and the diagram to expand my thoughts; for example, I wrote the following memo to expand on Diagram 3 (Appendix A):

> Even before they make a mistake, health professionals are operating on a fine balance. In every decision they make, they are balancing risk against effectiveness; every decision they make brings with it the possibility of a mistake, so they must decide at what point to stop checking, second-guessing, considering risks, and take action. Once a mistake is made, they are thrown off balance, and risk being mired in shame unless they find a way to balance themselves again... This fine (delicate) balance is suddenly shaking, wobbling, and they must find a way to find a fine (stable) balance again. They do this by counter balancing:

- internal erosion against suppressing/self-containment

- exposure against self-protection

- disclosure against secrecy

Some find this balance right away (confident, right), some take a long time (dealing with shame), each has his/her own path back to the balance (some through disclosure, sharing, others through own internal ruminations), some stay off balance (quit, deliberately do not let go so as to always be 'off balance' or on guard). (Personal memo, August 31, 2014)

One of the final diagrams I constructed before arriving at my final theoretical framework shows the evolution of my thoughts, and how my thought process evolved from earlier diagrams to the final one I used to illustrate my grounded theory (Appendix A, Diagram 4). Comparing these early representations of the process to the final grounded theory produced by this study demonstrates how important it is to continue to collect and code data until theoretical saturation.

Constant comparison. Another key method in grounded theory is to analyze using "constant comparison." This essentially means that the researcher, while analyzing and gathering data, returns back to previously collected and analyzed data to investigate similarities and differences. Constant comparison forces the researcher to constantly reflect back to the data to ensure she is not unduly biased by later data, and to allow her to gain new perspectives on earlier data. The constant comparative method allows the researcher to discover the latent pattern in the participants' words, as long as she is "exquisitely tuned capacity for pattern acquisition and recognition" (May, 1992, p. 18).

Constant comparison also encourages the researcher to reassess the questions the data collection or interviews, and reformulated them as required. This ensures the researcher will use emerging ideas in the ongoing process of theory development.

Data analysis. In grounded theory methodology, as noted, data analysis is concurrent with data collection. The data are therefore to be analyzed after each interview, which informs the direction and questions for the following interviews. This is to allow for "constant comparison" as discussed above, where "emerging codes, categories, properties, and dimensions as well as different parts of the data, are constantly compared with all other parts of the data to explore variations, similarities and differences in the data" (Hallberg, 2006, p.143).

The following table (Table 2) explains the phases of analysis from the initial coding to using categories to build a theory:

Table 2

Phases of Analysis

Phase	Description	Purpose	Timing
Initial coding	Line by line coding of each segment of data; use of gerunds as a heuristic device to describe data (and "to nudge us out of static topics and into enacted processes" p. 245)	Explore and interact with the data; begin to explain what it means; generate the "bones" of the analysis;	This coding is done as soon as possible after each interview.
Focused coding	Coding with those codes that appear more frequently in the data.	Sift, sort and synthesize large amounts of data; form the "skeleton" of the analysis	After 3 or 4 interviews, patterns begin to emerge.
Theoretical coding	Use theoretical sensitivity to conceptualize relationships between categories; determine the main category(ies)	Create hypotheses for the theory; begin conceptualizing theoretical framework	After interviewing most of the participants, and there are clearly significant patterns in the data, the theory begins to emerge.
Theoretical sampling	Gather more data (further empirical data) on the main category(ies) and its(their) properties until no new properties emerge (to saturation)	Elaborate and refine categories; ensure robust categories; clarify relationships between categories; identify variations in the process	Final interviews validate and refine the theory.
Theory development	Use theoretical sensitivity to raise categories to concepts; ask "what is the data a study of?"	Develop the theoretical framework to explain the process; offer an abstract understanding of the relationships between the core concepts	"Member checking" with participants and members of the same community adds rigour to the theory.

Initial Coding. The first analysis of the data is in the form of line by line coding, attaching labels to the text, which ensures the researcher remains true to the original data (the actual stories and experiences of the participants). These codes provide a rich and dense set of data from which to explore the social process. Charmaz (2014) refers to this as "initial coding" which "generates the bones of your analysis" (p. 113)

Essentially, the coding process enables the researcher to sort then synthesize the data, so as to begin to build an analytic framework. Charmaz suggests the use of gerunds to encourage the researcher to look at the data in terms of actions, contexts and relationships; the use of gerunds is a heuristic device to describe data "to nudge us out of static topics and into enacted processes" (Charmaz, 2014, p. 245).

The coding for this study was done using Atlas.ti software, a software program that enables the creation and management of codes, including linking the codes to text, networking the codes to display their connections, grouping and merging codes, and tracking co-occurrences of codes and quotations. A visual mapping tool also helps build visual representations of the codes to build the conceptualization of the theory.

The initial coding resulted in the creation of 136 codes which, by the end of the interviews, corresponded to 1192 quotations or selections of text. These 136 codes are listed in Appendix B.

Focused coding. During the interviews, as I became more familiar with the codes and began to see consistency of certain concepts emerging from the data, it was possible to begin to recognize connections between the codes and form categories of codes. After nine interviews, I began to merge some of the codes, and began what Charmaz refers to as focused coding. By the end of the interviews, the codes had been merged into "families" of codes, or main categories of codes. Some of this early merging of codes into "families" is illustrated in Appendix C.

Theoretical coding. This in depth coding of the interviews was key to the development of the theory, but the theory only came to light as a result of more conceptual interpretations of the codes and categories. This stage is called theoretical coding: "theoretical codes are meant to be integrative; they lend form to the focused codes you have collected" (Charmaz, 2014, p. 150).

Theoretical sampling. At the point where there are enough codes to begin to group them, the researcher will form categories, or classify the codes according to concepts. As the data collection progresses and the categories are more clearly defined and delineated, the researcher then explores how the categories are linked together, or how best to connect them to develop a theory. Those codes that are raised to theoretical concepts serve as interpretive frames and offer an abstract understanding of relationships between the other codes (Charmaz, 2014).

The best definition of theoretical sampling I came across is in a recent paper based on Isabelle Walsh's talk on grounded theory:

> Theoretical sampling is the process of data collection in which the researcher jointly collects, codes, and analyzes the data, making decisions about what data to collect and where to find those data based not on a predefined population but instead on emerging theoretical ideas. (Walsh et al., 2015, p. 6)

In other words, the researcher continues to collect data based on what he or she finds in the data. Theoretical sampling helps the researcher focus the analysis, refine the categories, and explore the properties of the categories until no new properties emerge, saturating the categories to integrate them with the emerging theory (Charmaz, 2014).

Once I had tentatively chosen my core category and considered theoretical explanations for the social process of the study, I looked back again at the empirical data, the codes and the sub-categories. I

continued to interview participants until no new category properties emerged, and also re-interviewed a participant who was able to reflect on the theoretical framework and provide feedback on its cogency. I achieved saturation not when I saw a repeat of patterns, but when I understood the patterns and could explain their significance; "categories are saturated when gathering fresh data no longer sparks new theoretical insights, nor reveals new properties of these core theoretical categories" (Charmaz, 2006, p. 113). Theoretical sampling tightens the corkscrew until theory exactly matches data (Charmaz, 2006) – not the other way around, where you are matching data to a hypothesis or a pre-conceived framework. As explained by Morse (1995), the "richness of data is derived from detailed description, not the number of times something is stated" (p. 148). The intent of the grounded theory is for concepts to earn their way into the theory, whether through emergence or construction (Charmaz, 2014; Glaser, 2012; Glaser & Strauss, 1967).

Theory development. Through reflective memo writing, data collection and analysis, constant comparison, category exploration and theoretical sampling, a grounded theory began to emerge. Once I had constructed a network of categories (which are identified and explained in the Findings and Analysis section), I began to see a pattern that revolved around a core category for the social process under study; essentially, as simplified by Glaser, grounded theory is the discovery of emerging patterns of behaviour and the generation of theories from the data (Walsh et al., 2015). The core category is the category that the researcher perceives as having the most capacity for explaining the theory, or the most analytic weight (Charmaz, 2014).

The process of identifying the core category was an iterative one, whereby I did several "trial runs" of what I thought might be the core category, testing each of these to see if all the sub-categories could link back to it to form a theory. I knew I had identified the core category when all the pieces fit together, when I could confidently state that the entire psychosocial process of shame in the context of a

situation where a health professional makes a mistake hinges on this central point. I stopped the data collection when I felt I had a complete and convincing theory has been developed that provides a plausible account of the data without gaps or leaps of logic (Morse, 1995).

The theoretical framework was developed by probing the experiences of the individuals. I created a theory by using imaginative interpretations and abductive reasoning, considering all possible theoretical explanations for the data, and then forming and testing my understanding of these explanations until I arrived at the most plausible theoretical interpretation (Charmaz, 2014).

Member checking / Peer debriefing. As a final verification of my theory, I undertook a number of discussions with health professionals about the theoretical framework I had developed. These discussions came out of opportunistic one-on-one meetings with physicians (3), nurses (5) and residents (1) I knew personally, as well as with those who were shown preliminary models of my theory (Grounded Theory Club), and those who viewed a draft version of a diagram of my theory at a poster session during a patient safety forum. I also re-interviewed one of my participants who was particularly analytical and insightful. These discussions are considered a form of member checking and a continuation of co-construction of the theory, which is at the heart of symbolic interactionism. By ensuring the theory resonated with these individuals, this phase of the research improved the accuracy and authenticity of the grounded theory.

Ensuring rigour. Charmaz (2014) highlights four criteria for evaluating grounded theory studies: credibility, originality, resonance and usefulness. The first criterion, credibility, is most closely related to rigour. As noted in the previous section, member-checking was one method used to ensure credibility. The use of memos, which increased the depth of analysis and reflection and ensured I was attentive to method, also added to the credibility of the data. The systematic comparisons between interviews, participants and observations supported the dependability of the data. The use of theoretical sampling

also ensured there was enough evidence for the conclusions drawn about the data; theoretical saturation was only assumed when the categories were thoroughly explored and no new insights were gleaned from interviews.

The other criteria noted by Charmaz are related to the value of the grounded theory study. The Discussion section will highlight how the findings and conclusions from the study meet the criteria of originality, resonance and usefulness.

The research methodology is summarized in Figure 11, demonstrating how the research activities correspond with grounded theory methods:

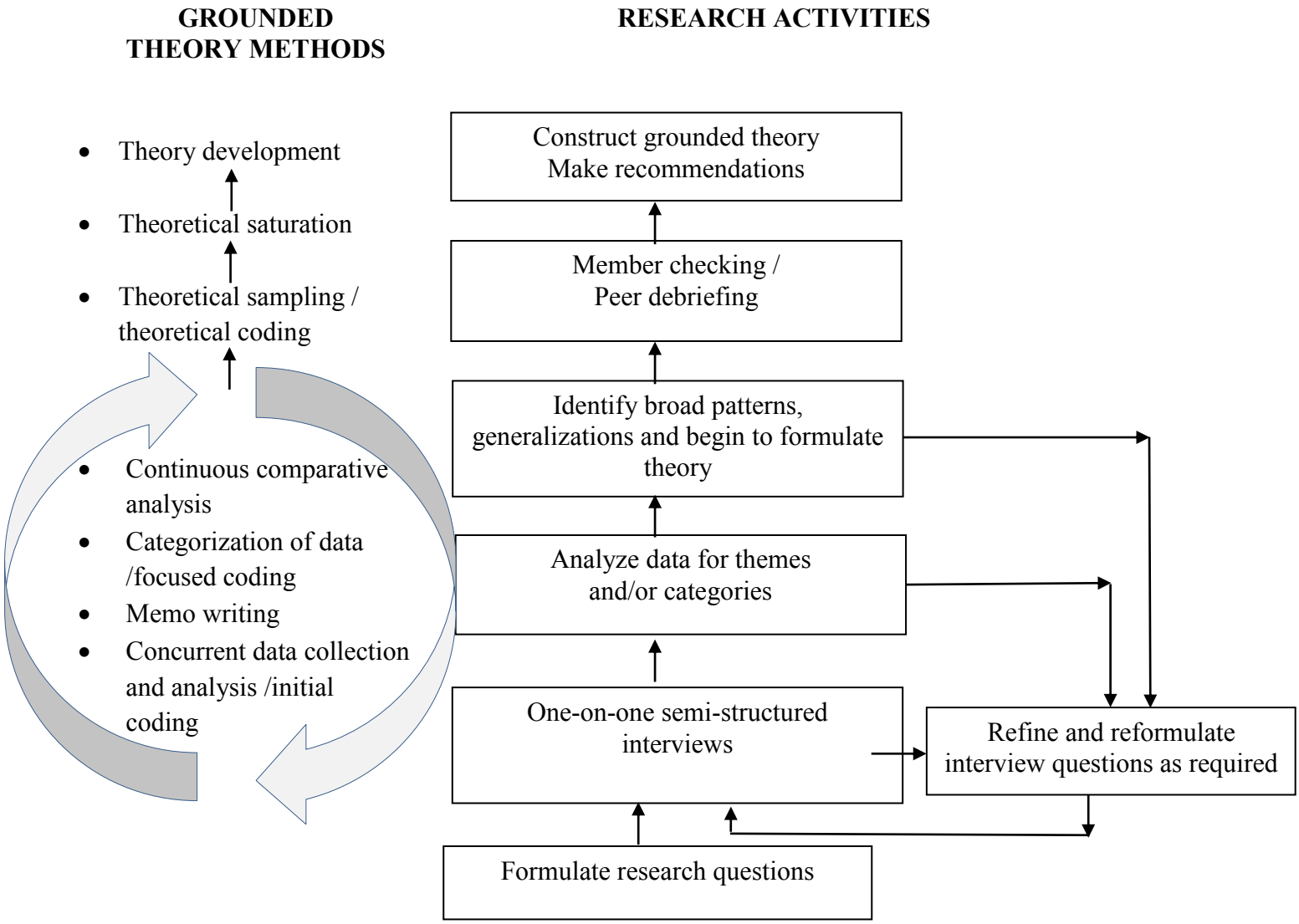

Figure 11. Methodology

Ethics approval

This study was approved by the University of Alberta Research Ethics Office.

In addition, this study required operational approval from the two institutions from which participants were being recruited. In one case, this meant submitting a formal request to the Northern Alberta Clinical Trials and Research Centre that required approval by the Senior Operating Officer of the hospital. In the other case, a formal application was submitted to the hospital's research ethics board; this included copies of all the relevant documents in both official languages, including the poster, email, information sheet and consent form, all in both official languages (English and French).

Findings and Analysis

When I walked into his office, he was confident and relaxed. He told me he agreed to participate in the study to help out a fellow researcher as he knew it was going to be difficult to recruit physicians. A short time later, I had to interrupt the interview so that he could compose himself as he was emotionally distraught. He had just told me the story that still haunted him, a story about a child who died after he had sent him home from hospital. Our conversation was the first time he spoke of the incident in eight years. Despite the amount of time that had passed, he said that every time he remembered the child – sometimes simply hearing a song from that time – he relived the trauma of his mistake. Once he was able to continue the interview, we explored why he was still emotional about the mistake. I then asked him if the mistake had anything to do with his recent career change. At first he said no, but then he paused and reflected, and conceded that the incident probably did play a role in his decision to quit clinical practice. He ended the interview by noting he was glad to be out of any situation where he could make the same type of mistake, and saying:

> *It's just this not having this constantly hanging over my head that I could make a mistake. It is a great relief (Ed, male physician).*

In a quantitative study, this section would be straightforward. It would present in a methodical manner the numbers, correlations and other statistical analyses to make sense of what was found in the research. With a qualitative constructivist grounded theory study such as this one, results have nothing to do with numbers; rather, the findings are the themes, categories and theories that emerge from the fascinating stories, thoughtful insights and intimate revelations of the participants – such as the one described above. The interpretation of the data is not reduced to numbers, as it would in a positivist

approach, but rather a representation of the data, a creative expression of what is learned from the participants.

This section is therefore an explanation of the data that shaped the grounded theory: an account of the discovery of the psychosocial process, the identification of the core category and sub-categories, and a demonstration of how the categories that emerged from the data connect together to build the grounded theory.

Weighing the Risks and Making a Decision

Every mistake made in health care is precipitated by a myriad of decisions such as what dose or type of medication to prescribe, whether to double check a medication with the pharmacist, whether to admit a patient or send him home, whether to call the resident or staff physician about a deteriorating patient, whether to order a test or not, whether to confirm a diagnosis, whether there is something you are missing or forgetting. These decisions are informed by the knowledge, training and experience of the health professional, as well as the protocols and environment within the organization.

The participants in this study clearly recognized the risks in the decisions they made every day, and often noted how they had to be constantly aware of the possibility of a mistake so that "you will do everything in your power to minimize it" (Nancy, female nurse). They mentioned a number of techniques such as double-checking, consulting a colleague, or being critical of oneself, which they used to improve the likelihood that they were making the right choice:

> I hope I continue to be as thorough or as critical of my own decisions as I go on, to make sure that I know what I'm doing. I can process it several times over and feel good about decisions I'm making. (Nora, female resident)

At some point, a decision is made and the health professional acts on the decision that, in the large majority of cases, does not lead to harm. Some, unfortunately, do lead to harm or potential harm.

Causing Harm or Potential Harm

Once a mistake is made and there is harm or potential harm, many things happen all at once or in close proximity, including the immediate emotional reaction, mitigating the harm and disclosure (or non-disclosure).

Emotional reaction. When health professionals realize that they have made a mistake, especially when they perceive it as harmful or potentially harmful, there is inevitably an immediate uncontrolled emotional reaction that the participants describe using words such as panic, fear, sickness, shellshock, nausea and horror. The participants' descriptions of this emotional status were often evocative:

> It's a very visceral fight or flight kind of reaction that is just it just pounds you… my heart just leaps right into my stomach and my throat. (Nancy, female nurse)

> At that point I just remember feeling very hot and sweaty [laughs] and I remember I couldn't look her in the eye because I just felt so awful. (Fatima, female pharmacist)

> And my stomach and heart just dropped down to my feet and I felt really bad because I was, like, I almost clotted this child line off. (Olivia, female nurse)

> It's almost like you've failed as a person. (Fatima, female pharmacist)

> So there's the shame that comes in there. Ashamed of being stupid enough to make a mistake like that. (Tori, female nurse)

Note that only half of the participants used the word "shame" to describe their subsequent feelings while the other half did not, but described feelings that indicate shame. The reason for this may be that the word

itself does not resonate with them, even though many of their descriptions could be summarized as "shame," including the following participant's moving account:

> I'm working so hard on my emotions, using all of my energies to, number one, stay there because I wanted to run, and two, my heart being in my mouth, my head… I can remember my head running wild with trying to figure out why I'd done what I'd done that was so wrong… like me trying to figure out what it is that I shouldn't have done, like was just going going going going …so all of that stuff was going on in my head and doing everything I could not to cry because I was trying so hard not to cry, because I knew that if I cried – which is what I really wanted to do I wanted to cry for a whole whack of reasons – was that I thought if I cried, that would actually humiliate me more.(Nancy, female nurse).

The seriousness of harm or potential harm affects the intensity of the emotional reaction – the more harm to the patient, the more intense the reaction. Some participants noted that even if no harm reached the patient, but the potential for harm is perceived as serious, the intensity of this emotion can still be very strong:

> The fact that you could almost miss and feel like you've potentially almost harmed a patient is terrifying, and I think I would feel very bad about that…I would feel better if nothing happened but again, I feel almost as bad as I was thinking about it afterwards (Trent, male resident).

> Maybe it's not that big a mistake but to me it could have been, it could have been anything, and even if it was just a little thing, it could have been a bigger thing and I could have killed that person. But it's just the thought of…I just had that moment of where I catch myself feeling if this baby had gotten 10 times the dose of Advil it would have been really bad. (Tori, female nurse)

Interestingly, two participants began to describe one of their mistakes as minor, then as the story unfolded, it was clear that, if the mistake had not been caught, it could have caused serious harm. For example, one participant noted: "I have made small mistakes all the time...like major dosing errors when the nurse tells me I made a really big mistake, and then I go and change it and think about how terrible it would have been if it had played out" (Nora, female resident).

The seriousness of harm or potential harm also affects the reaction from others. If the mistake is perceived to be minor or unpreventable or even common, those who are witness to the harm may not react as intensely as when the mistake is perceived to be serious, preventable and uncommon. For example, one participant explained that a mistake that would be perceived as less serious might be a medication that is given at the wrong time or given in a lower dose that prescribed; a more serious mistake would be a medication given to the wrong patient or in a higher dose than prescribed.

One of the most difficult situations expressed by participants is when they were unsure as to whether their actions or decisions affected the outcome. It seems to be particularly troubling to be agonizing about whether they were the cause of harm or not, as if their self-doubt will have no end, and they have no closure on their emotional trauma:

> I'm always thinking if I had done that, would it have made a difference. In my case, the baby I sent home died. So…[participant getting emotional, trying to compose himself]… you always wonder. (Ed, male physician)

The following interview excerpt demonstrates how the participant is still working through his responsibility in the outcome:

> The worst part was is that I talked about it to the senior resident a couple of days after it happened, and she said unfortunately the patient had developed a fairly large brain bleed which may or may not have been related. It was kind of in a funny location so they weren't really sure… the thing is

> he was really premature baby and they tend to do that sort of thing anyway. But what I had done certainly hadn't helped the situation so I felt awful. And the fellow kind of said it's okay, in the sense that it could've happened anyways; it's a weird location, we don't know if it's necessarily what you did and we may never know. And that almost makes things worse. We'll never know. That almost makes things worse. It's true scientifically, medically that's the truth to the story, but it made it really difficult for me even from that perspective because I was like: well now I'll never know if it was me. I almost want to know me so I could feel bad, so I could feel worse about it. (Trent, male resident)

Mitigating the harm. These deeply disturbing emotions come on very suddenly and happen in the short moments following the realization that they have or might have harmed the patient, during which the health professionals must also quickly act to mitigate the harm to the patient (in cases where they find out right after that they have made a mistake). This necessary mitigation adds another layer of stress to an already emotional situation, where the health professional must make sure the patient is not harmed or further harmed, or to take action to reverse the harm if possible.

Unmasking the Self as a Fallible Health Professional

Although this emotional whirlwind of panic, fear, mitigating harm and disclosing the mistake may represent the most immediate and intense emotions, it is not at the core of the process of mitigating shame when a mistake is made. Rather, it is the next stage in the process, just beyond the panic, where health professionals find themselves having to protect themselves – or their self – against a myriad of internal and external influences. The following describes the subcategories that connect with this core category to build the grounded theory.

Wearing the mask of infallibility. What became clear during the interviews was that health professionals must constantly portray themselves as trustworthy, competent and infallible towards their patients and colleagues; it is how they build trust with each other and with the patients. This mask of infallibility – a concept coined by Jay Katz (1984) – allows them to appear perfect to the outside world – and in the process, possibly partly or wholly convincing themselves of the truth of the mask. This tendency to feign infallibility is also echoed by Berman (2006).

Even if they don't believe it themselves, in order to function, they need to convince others that they know what they are doing, that they can be trusted, they are not going to harm the patient.

A number of participants alluded to this mask, although using other words to describe it. The following are just a few examples:

> But it's almost like you keep a game face on here, but then the things that really go on in your head. (Fatima, female pharmacist)

> I thought of the patient first and the consequences to the patient, but then the next one was "I'm not who they thought I was" …You're so afraid of seeing…of what you will see in the other people person's eyes, that it will confirm even more that you're not….that you're a sham [participant gets emotional]. (Nancy, female nurse)

Another form of the mask of infallibility is confidence. One participant, a resident, explained that it was very important to appear confident, and that she had actually been criticized for not appearing confident enough. She had to "mask" her real feelings of doubt and lack of confidence in order to be considered competent by her supervisors.

When a health professional makes a mistake, this mask can begin to erode, from the inside and out. One participant described this feeling as being "stripped naked" (Nancy, female nurse).

The next two sections describe the external exposure and the internal erosion.

External exposure. There are various levels of exposure depending on how widespread the knowledge of the mistake is known, and how significant the potential or actual harm.

There might be very little exposure if the health professional chooses not to disclose the mistake to anyone, choosing not to risk exposure. There are a number of reasons why health professionals choose not to disclose the mistake. If it is a minor mistake – described by participants as "silly" or "small" or "little" – and there is no perceived harm, then they can more easily dismiss the mistake as insignificant, especially if there is a low likelihood of any harm coming to the patient at all: "it was a benign, topical medication so nothing happened" (Fiona, female pharmacist). They are more apt to keep it to themselves, cope with it easily, and learn from the mistake: "The smaller ones, I'm like, oh okay, we'll do them right then, move on, just learned" (Matt, male resident).

The *in vivo* phrase "mistakes are made all the time" is used often to dismiss small mistakes; it is a seldom discussed but accepted "truth" that many mistakes are made but kept secret.

Even if a mistake does cause harm or could be considered a significant or reportable mistake, they might choose to hide it, stay silent and hope their mistake will never be discovered. The fear of repercussions, the shame they feel, the flight instinct to protect themselves from exposure prevents them from disclosing the mistake to anyone; this is especially true if there is no actual harm.

> I mean some of my mistakes I kept secret, they were kept secret in terms of who needed to know… I‘ve been there …were kept secret after that, minimize minimize minimize minimize, because you re-experience the mistake every time. (Nancy, female nurse)

When asked why she kept her mistakes secret, one participant explained:

> So I think a lot of people don't say anything because even though we're human, and some of us have probably made one, two, three, a handful of mistakes, we don't talk about it because being detail oriented is so core to what we do that if you were to fully admit "you know what, I overfilled the syringe of prednisone, or I miscalculated on the dose." If you say that too many times, then people will associate you with making errors, and people will be very cautious around you. So I think a lot of people are very quiet about it just because it's so core to our profession. And I think it's a lot of pride too. That's why I think for me, I keep quiet. I feel really guilty associated with it, so I often ruminate about it so that just naturally makes me quiet. But I do think you don't want to be perceived as a person that makes mistakes within the department. (Fatima, female pharmacist)

As soon as a mistake is made that is not kept secret – where a health professional chooses to disclose it, where there is harm that cannot be hidden, or where someone else witnessed the mistake – and when it is revealed, the health professional is suddenly vulnerable to external exposure. The negative connotation of the word "exposed" is deliberate, as participants describe the immediate external influences using this word, or words that describe feelings of vulnerability and risk. This exposure takes many forms, including negative reactions such as judging, bullying, blaming and isolating, as well as exposure that is deemed by the organization to be positive, such as team debriefings, reporting, email notifications or morbidity and mortality (M&M) rounds.

One participant explains how this external exposure can be overwhelming:

> So what you see in someone else's eyes, what you hear in their tone of voice, what you hear in the discourse, and the discourse can in fact …how exposed you feel depends upon how big that exposure goes… how much does it stay relatively private or how much does it go public with mistakes, depending upon the severity of the mistakes, what type of mistakes… that mistake in fact might be written all over the freaking chart, and now everybody reads it and everybody reads it forever, because a chart lasts forever. (Nancy, female nurse)

The following describes the different forms of exposure.

Judging. Participants describe their fear of being judged for their mistake, and often perceive judgement without evidence that they are being judged. They assume that others will think less of them because of the mistake, will use this mistake to assess their abilities in the future, explaining it with words such as "people are going to look at me like I'm stupid" (Sam, female pharmacist). Many of the descriptions of this perceived or real judgment invoke evocative images of what they experience when they make a mistake, as if they are walking around with a scarlet letter A – like Hester Prynne in Nathanial Hawthorne's *The Scarlet Letter* (Hawthorne, 1850) – or a sign that says "I made a mistake, I am bad."

> I always feel like they're hanging out at my back saying "you're such a loser, you're so stupid, you made this mistake, God you're dumb and look you're getting so old, maybe it's Alzheimer's." I just …I always will continue to feel that way around those people. I don't know how long ago that was, maybe 3 or 4 years ago. But I still feel that way about those two particular people. I don't particularly like to be around those people because I feel vulnerable around them. (Tori, female nurse)

Interestingly, many participants acknowledge that they have no evidence of this judgment. For example, when asked how she knew a colleague was judging her, she could not explain, but insisted that even though she never spoke to him about it, "He's always going to remember that, whenever he goes to give me orders and asks me to do something, he's never going to trust me. He'll never trust me" (Tori, female nurse).

One participant also acknowledged that she herself would not judge someone else on one mistake; she clearly expects others to judge her more harshly than she would judge others.

> Because I don't think, if I was with someone and they made a mistake, and it was someone that I already had a really good opinion of and trusted and worked with for so many years and we'd always had a good working relationship and stuff, and if they made a mistake, I don't think I would write them off, as being completely useless. But I guess that's what I think of myself. (Tori, female nurse)

Bullying. Bullying is defined as a situation in which individuals perceive themselves as being the target of negative actions, persistently over time, by one or many others (Rodwell & Demir, 2012). Workplace bullying tends to be subtle and sophisticated, and can be psychologically cruel (Wright & Khatri, 2014).

A number of participants described incidents that can be clearly defined as bullying, but the most common were gossiping, shaming and teasing/joking.

Gossiping. Although more rampant and pervasive in one of the two institutions in the study, gossiping was a key external influence against which participants felt they had to brace themselves. Gossiping is described as that whispering that goes on between colleagues (participants often play acted whispering into someone's ear during the interviews), that negative talk that can damage a person's

reputation. Participants used expressions such as "being dragged through the mud" (Sonya, female nurse) to discuss how harmful gossiping was perceived to be. At the very least, gossiping made participants feel "less safe in the workplace to talk about things" (Tammy, female nurse).

Once I realized that this was an important theme in the social process of mistakes (as a result of using constant comparison during my data collection), I explored with the participants the reasons why health professionals would gossip about others, and found that there were a number of possible reasons, including what one participant described as curiosity, whether healthy or morbid:

> Part of it is that people naturally want to connect, and we connect by sharing stories whether they're good stories or not. Kind of like negative bonding, so bonding over shared dislikes of things. And I think in insecure environments people are more likely to engage in that kind of behaviour. Some of it is to make ourselves not feel so bad – "I make mistakes, but they make mistakes too" or "their mistake is worse than mine" kind of thing. You know I think am attempt to alleviate our own kind of anxieties sometimes people perversely enjoy it. (Susan, female physician)

Another participant also suggested that gossip was a way to rally people into action to be more diligent or careful. Many participants acknowledged the comfort of talking about someone else's mistake, if only to emphasize the feeling of "there but for the grace of God go I" or "If it happened to them for God's sake, it could happen to me" (Sam, female pharmacist). Participants also likened gossiping about mistakes like rubbernecking or "like a car wreck you can't stop looking at" (Susan, female physician).

Shaming. Shaming can also be considered another form of bullying that is an intense form of mistreatment that targets particular individuals (Wright & Khatri, 2014). Participants describe situations where, when they have made a mistake, someone deliberately speaks to them in a way to make them feel

ashamed, by using words that force them to feel badly about what they have done. One participant described how another health professional had berated and shamed her publically:

> And he started to call me, he was yelling and it was in a room in which there were six other patients with their nurses and some of their families … they are all being drawn in to hearing this surgeon saying out loud, yelling as well very aggressively, telling me how stupid I was, and so this… how could I be an idiot, how could I have whatever, and I'm working so hard on my emotions, using all of my energies to, number one, stay there because I wanted to run. (Nancy, female nurse)

Another participant describes how she was brought into her manager's office and "scolded" for a mistake, telling her she was an "embarrassment to the institution;" the participant whispered to me that "she made me feel this high" (Bonnie, female nurse).

Teasing/joking. The bullying might be clearly discernable, as when someone publically disparages another for a mistake, but it also could take the form of teasing or joking that was done publically, that the individual perceived to be a deliberate attempt to humiliate. One participant described in detail how an individual in her department looked for any opportunity to put her down or point out her mistakes, but did so in a joking manner so that he could get away with it.

> So now, he's like "oh everybody oh you all think [name of individual] is so great. Well now look what she did, she almost killed this kid. Ha haaaah." You know, that's his kind of way of doing things. So then I feel even more shame because of that, and he goes and tells that to the world, and to the whole department, in his bragging kind of way "oh I didn't make that mistake." (Tori, female nurse)

This participant was an older health professional, and felt that her age was part of the reason she was targeted; interestingly, two participants noted that older health professionals were the target of this type of bullying, a form of ageism. They describe feeling particularly vulnerable in the face of this joking, feeling powerless to defend themselves against a younger, more assertive generation. At the same time, another participant noted the lack of professionalism in younger nursing students, indicating that reverse ageism might also be present.

Blaming. Despite the fact that both organizations, according to the participants, promote a just culture where errors are investigated using a systems approach, it is the case that at the front line, the reality seems to be that health professionals are still looking to blame someone for the mistake. Inasmuch as health professionals are encouraged to analyze errors and find out what went wrong along the process within the system, the participants insist that there is still a lot of pointing of fingers, of looking to identify one individual who was at fault.

> But the staff surgeon who actually did the operation came back the next day and asked me: "Did you see the patient? Why didn't you tell me about this patient? Why didn't we do this operation last night? What are we thinking in the emergency department?" So there was a lot of be blaming in that situation by the staff surgeon to me making the wrong decision. (Francis, male resident)

One participant made a point of explaining why his colleagues might continue to blame. He maintains that it is hard to accept that errors are random or system based, so that when anyone tries to explain why a mistake happened, it is easier and more simple to point a finger at someone; "instead of looking at the complexity of why somebody arrives at the decision, that maybe turns out to be the wrong decision, we say it's the failure of that person" (Tarek, male resident). One participant suggested that it

might be a way for an individual to cope with their own guilt: "There was a coping mechanism on their part to defray it from their conscience and try to pick a scapegoat" (Sam, female pharmacists).

It seems it is also the case that blame can be passed down through the hierarchy of the organization:

> People higher up in the food chain or higher up in the seniority or position sometimes passing blame down the ladder. It's tough because it just keeps getting passed down and down and down until whoever is on the bottom at that time…I was an R1 and I was at the bottom and it all fell on me. (Tarek, male resident).

If shame is an internalization of feelings of inadequacy, then blame is the externalization of those same feelings.

Silencing/ Isolating. Despite the organizations' systems approach to mistakes – which one participant called paying "lip service" (Tom, male pharmacist) to a just culture – participants also maintain that silence is still the norm around mistakes, that there continues to be an understood code of silence when someone makes a mistake.

> So I think a lot of people don't say anything because even though we're human, and some of us have probably made one, two, three, a handful of mistakes, we don't talk about it (Fatima, female pharmacist).

For some health professionals who do not wish to talk about their mistakes because it brings back feelings of shame all over again, silence might be acceptable and even desired behaviour from their colleagues. On the other hand, health professionals might interpret their colleagues' silence as judgement, as though their silence indicates they feel it is such a shameful event they are avoiding the topic

altogether. In other words, to the person making a mistake, the silence can be just as powerful as words, implying blame and disapproval. One participant tried to sort out her feelings about this paradox:

> It's so funny because you want silence, you want it because you don't want to be exposed, but you don't want to because you don't want to be lonely and isolated in how you feel …you don't want to feel that you're the only one that has ever made a mistake ever so it's a real paradox …you want to keep a secret. (Nancy, female nurse)

In summary, silence is a form of communication that might signify objection and dissent, endorsement or approval, or a belief that voicing would be futile and dangerous (Cohen, 1990; Pinder & Harlos, 2001).

Anger. The literature on shame (Smith & Forster, 2000) notes that anger is one response to shame; individuals who cannot or will not process the shame they feel will lash out at other people as a way of dissipating their shame. None of the participants described their own reactions to mistakes in the form of anger, but did describe reaction of others who were involved in the mistake and who took it out on them instead of taking any responsibility for the mistake.

> You have some physicians, they'd be so angry they would take their pen – normally you can't read half the writing – and all of a sudden it's in print and it's all capitals and it's big and it's deep on the paper [participant very emotional]… and there was one incident that I was involved in …I was involved because of the fact that I was supervising at the time so I had to get involved as the supervisor… the physician was so angry about what happened that in the record – and he didn't control his anger before he wrote the note – he actually wrote in "the stupid nurse" and then put her name in… you don't do that kind of stuff… but it's again not only was it there but how it was there made it even more visible… this exposure to me that's like adding rape on top of a form of

> abuse… on top of shame that the person may already be experiencing if they didn't experience it before that they sure would after that…you can't throw it out, it's there, it's a legal record, it didn't happen to say very much about this physician, but it doesn't matter …nobody's going to remember the physician or even bother to go down to the end just see who signed off. What they're going to remember is the big bold letters. (Nancy, female nurse)

Organizational processes. There are a number of organizational processes that are considered part of systems thinking or part of a transparent just culture that promotes open communications about mistakes so that everyone can learn from them. These processes – such as reporting, incident management, debriefing, mortality and morbidity (M&M) rounds and disclosure – were labelled by Scott et al. (2009) as "enduring the inquisition" (p. 328), and were clearly a form of exposure from my participants' perspective. Even though the organization might consider these processes as positive learning experiences, the participants seem to think otherwise. One participant explained why reporting a mistake can mean widespread exposure:

> And then you've got to tell somebody and you're making the decisions all the way along the line about who the order …of whom it is you're going to tell and a lot of that is dependent upon the severity of the mistake, of the mistake you made and you're making a judgment about that severity, and you're making a judgment about how long you have to wait to tell people, so you're making decisions about the mistake at a time when you're feeling extremely… you feel vulnerable. (Nancy, female nurse)

One resident noted how difficult it can be to attend an M&M round when one's mistake was being discussed:

> I think it's the way it needs to be, but I know from speaking to other residents who had their work as a focus of an M&M round, they all leave feeling terrible. That they feel like they made a poor justification of poor decisions, and it's making them really question their work…. So from a resident perspective they've done their due diligence. But because there was a poor outcome in that situation, that individual felt awful and had to sit through 20 minutes of different staff saying "well I think this should've happened, they should've done this, they shouldn't have done this." (Trent, male resident)

One of the organizations in this study held safety reporting system (SRS) meetings, and one of the participants described the effect on her colleagues:

> I don't think so. I go to SRS committee meetings. I know a couple of times I have seen some nurses – they get devastated, they cry at these things. I know at these meetings they do go through the system thing, so I just tell the person, they're not just picking on you. And every time I've gone to one, I think "yeah, the system really isn't supporting that staff the way it should." (Sam, female pharmacist)

An email sent to all staff to notify them of an incident – even if they don't name anyone in particular – can also have a devastating effect on the individual who feels shame about a mistake. For example, one participant told the story of an email that was sent out about a mistake he had made:

> So that was my last night of that call so I was off for the weekend. And then on the Sunday or the Monday, there was a mass email sent out to the entire hospital, the entire department, saying that there was an incident where a resident and a respiratory therapist had changed high flow on the ward and then they said the patient had deteriorated directly as a result of that. So I guess it wasn't exactly identifying me or blaming me, but that mass email basically pointed the finger at me and

> said that I had basically caused the patient to deteriorate when that's hard to prove. Really the patient deterioration was not really a deterioration that required a change in care. I guess I just felt that was a big shock and a lot of shame. (Tarek, male resident)

Another participant described the angst she felt when she saw that she had received an email she knew was about a mistake she had made:

> There's always a follow up email to all of these incident reports and again, I saw that, and I knew that it was the follow-up commentary, and I freaked – once I saw it in my email box, because it's kind of like a reminder that, man, you failed. And so again it actually took me about three days to work up to looking at that, because I just felt so awful when I saw it. (Fatima, female pharmacist)

Another significant organizational process in incident management is that of disclosure to the family. The health professional might also have to make decisions about informing others about the mistake – the families and/or other health professionals – again adding to the emotional distress of the situation. One of the participants described the harrowing "walk down the hall" to tell the parents of the patient about the harm:

> Because you have to walk up to the parents. And if a mistake happened and you have to talk to the parents, it's the longest walk you ever do. Right? To walk up to the parents and to be able to talk to them, because you know what's going to happen. Parents aren't going to say "Oh, yeah, you know what, shit happens." They're not going down that road. They came here to expect that you will damn take care of their child. If something happened to the child, who else, it's your fault. It's your responsibility, you should have done a better job. (Peter, male physician)

Internal erosion. As noted above, some individuals choose not to expose their mistake – or themselves – by hiding their mistake, or at least not telling anyone about it. This does not preclude them

from internal erosion, however; even if they are not exposed – even if nobody finds out about the mistake – they can still be provoked by their own negative thoughts about what they did or did not do. Whatever the exposure, health professionals must also deal with the internal or self-inflicted impact of the mistake. The participants describe how they are suddenly confronted with a number of internal questions and thoughts that begin to erode their self-identity:

> It's almost like you've failed as a person. (Fatima, female pharmacist)

> But I felt just awful, I was just devastated. It was very difficult for me to do my job for the rest of the night even. I was very much, like, calling for every little thing that came up because my confidence had been shaken and I wasn't able to make the decisions that I needed to make confidently. (Trent, male resident)

> So I still felt there was so much, I just felt like I was incompetent, I felt like I didn't know what I was doing. (Olivia, female nurse)

Note that, once again, these statements describe shame without naming it: these participants are assessing their actions, feelings, or behaviour against a set of standards, goals or rules, and are deciding they have failed.

This erosion, amplified by this shame, takes a number of forms, all of which health professionals must reinforce themselves against if they are to come through the process successfully, and move beyond the mistake in a healthy, positive manner. Internal erosion takes the form of self-doubting or second guessing oneself, counterfactual thinking, self-criticism, irrational thinking, and remorse.

Self-doubting/second guessing. Much of the erosion of self-identity comes with the self-doubt health professionals experience about their abilities after a mistake. Many participants who might have

felt confident about their abilities are suddenly confronted with the realization that they might not be perfect, that they are capable of making a bad decision, of slipping, of failing. The participants might not only question their abilities, but also whether they even belong in their profession.

> You begin questioning your practice, questioning if you should still be practicing, and what area you should be working in. Questioning your knowledge base and your abilities. I think it's questioning you as a professional providing care. I think that's what it's really about. I think it has the opportunity to undermine the confidence in yourself. (Tammy, female nurse)

> So I think there's a lot of emotion invested in it, and it puts into question your ability to succeed in your profession, which is what most of us have invested our entire lives trying to be good at. (Nora, female resident)

> But I felt just awful, I was just devastated. It was very difficult for me to do my job for the rest of the night even. I was very much like calling for every little thing that came up because my confidence had been shaken and I wasn't able to make the decisions that I needed to make confidently. (Trent, male resident)

One participant noted that even filling out a form to report an error starts a "whirlwind" of self-doubt as one of the questions on the report is "what could you have done differently?" The participant maintains that "it makes you beat yourself up" (Whitney, female nurse).

Much of the self-doubt experienced by health professionals after a mistake expressed itself as second-guessing. Participants describe how they begin to ask themselves whether the decision they made was the right one, considering the harm or potential harm, or whether they should have been more careful, taken more time, asked for help or done more research.

> Maybe I was doing it too fast, maybe I was checking the phone and the phone rang and I got distracted, and I thought I checked it. (Ellen, female pharmacy assistant)

> That particular incident has definitely scarred me because it makes you more fearful, more anxious, thinking [whispers] "have I read this right, have I got this right?" It shouldn't be this way. (Bonnie, female nurse)

> And I remember thinking back and thinking did I check the creatinines, did I check to see if it was a renal patient, did I look at the files? And I couldn't remember because it was two months prior. (Fatima, female pharmacist)

Counterfactual thinking. Similar to second-guessing, participants describe questioning their decision, but use words such as "what if" to think back to the decision and wonder about what would have happened if they had made a different one. This is counterfactual thinking, or "the ability to imagine alternative, or *counterfactual*, versions of actual events" (Roese & Olson, 1993), which can be beneficial in some instances, but can also cause a person to negatively judge past behaviour. One participant explained her reaction using this term:

> There's a term for that – counterfactual thinking. Going back on a decision and seeing what are all the other things you could have done. The list is a lot longer than what you DID do. If you did something and something went wrong…but what you didn't do is a whole range of things… So my colleague was like "I should have known…I should have known that she was tachycardic so I should have known something was wrong." (Nora, female resident)

A number of participants expressed this same feeling without labelling it as counterfactual thinking:

> Thinking back, although it was a long long time ago now, it bothers me because if I was still at the bedside and hadn't gone to get the medication – even though I thought I was doing the right thing – it maybe wouldn't have happened. (Tammy, female nurse)

> And always thinking if I had done that, would it have made a difference. In my case, the baby I sent home died. So…[participant getting emotional, trying to compose himself]… you always wonder. (Ed, male physician)

> I find it hard to when you're deciding between two treatment options and you pick one and something bad happens, it's always hard to because you don't know if you picked the other option if what happened would have happened anyways. (Fiona, female pharmacist)

Even in situations when no harm was done, the participants can also add to the erosion of their self-identity by considering "what if" scenarios where the patient could have been harmed.

> That's the one where …not shame but I wouldn't say I felt shame… I felt …I guess what is shame? I never questioned nursing. I questioned the what ifs: what if I hadn't done that, what if? how did it happen? if somebody else had been there? how long was it? Like that. (Tammy, female nurse)

As noted in the literature review, hindsight bias also causes us to believe that events that have happened were potentially foreseeable – and if they happened, it is because we failed to live up to our standard, leading us directly back to shame and silence.

Self-criticisism. Participants sometimes went beyond self-doubt to self-criticism, which can include contempt and disgust for the self (Whelton & Greenberg, 2005). One participant decidedly recognized this in herself:

> I don't think I push myself too hard, but I know I'm hard on myself, which is not good for my mental health. There's a lot of the inner monologue of what I should be doing and shouldn't be doing, and wasting time on things that I shouldn't be doing and that sort of thing. (Nora, female resident)

This reaction was described over and over again by many participants, who often used physical motions to demonstrate their frustrations with themselves (such as hitting the table, hitting their heads with their hands, or clenching their fists). They use self-deprecating words to describe this act of punishing themselves:

> But for some reason when it's an error situation and I know it's my fault, or 90% think it's my fault, I find that it's just like the train fell off the tracks. I get hot, I get nervous, I feel an intense amount of guilt, and I keep on almost like punishing myself. (Fatima, female pharmacist)

> It is helpful to apologize. But it doesn't take it away completely. Because it doesn't take away my beating myself up. (Tori, female nurse)

> So when we find ourselves kind of in that weird zone where we've failed, it's almost like a personal attack. It's almost like you've failed as a person. (Fatima, female pharmacist)

One participant described extreme self-criticism as "self-flagellation" (Ed, male physician). The participants often abused themselves verbally, using derisive words to describe themselves at the time of the mistake, especially the word "stupid;" nine, or almost half of participants, used this word to describe themselves after a mistake. They also used the words "incompetent," "idiot" and "dumb."

Irrational thinking. Some of the irrational thoughts participants had might have prevented them moving on from shame. These thoughts can be summarized as follows:

- I must be perfect
- If I make a mistake, people will respect me less, trust me less
- I am the only one responsible for the mistake
- I am stupid
- I must continue to carry the shame so that I never forget
- I am wholly responsible for any bad outcome for the patient
- Every decision I make has an impact on the outcome of the patient
- If the patient has a bad outcome, it is my fault.
- This is a catastrophe

Although they might not recognize these thoughts as irrational, many participants expressed them in various ways. For example, after she made a mistake, a participant (female nurse) was asked by a physician if she was okay. The nurse assumed that he was not really asking if she was okay about the mistake, but rather question her ability as a nurse. Even though the physician might have been reaching out to her, she interpreted it as a negative response.

The following quote is an example of irrational catastrophizing:

> I remember getting the email, and the second I saw it in my inbox and even though there's no name – it just says SRS report, please add comment – I remember looking at that and then shutting my email, didn't even open it, and I just flicked it on and off all day. I couldn't bring myself to look at it, because I thought "Oh God, this is just going to be evidence of how incompetent I was in that time." I actually had to work myself up to it by end of day because I just felt so awful that I was negligent. (Fatima, female pharmacist)

The following conversation between the participant and researcher also illustrates irrational thinking, as the participant makes an assumption that a physician no longer respects her since she made a mistake in front of him:

R: And you've never talked to this Dr. [name].

P: Well he was in the meetings.

R: You never talked to him on a one-on-one? To say, you know I still feel really badly about that.

P: No but I probably could. It's not going to take that away though. He's always going to remember that, whenever he goes to give me orders and asks me to do something, he's never going to trust me. He'll never trust me.

R: And you know that not because he said that, but because that's what you would feel about someone…

P: Would I? It's a good point. See I don't know that I would.

R: But yet you are projecting that on him, that he feels that way.

P: Yeah. It's a good point. Because I don't think, if I was with someone and they made a mistake, and it was someone that I already had a really good opinion of and trusted and worked with for so many years and we'd always had a good working relationship and stuff, and if they made a mistake, I don't think I would write them off, as being completely useless. But I guess that what I think of myself.

R: Or that's how you think others see you.

P: Right. (Tori, female nurse)

Remorse. Many participants experience remorse – that distress that arises from guilt of having hurt someone – that negatively influences their self-identity. They describe it as being angry at or disappointed in themselves, and note that it can be debilitating:

> It was a shame now, because every time I relive that experience, I relive my thoughts about me [participant crying] and how stupid a nurse I had been, and that stupidity could've ruined the patient, could've ruined the family for life. (Nancy, female nurse)

> And in the end that's what happened. In the end the baby obstructed and died. And you go back in retrospect and you say I should've pushed harder. I had a feeling in my gut that this was the way to go, and I got intimidated by the other consultant's stature and experience, and so I backed down. (Ed, male physician)

Interestingly, this remorse can even be felt if there was no direct causal link between their actions and the harm, as noted in the following excerpt:

> And the fellow kind of said it's okay, in the sense that it could've happened anyways; it's a weird location, we don't know if it's necessarily what you did and we may never know. And that almost makes things worse. We'll never know. That almost makes things worse. It's true scientifically, medically that's the truth to the story, but it made it really difficult for me even from that perspective because I was like: well now I'll never know if it was me. I almost want to know me so I could feel bad, so I could feel worse about it. (Trent, male resident)

Summary. It is clear from the participants' stories that exposure and erosion are an integral component of the psychosocial process of making a mistake. It should be noted, in closing this section on "Unmasking the self as a health professional," that the two influences are also interconnected. On the one hand, some types of exposure – such as bullying, shaming or blaming, for example – can break down a person's reinforcements against erosion of self-identity. On the other hand, a hypercritical attitude

towards yourself might bias your perception of others' reactions; a person's own internal erosion can affect how they perceive external exposure. For example, a person might perceive they are being judged by others, without having any actual evidence of this judgement.

The next section will explore how participants are able to reinforce themselves against the erosion and exposure.

Reinforcing the Self Against External Exposure and Internal Erosion

Against this onslaught of external exposure and internal erosion, health professionals must find a way to reinforce their self-identity as a health professional in order to overcome the shame from their mistake. If their self as a fallible individual is being exposed, or their confidence is being eroded, health professionals reinforce their self-identity by containing the mistake, blaming bad luck, randomness or "being human," rationalizing, avoiding responsibility/blaming others or, in some cases, talking about the mistake.

Containing. When they make a mistake, and after they have absorbed the reality of their situation, health professionals attempt to contain it in a number of ways. First, many do their best to keep the mistake from becoming public knowledge –by not disclosing it at all, or at least by keeping it to themselves whenever possible. In other words, they try to limit the exposure as much as possible, as explained in the following conversation with a participant:

> P: People are pretty private about it. If we get an email saying there's a safety report we tend to get it through email and we tend to discuss it with management behind closed doors. I don't think a lot of pharmacists tell each other "oh I made an error about this, I feel awful about it." We tend to be very quiet.
>
> R: Why do you think you are quiet about it?

> P: Sometimes I wonder if it's because you don't want to be perceived as the weakest link in the department. (Fatima, female pharmacist)

Three of the participants noted that they contained their reactions to the mistake by avoiding disclosure to families. This participant explained why he could not confront the family of his patient:

> No. In that case, I didn't because I felt like I couldn't look at them. I couldn't look at them and say "I'm the pharmacist that is entrusted to take care of your daughter and I totally bunged this up." I feel like putting a face to a name would almost make it a) more real and b) I would be pretty much targeted by that family, and I would always have their faces in my mind associated with that error. So I never really wanted to see them, because it would take the emotions I would feel on paper and I associate it with the face and that's just an even stronger connection to me. So I felt like I felt bad enough with just reading it. I didn't want to associate anything more personal with it. Yeah, I think that's a fair statement. (Fatima, female pharmacist)

One participant explained how she waited until she knew she could handle an email about a mistake she had made before she opened it – effectively containing the distress around the mistake until she was ready:

> But, yeah, three days to actually look at that follow-up email. But even then, I did it in my office with the door closed [laughs] because I didn't want anyone to see my reaction to it, because it's basically a rehash of everything. You read original incident email, you read everyone's comments that are involved, and then you read kind of the summary post-mortem. And I just remember feeling completely mortified. I just remember thinking, wow, I really should have been more diligent. But yeah, it was just awful. (Fatima, female pharmacist)

Individuals also have help to contain the mistake; one participant alluded to "very strong structures" that are created around mistakes in such situations as M&M rounds, as though they were trying to contain the mistake (Nancy, female nurse). This participant also explained that one of her supervisors once helped her contain her emotional response to the mistake:

> …she was actually teaching me, what she was trying to do by assessing the patient with me, was that she was trying to reassure me that this was okay …she was helping me contain my response to the degree of severity of my mistake, which was relatively minimal …she was trying to reassure me that no, we want to prevent you from making a mistake but contain it …do not go to all of these what ifs that you don't need to be going to, because I would've gone right away to what if the patient died, what if the patient's kidneys shut down, what if, what if, what if … because you want to go to the what is the worst-case scenarios. (Nancy, female nurse)

Another way of containing the mistake is by minimizing it. It is often the case –whether rightly or wrongly – that the participant will note that the mistake was not a major one, that it was "only a little mistake" or "not a big deal." It is by putting the mistake into a perspective where it has a smaller impact on the self that individuals are able to deflect the shame they feel about it. Interestingly, some individuals express that it was "just a small mistake" only later to reveal that it was actually a serious mistake that could have cause significant harm. Mizrahi (1984) calls this the "narrowing of the definition of mistakes" (p. 137) so that they can exclude the smaller mistakes and decrease the number for which they feel responsible; this redefinition allows to dismiss their mistakes as inconsequential. This might explain why two participants (Francis, male resident & Matt, male resident) asserted they had never made a significant mistake.

Bad luck/randomness. Again and again, participants alluded to the common belief that sometimes mistakes are random, using the *in vivo* phrase "mistakes just happen." They imply from their statements that mistakes are sometimes just cause by "bad luck" or are simply "random" because mistakes are perceived to be inevitable and unpreventable. The individuals who state this are disassociating themselves with the mistake, deflecting any allusion to being the cause of the harm, stating that "it was just a mistake and mistakes happen" (Fiona, female pharmacist). Mizrahi (1984) calls this distancing mechanisms for self-protection. The following are some examples of this distancing:

> You understand that it is not just your competency…it's not your competency here, it is something that happens to us every single day, every moment, that we do think that we make the right decision but it turns out to be a problem. (Peter, male physician)
>
> It's not of your control, sometimes bad things happen, you do your best but sometimes bad things still happens no matter what. And recognize that people are doing their best too. Just because a bad thing is happen it's not because they did something wrong. Probably – the chances are very good is because bad things sometimes happen. (Susan, female physician)

"Being human". Similar to blaming bad luck or randomness, blaming a mistake on "being human" distances a person from the mistake. Participants seem to have an easier time dismissing a mistake, especially a minor one, if they can reassure themselves that they are "only human" and not perfect, and therefore will inevitably make a mistake like any other human will. There are several examples of this in the data, similar to the following:

> You feel a little bit like we are human and we're going to make mistakes. (Olivia, female nurse)

> You make mistakes, that's the nature of humans, right. (Tom, male pharmacist)

> I think I want them to realize that I'm human and that we make mistakes and that hopefully it wasn't, they recognize it wasn't a mistake I made in malice – it was a genuine mistake. (Susan, female physician)

> But at the very core of it you're still human and there are so many things buzzing around you that, what can you do? I'm surprised that we don't make more errors. I think we're doing pretty good thus far. (Fatima, female pharmacist)

One participant noted that it is difficult to learn from mistakes that are simply human error, relating the story of when a patient asked him what he would do differently to avoid the harm in the future:

> What happened was they were very reasonable. I think the father even asked "so how would you avoid that mistake from happening again?" And that was a very difficult question because honestly, I had to say, well, because it was a human error, it's very difficult to put something in place that would avoid it if there's a change in plan. (Peter, male physician)

Rationalizing. This response to a mistake includes behaviours where an individual thinks about the mistake in a methodical, logical manner to explain how they made the mistake. The following are some examples of the participants' rational thinking about why they made the decision that cause the harm or potential harm:

> Yeah, just thinking about why did I do that at the time, why was that the decision that I made. Because we generally make decisions for reasons, we don't just randomly decide to do something… So I think part of the process when you think back to why did I make the decision at the time, but now that I've seen the outcome maybe next time a situation comes up I will make the decision a different way. (Fiona, female pharmacist)

> Because it's not very usual that something happens just because just one person makes a mistake. There's usual multiple factors that contribute. (Tanya, female physician)

One of the participants explained in a rational manner why he makes mistakes by debunking the commonly used analogy of the airline industry being like the health care system:

> Patients are no airplanes. It's not the same situation. You're not dealing with a machine. And you can certainly take some steps out of it, but every patient is different. There's a constant change in plans, and these constant change in plans it's not something that happens in the airline industry. It's always the same – there may be bad weather which you have to adjust – but it's not like us. We're making constant changes to the patient, or what we initially planned has to be constantly modified. And along the way we have a fairly rigid system that sometimes makes it very difficult to make adjustments properly. We have also communication problems, communicating with other physicians, making sure that the information about the patient comes through, that everything is complete, and at the right time, and timing is correct. All these things lead to …there's a constant danger that we make mistakes based on that because we don't have the time now to look through the whole the chart again, so we make a decision. It's all in there. So it is very difficult to streamline medicine, like you streamline in the airline industry. I think we can learn from the airline industry, but I don't think we can adopt everything that has to do with engineering into medicine. (Peter, male physician)

Another way of rationalizing a mistake is by analyzing it. Analyzing is that deliberate activity that some individuals say they do to help them get over the mistake. Participants explained that it is by figuring out what went wrong, how the system might have been a factor in the mistake, and what might be done to prevent it in the future, that they are able to explain to themselves and to others why the harm

was done. Once they had analyzed or understood the reason for the mistake, several participants noted that it was important to them that they learned from their mistake:

> So there's no reason to go on and on about it, feeling bad but rather to discuss what we can do the next time and what I think happened wrong, and identifying issues and things I can, I guess, connect in another situation, so if I ever find myself in a similar situation I can associate those two things and be more alert for a mistake. (Francis, male resident)

> There's that initial kind of rationalization – I was okay to be thinking that and then after the fact no I was being way too certain there. And I need to learn from that. (Susan, female physician)

> But I brought it up as a learning and I wanted to learn for myself, and I wanted to know all the medications we had given her and why. I reviewed all the medications we'd given her and why, and discussed fully how I felt about the whole situation, and asked what were the things that she thought I could do better, and how I go about that. (Tammy, female nurse)

> So I try to think of preventive factors in making that mistake, and somehow reflecting them on my own, on myself. (Fatima, female pharmacist)

> And you think to yourself "what am I going to do next time, I don't want to do this one again…So I try to always view the world as half full rather than half empty so maybe I have a more positive outlook than some people. And my survival mechanism is always to look for the positive in the thing. Okay let's use this as a learning opportunity, let's find ways of making something good come out of this, you know? (Sam, female pharmacist)

Several participants noted that mistakes are necessary in order for learning to take place:

> We can do everything to minimize them as a system, and we learn from them every time to prevent similar mistakes in the future but we have to have mistakes to learn from them. (Tarek, male resident)

Another participant echoed this sentiment:

> And I mean medical mistakes, and even outside in life, I mean mistakes in the other way around, they actually do define you. They make you who you are in a personal sense, and even in a medical sense. Those mistakes are things that stick in your mind, and actually you learn from the most. Because you actually physically saw what could happen. (Matt, male resident)

One participant went so far as to say that it was important to be criticized for a mistake in order to learn from it:

> Sometimes I wonder if hearing if I did something wrong hearing that I did it wrong and then being criticized is helpful too. Like I almost want to be told by my boss like you did this wrong what were you thinking? Rather than just oh yeah it's okay. Because if they say oh yeah it's okay, it happens then nothing is fixed. But if they say you did this wrong what were you thinking, then you have to go through the process of what I was thinking, what happened, what the situation was, then you can start and pick out things you can improve. But just the acceptance that something happened that was bad doesn't necessarily improve everything anything or help anyone. (Francis, male resident)

Avoiding responsibility/blaming others. This reaction is not always self-evident, but three participants related stories about mistakes they were involved with, but did not take any of the responsibility or blame for the harm caused.

For example, one participant (Tanya, female physician) told of a situation where a patient had complained that her behaviour had caused him emotional harm, resulting in a College complaint. She clearly found a number of ways to discount the validity of the complaint, explaining that she was not the patient's usual physician and therefore she didn't have a bond with that patient and "they weren't used to my personality style because they'd never met me before." She noted that she was angry at the patient for not realizing "all the different factors that go into it." To justify her own interpretation of the situation, she asked some nurses whether they thought she was at fault, and they responded, perhaps not surprisingly, "no you're not, but you definitely have a different style to the other doctor." Another participant reflected on a similar situation:

> But I did speak with the other nurse and said I want you to critique my performance: what did you think? how did you feel? and do you think that I should've done anything differently? or what would you have done if you'd been me? And she was very positive, didn't have any concerns or questions, thought everything was fine. (Tammy, female nurse)

Reading between the lines of the following story from one of the participants, it is clear that she is trying to avoid responsibility for a serious mistake that had happened 30 years prior:

> My job was to get the right drug, make sure it matched the sheet, then put it in the unit dose bin. And then what happened in that scenario, she mis-checked it, it wasn't right – it was actually 4 more times than what the patient should have got – so technically I did my job right, I got the right drug for what was written on there, and it all matched up right. And the drug was Digoxin – which was a huge drug in those days, it was the time of Susan Nelles – and it was just a huge thing and the kid ended up getting charcoal. And I remember going up to the ward just to see how this kid was doing, was he going to be okay. I feel so bad for the parents, having to see all this

> happen. And then afterwards, what could I have done better? I did what I was supposed to do. (Sam, female pharmacist)

It is clear from these words that the participants are trying to blame the circumstances surrounding the mistake rather than themselves. This of course is similar to systems thinking which was elaborated on in the Literature Review, and which will be explored further in the Discussion section.

An interesting avoidance technique to a mistake, especially one that has serious ramifications for the patient, is how some might be able to diminish their responsibility for harm done to the patient by questioning – and even dismissing the possibility of – a causal relationship between the mistake they made and the eventual consequences to the patient, as does the following participant:

> I don't think what I did made him die. I never felt it was what I had done that made him die. I was doing what I should've been doing but how this happened and it got to a cardiac arrest stage… maybe he'd only got to a cardiac arrest stage, maybe he'd only just arrested. I don't think we have to give a whole lot of drugs… I think he was pretty responsive to efforts to bag him and that. (Tammy, female nurse)

Another participant explained the harmful outcome that followed her care was not likely the result of her care, but part of the disease process:

> I do inpatient care in the general pediatric setting and occasionally we have patients that deteriorate and are sent to the intensive care unit. And in vast majority of time it is not because anything wrong has happened -- it's the disease process that has led them to need more care than we can provide in the ward. There's this kind of expectation or some sort of thought that because the patient got worse it means we didn't do a good job. I actually experienced that first hand, walking down to see a patient who was on a certain medication and the plan was to stop that

> medication, and we stopped the medication as per the plan. And he deteriorated and so we walked down to see them in the PICU, and the nurses said well he's here because I stopped the medication. Like, somehow it's our fault that he was there because we had stopped the medication even though it was the plan. … In that acute-care environment, it's said well they're here because *they* did something wrong so *we* have to fix the mistake if I think since. (Susan, female physician)

Talking about the mistake. Only a small minority of participants felt that disclosing their mistake and apologizing to the patient was one way of moving on from the shame they felt, perhaps seeking forgiveness, or reassurance that was all they could have done.

> And it's a bit of a catharsis for me. Because it makes me feel better. But then it's also closure too, that I know that I've done everything I can. And most of the time when you acknowledge mistakes to the families, they are more likely to trust you is what I've found in my experience. (Olivia, female nurse)

Those participants who did want to talk to a colleague emphasized that it was more about having someone validate and reassure them:

> P: I talked to a physician who is a friend and a colleague. And again, they were like "what? You've gotta be kidding? That's just so ridiculous, just let it go."
>
> R: Was that helpful?
>
> P: Yes, of course it's helpful, when they validate what you feel you have done everything properly. So yes, it makes you feel better that you're being supported. Because you haven't done something bad, and that you're stupid. (Bonnie, female nurse)

The following participant noted the importance of hearing from others that they had made mistakes too:

> I think I would just discuss what happened with them and talk about the emotions that I'm experiencing, because I feel like it's not uncommon for this to happen, so hopefully they would have relatable situations that I could talk to them about. (Nora, female resident)

Another participant emphasized the importance of just having someone listen to them:

> And I know I would have liked someone to have at least listened to me even as hysterical as I probably would have been at the time, nonsensical. But at least say "you know what, I will listen to you, you can say whatever you need to say for as long as you need to say it." And for someone to say "you know what, this stuff happens. It happens. It sucks, and everybody in the hospital always thinks "oh my god pharmacy never makes mistakes" and families expect this as well. But at the very core of it you're still human and there are so many things buzzing around you that, what can you do? I'm surprised that we don't make more errors. I think we're doing pretty good thus far. (Fatima, female pharmacist)

This same participant explained that even though she felt that talking to colleagues might be helpful, she still had a lot of trepidation about talking about her mistakes: "It's funny when you asked me if I wanted to talk to people within the pharmacy about errors, my first reaction was 'oh God no, hell no, I would not want to'…That question actually brought a lot of anxiety when you asked it – oh my God!"

Six of the participants also mentioned that talking to a spouse, significant other or other family member was helpful, although they noted that it was sometimes difficult for those outside the profession to understand the context of the mistake and the emotional impact it had on them. The four participants who said they spoke to a colleague about the mistake noted that the colleagues were also good friends.

When asked about employee assistance programs as an opportunity to talk to someone about their mistakes, participants did not see this service as particularly useful or safe; they were not convinced that

the counsellors would be able to relate to the health care context, and also not always convinced that it was necessarily confidential. Asking for help might be perceived as a sign of weakness, as reinforced by Peter:

> It is just another step, and requires the step from your end to say I need someone to help me deal with it, I can't deal with it myself. If that step is not made, then there is no real process. (Peter, male physician)

Rebuilding the Self as a Professional After a Mistake

As we have seen from the findings, the external erosion comes from exposure to a number of external influences, including judging, bullying, blaming, isolating and organizational processes. The internal erosion comes from several internal stimuli, including self-doubting, self-criticizing, irrational thinking and remorse.

With this onslaught, health professionals then attempt to reinforce the self against external exposure and internal erosion. How successful they are has a significant impact on the psychosocial process of mitigating the negative effects of shame due to mistakes.

The impact is not the same for everyone, however; what is traumatic for one person can be simply unlucky for someone else. How much damage occurs depends on how successful the individual is in maintaining that mask of infallibility, or what process that individual undergoes after a mistake.

It should be noted that how health professionals deal with mistakes can be affected by a number of precipitating factors, such as a personality or predisposition to shame, self-confidence, moral upbringing, training and experience. Where we stand depends on our own moral compass, whether we feel a moral imperative to feel/hold on to shame. Participants pointed this out themselves:

If your personality is to not care what other people think about you and to stomp your feet and bang your fist on the table and say I'm right, well then you may not feel that way it might not be a problem for you. But certainly that's something that's been a big issue in my experience. (Ed, male physician) (personality)

I am definitely more confident since I started in July. I hope it does, because it's in my genes…can't really change that, it's part of my personality. (Nora, female resident) (confidence, personality)

I guess I just felt that was a big shock and a lot of shame. Especially in your first year of training when you don't have a lot of confidence built up in your skills – that kind of thing makes you take a step and lose confidence in yourself. (Tarek, male resident) (confidence, experience, predisposition to shame)

So trying to build up that confidence. So like I said people lower on the food chain, lower in their training, have less confidence in their abilities and their knowledge even though they might be on the right track. There's just not that faith that faith you had especially when you receive an attack based on what you did. (Tarek, male resident) (confidence, experience)

So with maturity your experience, you gain confidence and also knowledge that mistakes are inevitable. Whereas with some, with more experience, it seems they gain too much confidence, almost, and even if they do make a mistake… I think at the time I was more in the type A where it's unacceptable to make a mistake, whereas with time, with learning, and making some mistakes, with other decisions and things like that, learning to have that insight within yourself to say that nobody's perfect, we do everything that we can and we need to accept that sometimes things don't

go as we planned. (Tarek, male resident) (confidence, experience, personality, predisposition to shame)

These factors partially explain the difference the impact of mistakes on health professionals and how much shame they feel, but the following sections explore three general types of individuals and how they are effected by erosion and exposure: those that cover their mask further with a mask of certitude, those that remain unmasked, and those that remold the mask. The following figure (12) illustrates the continuum of the process:

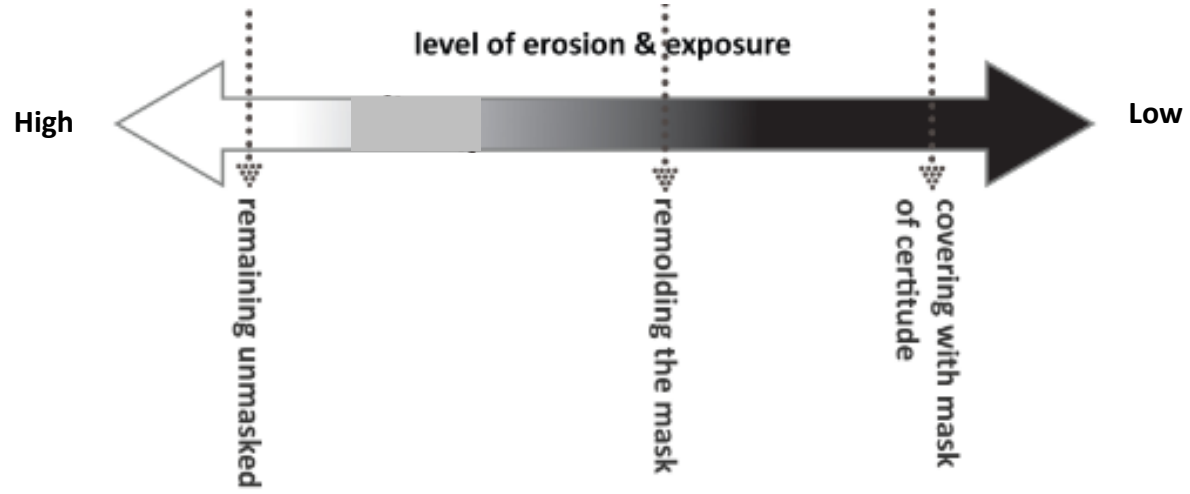

Figure 12. Effects of the level of exposure and erosion

Note that a person might fall in any one of the categories, depending on such factors as the severity of the mistake, how much exposure they experience, or how responsible they feel about the mistake.

Covering with a mask of certitude. There was clearly a small group of participants who were, at least outwardly, not affected by mistakes they had made. The declared that they felt no emotional upheaval, no shame and no lasting effects from mistakes they had made. They did not allow the mistake to erode their mask of infallibility, even reinforcing it with a mask of certitude. Their tough exterior

deflected any insinuation of incompetence; they simply refused to allow the mistake to reshape their self as a professional.

At least two of the participants did not demonstrate through the interview that their identity was eroded at all; in fact, they seem to be able to be able to make a mistake with their self intact. For example:

> So I guess my approach would be to say look, this happened, you realize that everyone worked through it and you can't change the fact but we can change the things that led up to this and hopefully not let it happen again. The main thing is that you want to reduce the chance of it happening again, and ruminating on what it happened isn't going to help anyone. And the whole point is helping people. (Francis, male resident)

This group of individuals were able to convince themselves that the mistake was insignificant to their self as a professional by using strategies such as those described in the results section under "reinforcing self" such as: containing the mistake, avoiding responsibility or blaming others, rationalizing, declaring the mistake to be caused by bad luck, randomness or simply being "human." They did not need reassurance or support from others; rather, they needed the opportunity to simply understand what went wrong, to learn from the outcome, and to move on.

Interestingly, the two participants who were surgeons were in this group, fitting in with the usual archetype of the surgeon who projects him or herself as invulnerable, invincible, decisive, and who has a tremendous ego (Cassell, 1987). Like the male resident who was a surgeon noted:

> They're high achievers especially in surgery they're often people who are slightly narcissistic in the sense that they think they're what they are doing is right. Otherwise you wouldn't do surgery. You need to be convinced yourself that what you're doing is right otherwise you shouldn't do it. (Francis, male resident)

This last statement implies that, in order to be able to function with confidence, it is essential that those in a certain type of practice – surgery for example – must feel they are always right in order to perform effectively. Although this mask of certitude is effective at allowing the health professional to continue to practice as they did before the mistake, the problem is that they might not be changing enough – or, in other words, learning enough – as a result of the mistake. Their mask might be so thick – their confidence so out of proportion to their abilities – that they are not able to see themselves as fallible or responsible for a mistake, whether in the past or future.

One also has to wonder that if they were suddenly forced to see themselves as fallible – were they to be undeniably at fault for harming a patient and cannot rationalize or explain away their responsibility – would the mask suddenly crack wide open or even shatter, leaving them exposed to a vast array of emotions they have not allowed themselves to feel. This is well articulated by two of the participants:

> In paediatrics there are a lot of perfectionistic personalities, the type A who feel that you cannot make a mistake, it's unacceptable. … I think it's unrealistic to say that you can be infallible all of the time, especially in something as uncertain as medicine. *So I think it's more likely the group that feels they can never make a mistake that would have a harder time getting over one, rather than one who accepts it as part of being human. (italics for emphasis only)* (Tarek, male resident)

> They're intelligent people and so when they make a mistake I think there are multiple reactions that can happen. So I told you about my reaction, but in my observations of other people there can be people who either deflected and say that didn't happen or that they blame someone else because they couldn't possibly have made a mistake. And that is somewhat of a defense mechanism for them. And other people who are so used to being, doing the right thing and never doing the wrong thing and can't move on from that, where they've hurt someone and because

> they've hurt someone and they never wanted to do that that wasn't what he wanted to medicine it was the opposite reason and they always bring that up. And it's always in the back of their minds and it makes it harder for them to continue working or to being effective as a physician. I've seen both those cases those are two extremes. (Francis, male resident)

One might consider this mask of certitude behaviour suspect, that is, when health professionals are outwardly able to let mistakes slide off their backs, appear not be bothered by it, not need to talk about it, and have no emotion. There might be various reasons for this, including one that is well documented in the literature, that it is a learned behaviour, such that as you go through training, you are indoctrinated with infallibility, and expected not to be emotional about mistakes. Medical students in particular are beaten down forcing them to build themselves up, creating a veneer behind which to hide their emotions, adding to their already thick patina of perfection. The following remarks from one participant are evidence of this veneer:

> P: I've seen people who break down crying for staff saying an insult or a word that was not an insult per se, but just react badly to a mistake, lost his temper for like 2 seconds and the friend is crying for 3 hours. Some people do get tense in tense situations, just let it slide. Some others, unfazed, just go go go.
>
> R: So if that staff person had said something to you, you would have been okay?
>
> P: I would have not thought twice about it. And I would have just talked naturally to him the next minute. (Matt, male resident)

Remaining unmasked. At the other end of the spectrum are those individuals whose masks have eroded to a point where they cannot return to who they were before the mistake. They are overwhelmed with shame and remorse, and cannot begin to rebuild their self as a health professional. Because I was

only recruiting participants who were still currently health professionals, the sample did not include anyone who had quit the profession altogether. However, it did include health professionals who had made life changing decisions as a result of a mistake; for example, three of the participants transferred to another department to where they thought they would be less likely to make a mistake that would severely harm a patient (eg. from ER to mental health), while others removed themselves from a strictly clinical environment to one that was more administrative in nature. For these individuals, the mask was beyond repair, and the only way they could go on as a health professional was to admit to themselves and others that they were not capable of maintaining the same role as before.

At the extreme end of this type of individuals would be those who suffer from a form of post-traumatic stress disorder (PTSD), which is described by Dekker (2013) as a psychological trauma that is a deeply disturbing or distressing experience and has three "constellations of problems:"

- Re-experiencing the phenomena
- Avoidance behavior
- Hyperarousal: where a body can no longer distinguish very well between the memory of a threat and the actual threat, so that the body will keep activating itself for a fight-or-flight response. (p. 19)

Although one could not diagnose this psychological disorder in one interview, at least one individual recognized the possibility of this himself. During the interview, he described how he re-experienced the trauma:

> P: So when someone dies or when someone is left, is significantly injured, I think that's the kind of thing that stays with you forever, and then it just pops up, you know, at the grocery store, a

song on the radio or whatever. And you get back to thinking about that patient or that situation, and when you go back there isn't the guilt that comes back.

R: What kind of feeling comes back?

P: I think the guilt probably does get better over time. It's still always there. I think you feel less inclined to self-flagellate, so to speak, over it but then it's just a constant reminder. You remember their face, you remember their parents, you remember the hospital [participant emotional]. It's that salient. You just… it's forever ingrained in your mind and it's… it's… I guess most people are able to get over it and continue to deal with it. But I think it's easy to see how someone who's not coped with it or is maybe more sensitive can be just overwhelmed by it and not be able to get over it. (Ed, male physician)

Once the interview was officially ended, this participant, who had recently taken on a more administrative role, continued to talk and muse over why he had stepped back from clinical practice. Prior to the interview, he had actually never considered there was a connection between the mistake and the change of careers, but acknowledged that it was in fact a possibility – especially considering, as he noted, that the "deep feelings of shame can bubble up to the surface at any time," even several years later. He explained that he felt like he had "copped out" instead of "coping," and took the easy way out, after which he became emotional once again and showed signs of being ashamed, holding his head down and hiding it in his hands.

These individuals who cannot remold their mask might want to restore or affirm their self, but cannot or will not risk hurting themselves anymore; they withdraw to protect themselves and avoid further damage.

Remolding the mask. Between these two extremes are the majority of health professionals interviewed. These individuals recognize that their masks have eroded both from inside and out, and are compelled to remold the mask as a result of their experience with making a mistake. Having acknowledged their role in the mistake, grappled with emotions of shame, rebuilt their confidence and allowed time to heal the wounds of external exposure, they slowly tackle the job of reinventing themselves as less than perfect – but still worthy of being a health professional.

Some of these individuals note that they continue to carry the shame with them, but carry it because they choose to. They choose to hold on to the shame so they do not forget the lessons they learned, and continue to improve and reflect on how they might do better. They are not like those who remain unmasked, or those who carry the shame not by choice, but because they see no other way and are crippled by it.

Others speak of how they convince themselves that mistakes are inevitable, that the environment in which they work makes it impossible for any individual to avoid making a mistake. Still others minimize their role in the mistake by acknowledging the role of system errors, bad luck or randomness. They also normalize the mistakes they make by recognizing that making mistakes is part of being human, a natural event they share with people like themselves. Statements such as the following show the process that these participants go through, sometimes with the help of others:

> He helped me realize that, you know what, I'm human. In the grand scheme of things it wasn't the most awful error in the history of health care, and in the very end, the child was okay, and it was reversible. And that a lot of my feelings of guilt, I can't change. (Fatima, female pharmacist)

These individuals are able to carry on after a mistake, not by putting on the same mask, but by reshaping the mask of themselves as health professionals. These individuals recognize they were wearing

a mask of infallibility, and realize they need to reshape it. To various degrees, they are able to reshape this mask and continue to be an effective nurse, pharmacist or doctor, having overcome their negative feelings of shame through self-reflection and self-compassion. They have, over time, been able to analyze their mistake, turn irrational thoughts into rational thoughts, and recognize the lessons they have learned and will apply going forward. One participant spoke of adjusting after a mistake:

> So you would adjust your life, making sure that you try to minimize the possibility of repetition of this mistake – which is probably unlikely in the first place after you have made it. But one way or the other you have to start living with it, that this happened. (Peter, male physician)

These individuals have found the right balance, demonstrating their resilience, which can be described as "the capacity to generate positive emotions when under stress" (Whelton & Greenberg, 2005, p. 1594). The following are examples of participants' expressions of their own resilience:

> But again as I said, you make the mistake, the patient themselves and the others that are your responsibility, are essentially, still need you to be there, so you just move on. (Matt, male resident)

> But then you have to talk to yourself and say "no, there's no patient harm, I've filled out the proper form, I've informed the proper people, and I've followed the process. I've done what I need to do." If there's any more then someone will get back to me. If you truly let it get to you, you'd be nut-so. (Bonnie, female nurse)

One of the coping mechanisms used by this group of individuals was hypervigilance. Not only did they learn from their mistakes, they were determined never to make the same mistake again, and compensated by reminding themselves of the mistake whenever they were in the same situation again.

> We can do everything to minimize them as a system, and we learn from them every time to prevent similar mistakes in the future but we have to have mistakes to learn from them. (Tarek, resident)

For some of these individuals, one of the most important actions they could take to help them forgive themselves was to ask forgiveness from the patient, or in many cases, the parents of the child.

> And it's a bit of a catharsis for me. Because it makes me feel better. But then it's also closure too, that I know that I've done everything I can. And most of the time when you acknowledge mistakes to the families, they are more likely to trust you is what I've found in my experience. (Olivia, nurse)

Three of the participants noted that many patients are in the hospital for a long time, and the relationship between the patient and their families are often very close as a result. By disclosing the mistake, taking responsibility for the harm, apologizing for their part in the mistake, explaining what went wrong and assuring them something like this would never happen again, they were able to more easily forgive themselves.

This place on the continuum (see Figure 12), where health professionals remold their masks, might be considered the healthiest place to be, where there is the right amount of erosion and exposure, as illustrated in the following figure (Figure 13):

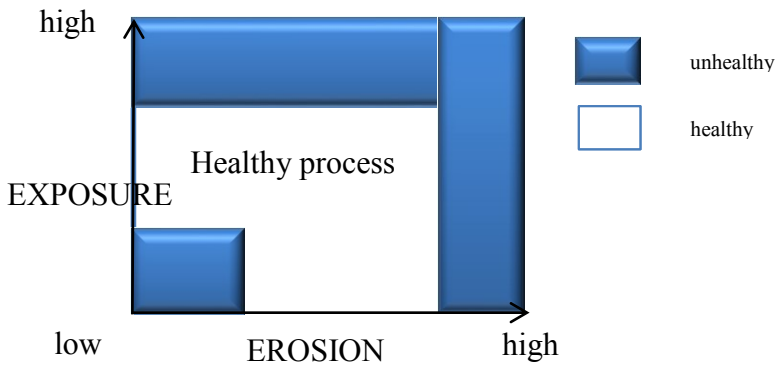

Figure 13. Healthy vs. unhealthy process

As noted in the literature review, the process of mitigating shame does not always have to be a negative one. Shame and other moral emotions motivate ethical behaviour, and are powerful modulators and foundations for social and moral behaviour. The ability to feel sympathy, shame, guilt or other emotions that make us care about others is what distinguishes well-adjusted individuals from those with antisocial personality disorders. A healthy shame experience can serve as a story to tell others to support them when they feel shame, as an opportunity to accept one's own humanness, and a source of learning and growth.

Discussion

Shame is about …I actually looked at the word shame because it's an interesting word, and when you actually break it down, it's a perfect word, the English version of it anyway… because when you look at the word shame, first of all it's "sshhh" meaning I've got a secret, because most of us don't want to talk about it …we're already exposed, we've already put ourselves out there and exposed ourselves for something that we were never meant to be …we weren't meant to be careless, we weren't meant to be untrustworthy, we weren't meant to be stupid, we weren't meant to be a dummy, we weren't meant to be an idiot, and yet we've just done that …all of those things we've just done by making the mistake and so it's all you want to do is say "shhh, don't tell anyone, don't tell anybody that I'm all those things"… because shame is about …the end of it, the end of the word shame is "me"-- it's all about me and who I am, and who I suddenly am not… I thought I was a competent nurse, I thought I was going to protect this person, and guess what, I didn't do that… [participant crying]… it is about my identity, and my identity… because it's now not shushed it's all out there, totally exposed for everyone to see… then I see, and that's the other part of shame for me, and the word is that the first S-H-A-M is sham… you've just seen that I'm a sham…[participant crying]… and it's a very isolating thing, and because it's about identity and because it's now no longer shushed, now I get to see in your eyes what you think about me… and so everything you say to me, everything that I see in your eyes just reinforces already that I have I done …that I am…I'm not a good nurse, I'm not the protector…(Nancy, female nurse)

The psychosocial process that health professionals undergo when they make a mistake is overwhelming and complex. It can have a significantly negative effect on their wellbeing and on their ability to care effectively for their patients. The process is mired in shame, confounded by social

interactions with other team members and patients, and cluttered with the internal struggles with their identity as health professionals.

Yet, somehow, health professionals generally endure. Despite the constant pressures of being perfect, the complexity of care, the inevitability of mistakes, the ongoing pressures of time and resources, they persevere. As noted by Mizrahi (1984): "they strive to define and develop a level of competence and confidence in the midst of, and often in spite of, the myriad calamities that accrue" (p. 136).

By sharing their stories, thoughts and feelings about mistakes they have made, the participants in this study provided rich data to formulate a theory on what they go through when they make a mistake, and how they manage their shame so that they can continue to effectively care for their patients.

The following is a discussion about the theory that evolved from the data, the insights that can be gleaned from the theory, and the implications of the theory for practice.

Introduction

The literature review explored the emotion of shame, and demonstrated how it was likely a major influence on the psychosocial process of making a mistake in health care. The review uncovered a large number of articles exploring mistakes in health care, covering explanations for why mistakes happen, what is being done to prevent them, and the factors that hinder or improve discussions about mistakes, including theory on how to create a more open environment in health care.

I therefore began the study with the intention of exploring the emotion of shame in health care by finding out how individuals cope with the shame of a mistake, why they might or might not discuss their mistakes with others, and what they might recommend for a more open and safe environment for discussing and learning from mistakes. The participants, however, soon lead me down a different path, one that had less to do with how to be open, and more to do with how to respect and support an individual's need to recover from a mistake.

What is the shame in it? The literature review demonstrated that health care is a perfect ecosystem for growing shame when a mistake is made. In fact, whether it is for reasons embedded in the system itself, within the organization, within the team or within the individuals themselves, health professionals are predisposed to shame (see section on Health Care Environment). As they build themselves as professionals, through training or their own experience, this myriad of influences play a significant role on how they make decisions, and how they cope when things go wrong.

The emotion of shame was central to the development of this study on the process health professionals go through when they make a mistake. Firstly, the study was initially inspired by the expression "shame and blame," which is commonly used in health care to describe the culture within an organization or team when individuals are made to feel shame when they are blamed for mistakes that are made and a patient is harmed or potentially harmed. Secondly, the literature review about the psychology of shame also reinforced that health professionals are predisposed to shame because of their drive for perfection, how much they care about what they do, and the seriousness of the impact of the mistake. Finally, and perhaps most importantly, participants were recruited with the message that the study was primarily about shame, explaining in the poster that "I would like to better understand how shame affects health professionals, and how they might better cope with the negative effects of shame so that they feel safe to talk about – and learn from – their mistakes."

Although the data from the interviews does not centre on shame, and "feeling shame" is not the core category, this emotion is still integral to the process. Although some participants expressed that they felt shame after a mistake (11 of 21), those who did not explicitly label their feelings of shame often described their reactions – physical, emotional, social – in terms that in fact define shame. Their instinct to want to avoid talking to other about the mistake, for example, is a typical withdrawal symptom of shame. They also spoke of dreading the judgemental looks they would get from others – families of the

patient, or their other colleagues – which is why those who feel shame avoid eye contact with others. Finally, many of the physical reactions they describe – the heart dropping, or sinking feelings – are also physical manifestations of shame. The participants also demonstrated an array of cognitions that are indicative of shame, including their belief that their actual self fell short of their ideal self, and that others perceived the same in them. The participants' reactions also recall Brown's (2012) reflections on shame, that it is a fear of disconnection where people are constantly asking themselves "is there something about me that, if other people know it or see it, I won't be worthy of connection?" Shame is when they hear that voice inside themselves that asks "who do you think you are?" and tells them over and over again that they are not good enough, and they will never be good enough (Brown, 2012).

Reflecting on the findings from this study and comparing it to the knowledge gained from the literature regarding shame, it is clear that shame is at the heart of the health professional's experience after a mistake. To this point, based on the literature review, the following are the elements required for shame, those factors that reinforce shame, and those factors that block someone from feeling shame:

- What is required for shame?
    - conviction that you should have done better
    - caring about judgement from others (colleagues, patients, families)
    - believing mistakes are preventable
- What reinforces shame?
    - bullying
    - low self-esteem
    - conviction that all mistakes are preventable
    - believing one has to be perfect
- What blocks shame?

- believing mistakes are not usually preventable (i.e. they are inevitable)
- believing you are right most of the time
- high self-confidence.

I have therefore come to understand from the data that what we are dealing with is shame, even if the participants do not use that word to describe what they are feeling. I have also come to understand that shame is what forces health professionals to recoil from exposure. Shame is what eats away at their confidence about themselves as health professionals. Shame is the acid of the erosion, the harsh sunlight of exposure.

But shame is also the force that enables a health professional to reassess who they are, what they have done, and what they need to do in the future to avoid feeling this shame again. Far from having that "powerfully detrimental effect on learning" described by Bond (2007), shame can have the effect of reminding a health professional that they are only human, that they can make mistakes, and that they can learn from and move on from mistakes.

The point is therefore not to get rid of shame altogether, but to mitigate the negative effects of shame. In fact, more than one participant contended that they deliberately continued to carry the shame of her mistake, so that they could always remember the lessons she learned from it. One participant explains why it is not possible, or desirable, for her to be rid of the shame she feels:

> I can tell you stories of different degrees of shame that I have carried with different mistakes that I've made…and it's also been how I felt about it and the feelings that I continue to carry with the various mistakes I've made…You want to carry the lesson. They serve a purpose upon…[Participant pauses and is emotional]…because you don't want to make it again, and you know you will. (Nancy, female nurse)

Shame is therefore a double-edged sword, a necessary evil. We can't avoid it, we need it for self-preservation, it directs our moral behaviour, but it can be personally devastating. On the one hand it protects the self from further attacks, but it also produces self-attacks. Shame can either be detrimental to learning , or a foundational stone of moral behaviour. As summarized by Lindström et al., 2011: "Shameful emotions are powerful modulators of behaviour. However, such modulation may not progress in the most desirable direction if the immediate reactions to shame, such as feelings of stupidity and incompetence, are not recognized, considered and counteracted" (p. 1022).

Although shame is not explicitly named in the conceptual model, it is permeated throughout its foundations.

A fine balance.

> *The proofreader nodded, 'You see, you cannot draw lines and compartments, and refuse to budge beyond them. Sometimes you have to use your failures as stepping-stones to success. You have to maintain a fine balance between hope and despair.' He paused, considering what he had just said. 'Yes,' he repeated. 'In the end, it's all a question of balance.'*
>
> Rohinton Mistry, *A Fine Balance, p. 279*

It became clear as I explored and reflected on the data that an important theme throughout the entire process under study is balance. What has become clear with the literature review and findings from this study is that health professionals are constantly performing a balancing act, aiming for that "fine balance" that will make them the best health professional they can be while enduring the challenges of the realities of today's health system.

The most clinical and pragmatic balancing act is the one between risk and safety. What emerged from the interviews was that health professionals must constantly balance risk and efficiency in the many

decisions they make. When making a treatment decision, making a diagnosis, prescribing or calculating the dose of medication, or deciding whether or not to perform a test, health professionals are constantly operating on a fine balance. They are attempting to maintain an equilibrium – a state in which opposite forces or influences are balanced – between the risks associated with going ahead with the injection, the diagnosis, the treatment, and the effectiveness of waiting and timeliness. Every decision brings with it the possibility of a mistake, so that they are constantly assessing all the elements that could go wrong, and checking and rechecking their logic, assumptions and knowledge before acting. But act they must, balancing what they believe is right against their fear of doing wrong.

> You know that the risk of making the mistake is high, and to be the best nurse that you can possibly be you've got to make the decisions and you've got to take risks calculated risks… I don't mean stupid risks, I mean calculated because there's no guarantee, there's absolutely no guarantee that what you're going to do is the right thing. (Nancy, female nurse)

> The reality is more that mistakes are inevitable, it's a matter of minimizing risk as much as you can within the system, and accepting that mistakes do happen and contingency plan in case of that. (Tarek, male resident)

> That's part of it, you're always double checking what you do, you're always making sure you're as right as you think you can be when you are making decisions about things. (Tom, male pharmacist)

In their reflections about participants in their study, Crigger & Meek (2007) describe this "heightened awareness of their vulnerability to making additional errors" (p. 181).

Related to this theme is another fine balance that became clear during the interviews: humility vs. confidence. Health professionals need confidence enough in themselves to make the decision, but humility enough to acknowledge they might need help, time or more knowledge before moving forward. Too much confidence and a health professional could start to believe he or she is infallible, and making a decision without asking the right questions; too little confidence, and he might be are paralyzed with fear, unable to make a decision. Participants alluded to that delicate equilibrium they are constantly seeking when making decisions. In order to appear trustworthy and capable to their patients and families and to their colleagues, they must exude confidence and believe in their own abilities. On the other hand, they must maintain a certain level of humility so that they avoid cognitive bias, making assumptions or become too complacent.

Once a mistake is made, the fine balance is disturbed, and the health professional is literally knocked off balance. They are thrown off balance, and risk remaining there unless they find a way to restabilize themselves again. Because they are already maintaining a fine or delicate balance – like the young boy on a long pole in the cover photo of Mistry's novel – it need not be a significant or devastating mistake or incident; it takes only a small mistake to tip the balance.

After a mistake, a health professional must work to rectify the disequilibrium, and rebalance him or herself to be able to carry on and endure. What I have described as "reinforcing the self against exposure and erosion" can also be summed up as the health professional rebalancing the self. In the immediate aftermath, they must stabilize their emotions, regain their composure so that they can carry on and take care of the patient. In the longer term, they must find a way to counterbalance the exposure that inevitably happens with protecting themselves from further shame and vulnerability. In working through what happened, they must also balance taking responsibility for their actions against the contributing factors that might have led to a systems error.

One of the most challenging balances for health professionals who have made a mistake is between containing/silence and disclosure/sharing. On the one hand, if they choose not to talk about the mistake as they work to overcome their shame, this only serves to isolate them; it is only by disclosing the mistake to others and sharing their feelings and stories that they will be able to come back into the fold of the team and feel like they are no longer being judged. But too much exposure, and they will be forced to revisit the shame over and over again. The health professional must choose between isolation and exposure, between protecting themselves and seeking support from their friends and colleagues.

Some health professionals are able to regain this balance right away – those who can create a mask of certitude and exude confidence and self-righteousness. Some might take a longer time to deal with their shame and reassess the balance between confidence and humility, between safety and risk, and readjust their approach, ideal or perspective. Each has his or her own path back to equilibrium, perhaps through disclosure, sharing with others, or internal ruminations. Some never regain their balance, which explains why some have to quit or at least change their career path in some way.

In his TED talk, Dan Thurmon (2013) makes an interesting point using the theme of balance: he maintains that "you must be off balance in order to learn" and that you should be living off balance on purpose. He uses the analogy of juggling balls, and explains that it is those spaces between the throws and the catches are the spaces in which "we reclaim control of our lives ... it is not about increasing your pace because life speeds up with you …it is by slowing down a little you see spaces better."

The Theory

The goal of this study was to produce a grounded theory on the psychosocial process of how health professionals mitigate the negative effects of shame due to mistakes. The literature review provided a starting point from which to formulate the methodology and research, and the findings of the study formed the basis for this theory.

As noted in the methodology section, that theory generation "entails considering all possible theoretical explanations for the data, forming hypotheses for each possible explanation, checking them empirically by examining data, and pursuing the most plausible explanation" (Charmaz, 2006, p. 104).

The theoretical framework was developed by "reaching down to fundamentals, up to abstractions, and probing into the experience" (Charmaz, 2014, p. 245) and focussing on the experiences rather than the individuals. One technique to ensure I stayed focused was to often ask myself during the analytic process, as Glaser insisted, what is happening in the data (Glaser, 1967). This helped me continuously link theoretical ideas back to what the participants said, making sure that whatever creative ideas I had were grounded in the data. I created a theory by using imaginative interpretations and abductive reasoning, making "an inferential leap to consider all possible theoretical explanations for the observed data, and then form and test hypothesis for each explanation until arriving at the most plausible theoretical interpretation of the observed data" (Charmaz, 2014, p. 200). As I developed the theory, I continuously went back to revisit the data.

This process of developing a theory cannot entirely be explained by segmented procedures and concrete steps. Part of what happens when the researcher is immersed in his or her data is the unexplained intellectual work that is deeply embedded in the analysis, the intuition and creativity, or the "magic" in the method, as described by May (1992): "technique and rigor…cannot entirely explain what moved the analyst from confusion to insight, from chaos to order, and from simple description to understanding" (p. 14).

The core category. As also noted, part of the process of developing the theory involves identifying a core category that has the most explanatory power for the overall theory. The main process under study is the impact of shame on health professionals when they make a mistake; the core category should therefore centre on this process. It was when I began seeing a pattern in the data around the theme

of the "mask" that I was able to fit together all of the fragments of the findings. The core category that connected the myriad of ideas, concepts and analytical reflections was that of "unmasking the self as a fallible professional." The rest of the psychosocial process of shame and mistakes hinges on this central axis.

Prior to this stage in the process, health professionals build their knowledge and experience, weigh the risks and make a decision that leads to a mistake. The immediate post-mistake reaction of emotional shock and containing the harm, although significant and traumatic, is short lived.

It is the unmasking of the self as a fallible professional that endures through the external exposure and internal erosion, where the key dynamics in the process occur. This is the stage where health professionals continue to reel from the impact of shame, attempt to fend off the damaging external influences, and struggle with their self-identity. The final stage, the reinforcing the self, is the outcome of the unmasking, where it is determined how much a health professional needs to or can rebuild the mask.

The model. Figure 14 illustrates the key stages of the process, which is built from the data that is elaborated on in the findings. This diagram will be built in steps through the next few pages to the final theoretical framework.

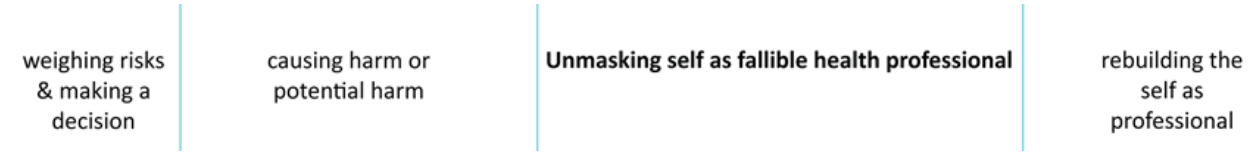

Figure 14. Key stages of the process

As noted above, the core category and main stage for this process is "unmasking the self as a fallible health professional." This stage of the process is the central focus, through which we can align the rest of

the stages. The precursors to this stage are: the weighing of the risks and making a decision and causing harm or potential harm. Following the core category is the outcome, rebuilding the self as a professional.

The next figures illustrate the details of each of these stages in the process, as elaborated in the findings.

Figure 15. Weighing the risks and making a decision

The first stage in the process (Figure 15), weighing the risks and making a decision, is an activity that health professionals are continuously undertaking as they care for their patients. Building on the knowledge, experience and training they have, they are constantly making decisions about treatments, diagnoses, prescriptions and follow-up. Most decisions do not lead to harm, but some unfortunately do.

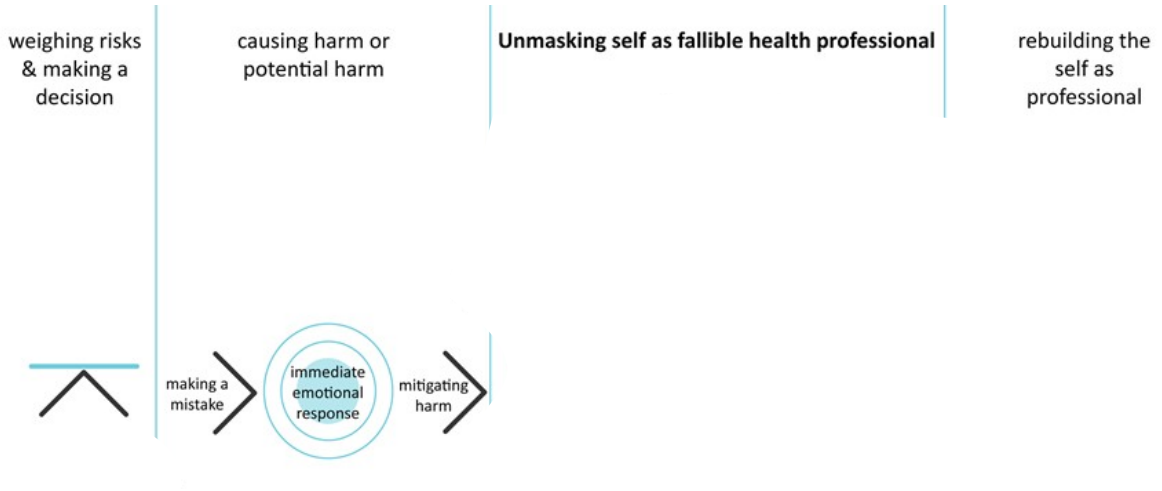

Figure 16. Causing harm or potential harm

When a decision is made that has the potential to harm, this is considered a mistake, as defined in the literature review: a mistake is when patient was harmed or might have been harmed as a result of the health care provided, and not from the natural disease process or a recognized risk of the treatment (such as complications, adverse reactions or side effects). This provokes an immediate emotional reaction in health professionals (see Figure 16), which they often describe as shame (either using the word or describing emotions that define shame). While coping with this emotional turmoil that often also has physical manifestations, health professionals also have to ensure they have not harmed the patient and if so, mitigate the harm and make the patient as safe as possible. All of this happens within a very short time period (seconds to minutes).

This emotional reaction is similar to the first stage described in another study (Scott et al., 2009) which was named "chaos and accident response," and describes "chaotic and confusing scenarios of both external and internal turmoil" (p. 326). These authors also describe the health professional as "frequently distracted, immersed in self-reflection, while also trying to manage a patient in crisis" (Scott et al, 2009,

p. 327). The study by Crigger & Meek (2007) described similar reactions to the uncertainty by participants; they reported having "anticipatory anxiety" (p. 181).

It is worth noting that participants' emotional reactions were not necessarily tied to outcome; many factors contributed to the intensity level of their emotions after a mistake. A recent study by Ullstrom et al. (2014) also confirmed that health professionals' reactions were not always linked to patient outcomes, as some participants were "shattered by the thought of what might have been" (p. 328). Dekker (2013) concluded the same, noting that even if there is no harm, there is still the potential for psychological and physiological trauma.

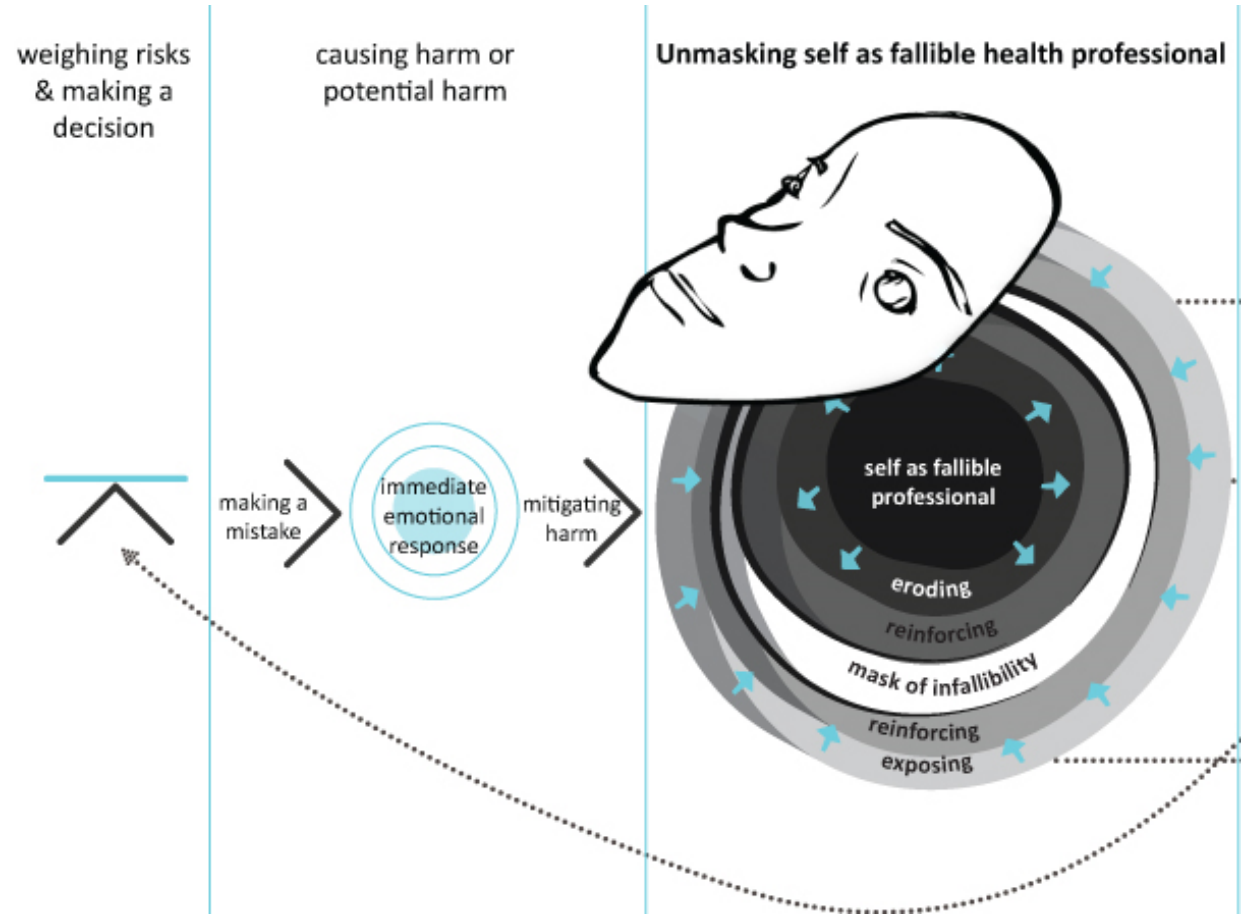

Figure 17. Unmasking self as a fallible health professional

As noted, the "unmasking self as a fallible health professional" is the core category of the process (Figure 17). Once a mistake is known – either only by the individual who made the mistake, or by others as well – a myriad of interacting actions take place within the individual's psychosocial process of mitigating the effects of the mistake. Beneath the surface of the mask of infallibility every health professional must wear is the self known to the individual as a fallible professional. When the mistake is revealed to (or found out by) others, this exposure – in the form of bullying, judging, blaming and isolating – begins to eat away at the mask of infallibility from the outside. The participant's descriptions of exposure reflect a number of observations in the literature. For example, Rosenstein and O'Daniel (2008) describe physicians' overt and direct bullying behaviour and nurses' more passive-aggressive behaviour that is directed at peers. Other authors have also elaborated on the effect of silence on those who make mistakes; Paparella (2011) explains that "to add insult to injury, co-workers are often quiet about the event and may ignore the situation in the belief that their colleague may not want to talk about it. This isolating behaviour adds to their feelings of mistrust, guilt, and abandonment. They begin to believe they are unworthy of our attention and concern" (p. 264). A recent review by May and Plews-Ogan (2012) also found that studies continue to find that physicians cope with mistakes in silence, shame and isolation. This phenomenon of silence and isolation is also mentioned by Dekker (2013), who notes that individuals avoided any meaningful engagement with second victims, "casting oblique glances when passing them in the hallway." (p. 41) Mizrahi (1984) explained the silence might be related to the fact that the one judging realizes that he or she can just as easily become the one who is judged.

This silence may be the result of what Dekker calls "professionalization of the response" where colleagues, managers, relatives decide not to interfere with a therapeutic or recovery process driven by professionals (Dekker, 2013, p. 27); they maintain their distance and silence for fear of making things worse for the individual who made the mistake.

Some studies have also noted the negative effect of organizational processes. For example, Bosk (2003) describes the public confession of errors to colleagues in M&M meetings as "putting on a hair shirt" – an expression that refers to the rough cloth shirt that was used in some religious traditions to induce discomfort or pain as a sign of repentance and atonement. Dekker's (2013) investigations concur with these findings, as he maintains that these organizational processes can be one of the most humiliating experiences of their lives, making them feel disempowered and judged, and causing them to dread the investigation.

At the same time as a person is enduring this exposure, his or her internal thoughts and feelings – including self-doubt, self-criticism, irrational thinking and remorse – begins to erode the mask from the inside. Dekker (2013) describes this reaction in the following terms: "It can be the kind of tiny, counterfactual difference in timing, in awareness, in doing something—if only!—that haunts the second victim's sleep and waking hours alike, the image of a universe that should have been, but never will be" (p. 14). According to Whelton and Greenberg (2005), these self-critics "when in a dysphoric and self-critical mood, seem to feel helplessly yoked to an interior taskmaster, against whom they never competitively win, and to whom they often submit, feeling overwhelmed, resentful, and secretly vanquished" (p. 1593). Whelton and Greenberg (2005) also found that those who have the self-criticism trait tend to be perfectionists – which includes a large number of health professionals.

This erosion of a mask is also reminiscent of what is called the imposter syndrome, or those feelings of inadequacy that people have even though there is every indication they are not; people feel like they are a fake, attribute their success to luck, or downplay their success by minimizing it (Caltech Counseling Centre, 2015; Prata & Gietzen, 2007).

To counter this exposure and erosion, the individual attempts to reinforce the mask of infallibility by containing the mistake, blaming the mistake on bad luck or "being human," avoiding responsibility, rationalizing and sometimes seeking support from others. These findings recall previous studies, including an early study by Mizrahi (1984), where he noted that the residents he studied often negated a mistake by identifying the practice of medicine as a gray area where there is no right or wrong and no black or white, only differences of opinion. Mizrahi (1984) also explained that some of the participants in his study used what he called discounting or trying to exonerate themselves by coming up with a justifiable defense because of circumstances beyond their control – by blaming others, the system, or blaming the patient or disease. He also explained that, because they see themselves as their own worst critics, some residents are able to dismiss criticism from others as less important or even irrelevant. Paparella (2011) also noted that because of perfectionism, individuals learn to redefine or rationalize less serious mistakes.

Figure 18 represents the entire theoretical framework.

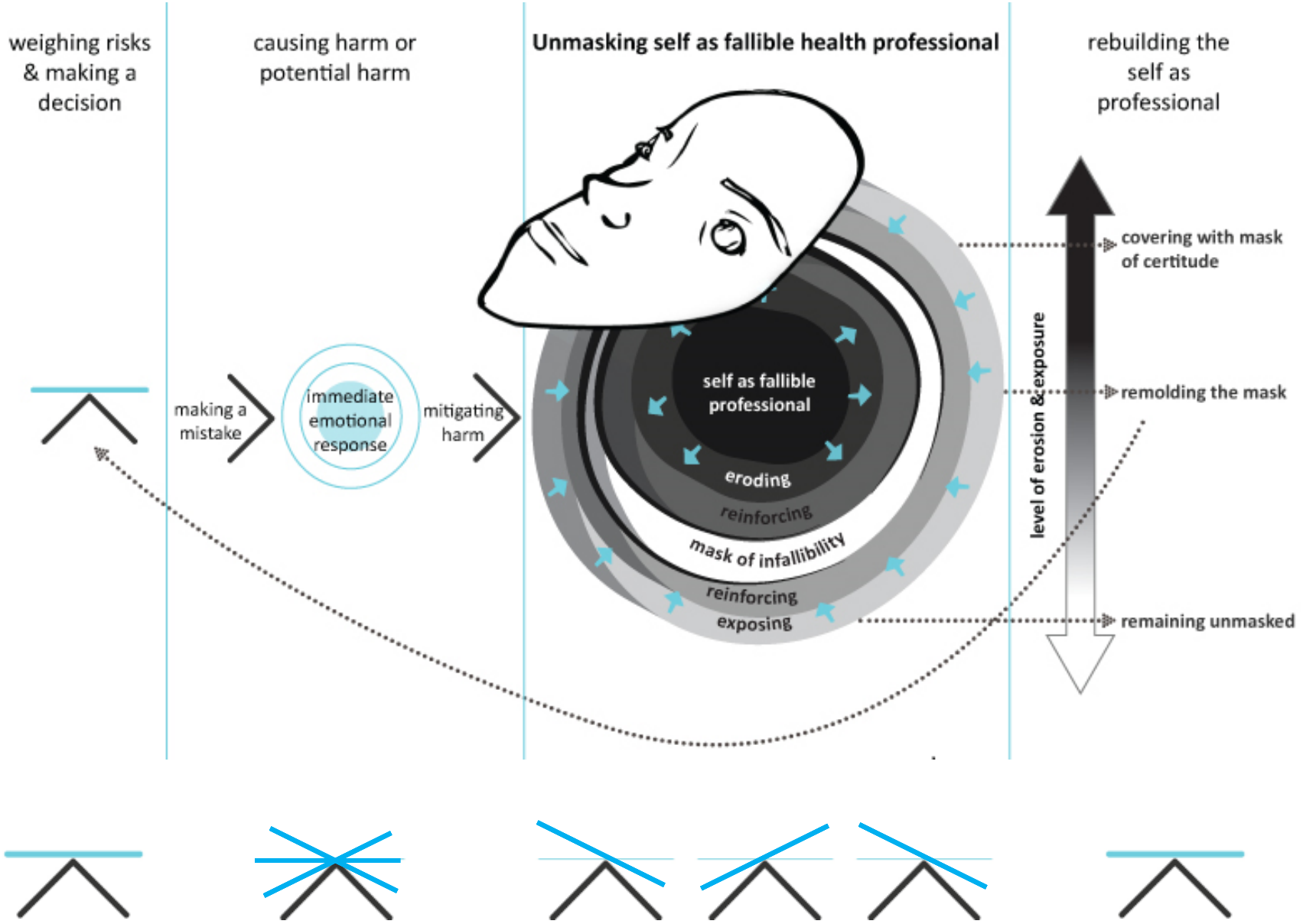

Figure 18. Complete theoretical framework

Depending on how successful the individual is in reinforcing the mask of infallibility, the level of erosion and exposure will vary on a spectrum from none at all to very high. This can be described as resilience, or that ability to adapt and change for the better in response to challenges that are a threat to their integrity or survival (Dekker, 2013, p. 94).

If the permeability of the mask is low, then the individual is likely to be able to continue to maintain a mask of infallibility, having now covered it with an additional mask of certitude. Those who make it through the process with the mask intact are often individuals who do not allow themselves to feel much emotion about a mistake, and are seemingly nonplussed about the mistake. They exude confidence and avoid responsibility for the mistake wherever possible, instead blaming others, the system or the uncertain nature of medicine. This may or may not be a healthy response to a mistake; Cassell (1987) postulated that the more certitude a health professional exhibits, the more troubling their inevitable feelings of uncertainty will be.

At the other end of the scale of erosion and exposure are those individuals whose masks have been emaciated. These are individuals who are not able to protect themselves from the external exposure and/or internal erosion they experienced as a result of the mistake. They see themselves – and believe others see them – as a fallible professional, which to their mind is equivalent to being a failed professional. They cannot forgive themselves for what they have done. Thus, they condemn themselves to remaining unforgiven and unmasked.

Those who come through the core of the process with moderate amounts of erosion and exposure are individuals who have allowed their mask to be eroded without deteriorating all together. They have also been able to remold the mask by reinforcing it with rational thinking, taking responsibility for the mistake without catastrophizing, seeking to understand why they made the mistake through analysis, and

acknowledging that they are "only human" or fallible. The remolded mask is one of a fallible, perhaps a little less, but still confident individual who has gained wisdom and humility from the experience of the mistake. They recognize themselves as competent despite their fallibility.

This middle ground is clearly the most desirable outcome of the psychosocial process of mistakes. Those who thrive from the experience are not those who ignore their fallibility, nor are they those who do not recover from their fallibility; these individuals have learned nothing from the experience. Individuals at either extreme do not believe the real, fallible self is good enough – at the one end because they don't acknowledge the self as fallible and continue to strive for an ideal self, or at the other end because they believe being fallible means they are a failure. Those who thrive are those who recognize that they are fallible, and rebuild themselves by not forgetting this knowledge.

The arrow that is redirected back from "remolding the mask" to "weighing risks and making a decision" (Figure 18) illustrates the learning that takes place when an individual reaches this stage of the process and can apply what he or she has learned from the mistake to future decisions. One study of physicians confirms this outcome of mistakes, concluding that "many craved the opportunity to understand what happened and to learn from their mistakes" (May & Plews-Ogan, 2012, p. 451).

As explained in the section "A fine balance," a central theme running through the entire process is balance, which is represented as a scale below the process (Figure 18). At the beginning, there is a balance – albeit delicate – as health professionals weigh risk against safety, silence against disclosure, humility against confidence. Once a mistake is made, everything is thrown off balance, as represented by the scales that swing one way or another along the process. At the end of the process most individuals find a way to regain a sense of equilibrium, although some who have remained unmasked are never able to rebalance themselves. Figure 18 incorporates this theme into the model.

Evaluating the theory. As noted in the methodology section (Ensuring rigour), Charmaz (2014) highlights four criteria for evaluating grounded theory studies: credibility, originality, resonance and usefulness. The first criterion, credibility, was addressed through the rigour of the methodology. The second, originality, is demonstrated by the fresh insights generated by the data, and a new conceptual rendering of the process health professionals go through when they make a mistake. The theory also has social and theoretical significance, and challenges the current view of how health professionals cope with and manage mistakes. The third criterion, resonance, is clearly met as the theory resonated with numerous individuals who have had the same lived experience as the participants. The analysis of the findings also offers health professionals deeper insights about the psychosocial experience of making a mistake. Finally, as elaborated in the next section, the theory has the potential to make a number of contributions to knowledge and provide practical implications for helping health professionals when they make a mistake, thus meeting the final criterion of usefulness.

Implications

The theory produced from this research has implications for how we approach mistakes from the point of view of health care culture, how we help individuals mitigate the negative effects of shame, how we educate our health professionals. Figure 19 brings back the diagram used earlier in the Literature Review section to illustrate how the implications are interconnected.

Figure 19. Implications of the study from the point of view of the external system, organizational culture, team dynamics and the individual health care professional.

Changing the health care culture. The main discovery from this research is that the focus of the process of mitigating the negative effects of shame from mistakes should not be indiscriminate openness. We claim to nurture a just culture of safety where we encourage openness and transparency, without considering the individual who has made the mistake. There is no individual in Reason's "Swiss cheese" model, no thinking about what the health professional is going through in systems thinking.

The implications from this research are that mitigating the negative effects of shame does not mean talking more about mistakes. The systems thinking and just culture approach is therefore failing health professionals who feel shame as a result of a mistake. Although the open and transparent culture is meant to send the message that individuals are not to blame, and that we can therefore feel safe to talk openly about mistakes, it is not helping the individual deal with the shame he or she is predisposed to feel as a health professional. In fact, because he or she feels shame, the individual wants to hide and withdraw so as to protect him or herself and recover from the emotion, but this open and just culture constantly exposes and re-exposes them to the reality of the mistake and the depths of their shame.

The data from this study refutes the wholesale idea of putting the person who made the mistake through several analyses, examinations and interrogations about the mistake. The participants repeatedly describe team debriefings or open discussions as an entirely negative shaming experience. We are doing damage to the individual by exposing and re-exposing them to their mistake, not only through judgement, bullying, blaming and isolating, but also through the organizational processes that have been built up around the investigation of mistakes without consideration for the individual. This exposure makes health professionals vulnerable to negative impact of shame, and to erosion of the self, as eloquently explained by Nancy, who is also quoted at the beginning of the Discussion section:

> Although I believe in transparency and I believe obviously wholeheartedly in patient safety, I think it is potentially and in reality in many respects it's been quite harmful to both the individual as well as the profession …so now we're no longer yelling or being aggressive about what we say, but now we've got a team coming to talk with the individual, under the pretense of we are a group looking for systems issues, but now I'm exposed and now I'm being asked to no longer shhh it… and I don't mean shhh as in keeping it under wraps and not reporting, that's not what I mean about that… I mean about being quiet, don't expose me, don't expose me for the sham that I am in front of everybody because that to me is what shame is. (Nancy, female nurse)

Tom was more direct:

> But talking about what went wrong over and over again just reinforces the fact that you did something wrong and I don't find that necessarily helpful to people. (Tom, male pharmacist)

We need to rethink our culture, focus on the individual again. We have moved too far away from the individual, ignoring the impact of mistakes on the individual. We need to focus again on the

individual, her role, her emotions, her recovery. We need to support that individual who is taking that long walk down the hall to disclose to the family, devastated by the outcome of his mistake.

With systems thinking we are deliberately *not* thinking of the individual, in effect dehumanizing mistakes. We need to bring the "human-ness" back into the picture, acknowledging that, in fact, "we are only human," as so many of the participants reiterated over and over again. We need to stop ignoring that they are fallible, pretending they are perfect. This does not mean coddling them, but treating them with compassion; it does not mean pretending they did not make a mistake, it means protecting them from further damage.

We also need to move away from *always* looking to blame the system; it needs to be acceptable and safe for a health professional to say "it was not a system error, it was me," to take ownership for a mistake, to be accountable when it is the right thing to do.

We should not be talking about an open environment, but a supportive one, where we can deal with mistakes not only systematically, but also holistically (O'Beirne, Sterling, Palacios-Derflingher, Hohman & Zwicker, 2012). This means changing the nature of exposure, to make it about problem solving, not interrogation, and balancing the urgency of finding out what went wrong with bringing the health professional along in the process delicately, respectfully. Health professionals need to feel safe to report, talk about and learn from mistakes, but also need time, support and understanding to allow them to come to terms with and move beyond their shame. As noted by Hall and Scott (2012), "patient safety policies regarding the investigation of sentinel events should reflect the knowledge that many involved health care workers find such inquisitions to be very upsetting" (p. 390).

An important step in improving our culture around mistakes is making mistakes normative (B. Goldman, personal communication, November 10, 2014) – not anomalies. This does not mean

normalizing them to a point of disregarding them, but acknowledging them as something that is part of normal behaviour, accepting the inevitability of mistakes and learning from them. We need to accept that someone who makes a mistake is not an outlier by definition. We need to "stop being uptight about errors, and take the emotional heft out of mistakes, make it about curiosity, not blame" (B. Goldman, personal communication, November 10, 2014).

A new perspective on patient safety called "Safety II" (Hollnagel, 2014) recognizes that mistakes will happen, that they are inevitable, and turns patient safety on its head: the authors maintain that patient safety should no longer be about making sure as few things as possible go wrong, but to make sure as many things as possible go right. In other words, we need to turn mistakes into something that we expect to happen, change our perspective. In his address to the CPSI forum in 2014, Ron Collins proposed that we do not ask "how are we going to prevent mistakes" but "how are we going to hurt the next patient who walks through the door?" What he meant is that if we expect mistakes to happen, we are more likely to be able to prevent them.

In the same forum, unfortunately, a prominent provincial health leader (McGrath, 2014) proclaimed that the provincial priority for her province was "by March 31st, 2020 no harm to patients or staff" as though this was a possible ideal. This is not the only instance of this vision; a recent article noted that "the health care field is working hard to refashion systems to avoid the commission of errors that lead to harm" (Clancey, 2012, p. 3). We need to stop aiming for a goal of no errors, as it is simply not possible.

What we need is not an open and transparent culture, but a **compassionate culture of safety.** We need to move away from the shroud of secrecy, the web of silence, and weave a cover of compassion that is stitched with empathy. In the introduction to his book on the second victim, Dekker (2013) maintains

that health professionals "deserve not punishment and abandonment, but rather compassion and help" and that they are "more likely to accept compassion and help once they realize that their reactions are normal" (p. ix). Hall and Scott (2012) also emphasize the need for compassion and sensitivity.

When someone makes a mistake, it is as if that person must wear – like Hawthorne's Hester Prynne who was forced to wear the scarlet letter A to shame her (Hawthrone, 1850) – the scarlet letter "M" for mistake. But everyone needs to wear the scarlet letter to show solidarity, empathy, and to admit that they, too, are capable of mistakes. It is only when people start coming forward, admitting they are fallible, have made mistakes (and will again), sharing what they felt, that we can build a culture of compassion. Sharing their stories does not necessarily mean giving the details or reliving the mistakes, but sharing the emotions, experience they went through after a mistake; as noted earlier, "the two most powerful words when we're in this struggle are 'me too'" (Brown, 2010a).

While exposure contributes to erosion, compassion contributes to reshaping and remolding the mask. If a person is treated with compassion, she will feel it is okay to be unmasked as a fallible health professional, especially if everyone else is unmasked.

When exploring and learning from mistakes, we need to be guided by the needs of the health professional who made the mistake, to bring him or her into the fold of compassion, rather than exposing him to the harshness of systems thinking and organizational processes.

Educating health professionals. Another implication from this study that is related to changing culture is that we need to better prepare health professionals through pre-licensure training. In fact, it would seem that part of the problem is that health professionals are often trained to feel shame; they are trained to believe they need to be perfect, or "raised in a culture of trained perfectibility" (Reason, 2011,

p. ix). Shame is part of the "null curriculum" of health professional education, that part of the curriculum that we pretend does not exist or is not important.

It is also well-documented that physicians' training is shame-based, or in a culture where they are constantly in situations where they must perform to a high standard, and shamed if they do not live up to that answer. Goldberg et al. (2002) explain:

> An example is the Morbidity and Mortality Conference, in which shame is a corrective technique often employed in "education" of physicians whose patients have had bad outcomes. A variety of other circumstances in the course of medical training expose the fallible physician to possible censure by superiors…physicians in training, therefore adopt defensive strategies in response to their mistakes. (p. 290)

One of the participants has witnessed this phenomenon:

> As residents they are put, as part of their learning experience, as part of the strategy of teaching them, they are put front and center… they are exposed on a daily basis to being shamed through or to handle shame, to learn with to cope with it through the daily patient care rounds… like in the teaching hospital, where they're put front and center, they are quizzed and they keep pushing them to the point where they can't answer… and so they're exposed in front of everybody, in front of the patient, in front of the other health care professions to the point where they don't know and they have to admit that they don't know… but it can be a very shaming experience…(Nancy, female nurse)

In addition, as Mizrahi (1984) explains, by the end of their training, medical students have developed mechanisms to distance themselves from and deny mistakes, which is part of a highly insular and self-protective culture. This culture may be a necessary evil, in some ways, to enable health

professionals in highly intense and urgent fields of practice to make important and quick decisions; hesitation and doubt would not serve these professionals well. The challenge is when these health professionals can no longer protect themselves with a mask of certitude, when the mistake is too serious or too exposed to hide. We need to consider how to prepare these individuals for this very probable scenario, where their mask might be suddenly shattered.

In the nursing profession, the expression "nurses eat their young" is often used to describe an environment where new nurses and students are belittled by more experienced nurses for not performing to their standards. One of the participants describes how one of the nurse educators teaches her students about mistakes:

> He gives students this big speech each time and I don't agree with the speech but he does it with my students and we do it together. He makes it seem like you make an error and you're out of the profession, we're going to kick you out, pretty much. (Sonya, female nurse)

Building self as a professional should include learning that care has inherent risk, and that making mistakes will be an inevitable part of practice. Unfortunately, as noted earlier, there is a general absence of a concept of "fallibility" in health professional education (Dekker, 2013); we need to address this absence.

This observation and the evidence in the literature of shaming and bullying in training health professionals might be the result of the instructors themselves being blinded by perfectionism. It might be the case, in other words, that those who are training our current health professionals are projecting their own drive for perfectionism on their students. Training of educators themselves in the psychosocial process of mistakes is therefore key to ensuring the students are given appropriate support and guidance for the experiences they will have when they make mistakes.

Hall & Scott (2012) suggest that nursing instructors can play a role in helping students anticipate the emotions they would feel during the stress of mistakes, and ensure they incorporate prompt debriefings after an event where a student is involved in a patient incident or mistake. Educators help students understand the process they will go through when they make a mistake, and also teach them how to support each other through the experience.

One strategy that might prove to be effective would be to provide simulated training for students to experience what it is like to witness a mistake or even make a mistake. One study evaluated the effectiveness of one such simulation exercise, and concluded that it was very useful to the students, especially as they were clearly not prepared to handle the experience (Aubin & King, 2015).

Another important component of health professional education is to train students to speak up when they feel the patient is in an unsafe situation, or when they witness a mistake (Aubin & King, 2015; Liao, Thomas & Bell, 2014). This might be one of the most difficult challenges for new health professionals, and preparing them with communication tools and resources might allow them to feel safe enough to speak up. When asked how they might support someone who made a mistake, most participants were unsure; two participants noted the need to also teach health professionals how to support others:

> For me I would definitely like to talk to people about it. I just don't know how to go about it. (Fatima, female pharmacist)
>
> I mean, some people have a natural tendency to be supportive. For the most part, people don't know how to support. They might want to be they don't know how. (Peter, male physician)

Interprofessional education, where students from all different health professions come to learn together for team-based learning in an effort to better understand each other's roles, improves collaborative care and opens the door for better communications and teamwork, and is also key to helping

health professionals cope with mistakes. When students are given the opportunity to get to know their cohorts in other professions, they might be better positioned to seek or provide support to them, be more empathetic about mistakes they make, and perhaps be more willing to seek support from them.

Most important, before they enter practice, we need to teach health professional students to have the courage to be imperfect, to be fallible. They need to learn to embrace their vulnerability, and become the "wholehearted people" described by Brown (2010); by having the courage to be imperfect, they will develop a strong sense of worthiness. Health professionals in training need help to accept the uncertainty of their profession, and the inevitability of mistakes. We need to teach students in a way that slowly builds their confidence, and allows them to fail in a supportive, non-judgemental environment.

Organizational processes. It became clear during the research that one of the factors that cause more shame to individuals who make mistakes is how the organization deals with the incident. These organizational processes – such as reporting, incident management, debriefing, mortality and morbidity (M&M) rounds and disclosure – were a form of detrimental exposure from the participants' perspective. Participants provided a number of examples of processes that caused them to feel more shame, not less, as explained by Nancy:

> You're dealing with your colleagues, you're dealing with your supervisor, your manager, whoever it is you have to report to from that point of… you've told the doctor, you told the resident first and then the resident will still tell the staff person… it just goes through the series of different people who need to know ….then you actually have to tell when you leave your shift… you're now going to have to tell the oncoming nurse what has just happened, so you have to relive the story… and then of course nurses right from the get-go have always been the ones who had to fill out the incident reports, so you just have to put it on paper and you have to sign it …you're just constantly one exposure after an exposure after another exposure after another exposure… and

> then depending on what kind of mistake and the outcome it was… the worst the outcome for the patient the more adverse the outcome for the patient the more people become involved …and then you have to talk with them so it doesn't go away, the exposure doesn't go away for a little bit ..and then depending upon how big the mistake was depending upon how big mistake was what the consequences of that mistake was… whether this goes on in infamy and whether there's gossip around it, and so the person is left having to deal with over a period of time the looks of people's eyes over time and the gossip that's associated with a mistake. (Nancy, female nurse)

It is important that organizations find a way to make the experience of reporting incidents, debriefing about what went wrong, analyzing the steps of the mistakes a more positive experience for the person who made the mistake. The processes should be less intimidating, more discreet and more supportive. Not all employees can be the "ideal employee" described earlier in the Literature Review section (Tucker and Edmondson, 2003), the "noisy complainer" who speaks ups when something goes wrong. We have to leave room for the silenced, the intimidated, the vulnerable who cannot even begin to imagine revealing their mistake, so deep is their shame.

One suggestion from an individual who participated in the member checking phase of this study suggested that organizations might train "mistake mentors" or health professionals who are trained to help others through the experience of making a mistake, and who are also willing to share their experiences and their own vulnerability and self-doubts. This is similar to Dekker's (2013) suggestion for "peer defusers" who would be trained in critical-incident stress management (CISM).

The University of Missouri Health Care (MUHC) recently implemented a program to help their employees through unanticipated adverse events for which they feel traumatized. They deployed a "systemwide second victim rapid response team" (Scott et al., 2010). The evidence-based approach

included training for the *ForYOU Team* of 51 physicians, nurses, social workers, respiratory therapists and other allied health team members. They use a three-tiered model to help those traumatized by an event through six stages of recovery: navigating the initial chaos, avoiding intrusive self-reflection, restoring personal integrity, enduring the inquisitions, obtaining emotional support and moving on (Scott et al., 2009). Although the program components have not been systematically evaluated, it is a solid foundation from which an organization can build their own program to support their staff.

One of the biggest challenges to providing the support might be that some health professionals might have difficulty accepting support, as they might feel they risk being stigmatized as someone who is not strong enough to cope on their own, or someone who is incongruous with the perfectionist image of a health professional. This might be especially true of those who are at the "low erosion" end of the spectrum, those whose mistakes only make them reinforce their masks with one of certitude. Seeking support for these individuals would mean admitting they are fallible, which might not be possible. Making the assistance mandatory in certain circumstances may be one solution, so that seeking support is not a sign of weakness and vulnerability. It might be useful to look to other professions, such as law enforcement for example, where employees are supported with psychological counselling through debriefing programs in the event of a traumatic event.

Health care organizations might look to a number of their own resources to create a multidisciplinary team of professionals who can support health care professionals in crisis. For example, they might pull resources from workplace health and safety, psychology and spiritual care, human resources, palliative and end of life care, quality and patient safety learning, health promotion, human resources and employee and family assistance (Alberta Health Services, 2015).

It is clear from the discussions in the literature that the organizational support for the health professional is not just a one-time event. Rather, it is an ongoing and sometimes long term process that

ensures the individual is coping with the experience before they are assumed to be fully recovered. Further, a literature review by Seys et al. (2012) found that whatever the interventional assistance, it should be rendered immediately after the event. The review also found that an organizational culture that supports mutual criticism and constructive feedback reduces the impact of the event; although many of the participants in my study were clearly not ready for criticism and even feedback, this might be an ultimate long term goal for which organizations should aim. Seys et al. also point to a study by Denham (2007) that promotes a number of rights health care organizations should maintain for its employees, including therapy, respect, understanding and compassion, supportive care and transparency, and the opportunity to help improve care. What is important is that organizations do not abandon the health professional who makes a mistake. Margaret Murphy, a member of Patient for Patient Safety International, notes that organizations abandon patients and health professionals alike. She tells the story of the chance meeting with the resident who made the mistake that lead to her son's death:

> We were coming out of the lift and the lift door opens and who walks in but the registrar – or what you call the resident – the man who should have made the call and didn't. Of course I can place him, I know who he is, and I can see he is trying to place me. All I say is "I'm Kevin Murphy's mother." Now this is six weeks after his death. And his face changed, it blanched, and he said "I didn't think he would die!" And he ran out of the lift and ran down the corridor. And I looked at my husband, and I said "Oh my God they've abandoned us, but they've abandoned him too." Where did he go? Who did he have to talk to? What supports did he have? (Murphy, 2014)

Organizations need to tend to their staff as soon as the incident happens – they need to tend to the gap of time between the incident and the incident management, taking into consideration some of the interventions noted in the section "Helping the individual who makes the mistake." Organizations need

to find ways to explore mistakes without unnecessary exposure, support their staff rather than interrogate, and protect and surround individuals who have made a mistake rather than abandon them.

A case for eschewing the term "second victim." As previously noted, the term "second victim" has recently come to be associated with the health professional who has made a mistake. First coined by Albert Wu, the term second victim is defined as "health care providers who are involved in an unanticipated adverse patient event, in a medical error and/or a patient related injury and become victimized in the sense that the provider is traumatized by the event" (Scott et al., 2010, p. 233).

As a result of reflecting on the data and having a better understanding of how health professionals overcome the shame associated with mistakes, I do not believe that "second victim" is a suitable term for these purposes. Sydney Dekker and Albert Wu's work on exploring the nature of the emotions and reactions of individuals who make mistakes is important in that it has brought attention to the impact of mistakes on health professionals, and has made a significant contribution to our understanding of this situation; I simply disagree with the terminology they use for the following reasons.

1. The label of "victim" will not resonate with health professionals: The word "victim" implies weakness, and is often associated with the word "hapless" which means pathetic or pitiable. As we have seen from the data, this would not resonate with a health professional who aims to be perfect, and is often even too proud to admit making mistakes. As noted by Clancey (2012): "our culture is one of caring, but also of heroism, which often does not tolerate the idea of victimhood" (p. 4). A health professional is not seeking to be pitied; in fact, those who are able to cope with the negative effects of shame are those who come through the process holding their head high, knowing that they are fallible, but still competent and respected.

2. The label "victim" implies they do not have a role to play in the incident: When a mistake is made, the health professional is part of something that happened to someone else – it did not happen to them. True, they can be traumatized by a mistake they made, but traumatized is not the same as victimized. The word victim implies that something has been done *to* someone that they had no control over. To put this into another context, one would wonder if a person who accidentally hits someone with the car would also ever be called second victims; we would have to imagine a news report to read: "A tragic accident happened today on Highway 102. A young child was killed when the car she was in collided with another car that accidentally crossed the dividing line on the highway. A second victim, the driver of the other car, was not injured but feels traumatized by the event."
3. Calling the health professional a victim demeans the impact of the mistake on the patient: There is a danger in using the term "second victim" for the health professional, as it implies that the harm a patient receives is comparable to the harm a health professional receives. The participants who were traumatized by what they had done to the patient never indicated they were also victims, and instead focused on the harm the patient and family suffered, not on their own pain. Those whose wore the "mask of certitude" and were seemingly not traumatized by the incident would not likely want to wear a "mask of the victim."
4. Being self-critical is not being a victim: Clancey (2012) claims that one of the ways a health professional can become a second victim is through "the internalized judgment that amounts to a self-inflicted emotional wound, and the review and judgment of an oversight body (such as a nursing board) that reinforces those internalized self-criticisms" (p. 3). This statement implies that anyone who is self-critical is a victim of harm, but this is not necessarily so; self-criticism can be a positive coping strategy that helps an individual learn from their own mistakes.

I do not suggest a different term to describe health professionals who make mistakes; in fact, it is best not to create a term that risks pathologizing them and regards them as psychologically abnormal or unhealthy. More details on the risks of pathologizing health professionals who make mistakes can be found in the section on "helping the individual who makes a mistake."

Supporting others. It was clear from the interviews that participants were leery about having open conversations with colleagues about their mistake. Part of the challenge is that they do not always work with the same core team members, and it is not always simple to build a circle of confidantes.

> Yes, because teams are always changing. So it may be the team that was involved in that particular incident but it doesn't mean they're the ones you feel close to, or the ones you feel comfortable bearing all to. (Tarek, male resident)

Those who entertained the possibility of seeking support from others looked for individuals who could understand the context of the incident, as confirmed by Scott et al. (2009) in their study, in which they found that health professionals sought support from those who could relate to their experience and the personal impact the mistake had on them professionally and personally.

It was also important to the participants that they hear from others that they have also made mistakes. Goffman (1991) explains why talking to someone else who is willing to talk about their mistakes is helpful:

> Knowing from their own experience what it is like to have this particular stigma, some of them can provide the individual with instruction in the tricks of the trade and with a circle of lament to which he can withdraw for moral support and for the comfort of feeling at home, at ease, accepted as a person who really is like any other normal person. (p. 20)

When participants sought support, they were mostly interested in having someone simply listen to them, validate or reassure them or empathize with them. The following are some examples of the participants' recommendations for support:

> You just try to reassure them that you don't think less of them because of this, it's something that happened that's a bigger picture. And that she has my support. Stand up for her, defend her. (Sam, female pharmacist)

> Trying to explain to them that I would have done the same thing, or many of the residents would have done the same thing. (Nora, female resident)

> I don't want them spending months thinking they're a bad nurse. When they're a good nurse and they've had a bad day or a bad moment or they have a learning opportunity that was there. And that's okay. (Olivia, female nurse)

> And maybe making a mistake (you can say another person) isn't such a bad thing every now and again because it brings you back to reality and it brings you back to "whoops" you're not omnipotent and you too can make mistakes. (Tori, female nurse)

> But when I left the room it happened that the anesthetist and…I said "I have just been raked over the coals for what I did." And she said "What?" I said "Yes." She said "I will support if you need. You did everything. And the patient needed it." So that was a nice validation, support. Yes, it can be. It's all about the way someone does something. (Bonnie, female nurse)

One participant cautioned against minimizing the mistake another person makes:

> Or maybe they say "well the mistake wasn't that bad." That's a terrible thing to say. Because when you make a mistake, it's like the end of the world, like you've fallen into a black hole or

> you'd like to throw yourself into a black hole. By saying the mistake wasn't that bad is discrediting everything that they feel at that time, and all their feelings of guilt and saying "you are ridiculous for feeling that awful." And "you're overexaggerating" is essentially what that statement is saying. I think that's a terrible statement to say. (Fatima, female pharmacist)

The importance of talking to others about mistakes that cause shame is explained by May & Plews-Ogan (2012): talking helps "to organize major life events causing distress; to provide a sense of predictability and control; to facilitate a sense of resolution; and to help us prepare to deal with it should it happen again" (p. 449).

Supporting another person is not just about talking to them. It's about listening and responding in a non-judgemental manner, and enabling the person to heal and transcend their negative emotions. It's about validating them and helping them transcend the emotional turmoil. It's about helping them remold themselves as "a person who made a mistake" but who is still a valued, respected, effective, caring health professional.

Dekker (2013) notes that supporting someone who has made a mistake means helping them reconcile their shattered assumptions about themselves and their self-worth, and helping them understand they do not always have control over outcomes.

Helping the individual who makes a mistake. If it is not by creating more openness that we will help health professionals mitigate the negative effects of shame due to mistakes, then what is the best way to help them through the emotional upheaval they experience? Much of the research conducted recently on how to help health professionals cope with mistakes focusses on helping them be open with patients and colleagues (Goldberg et al., 2002). My theory refutes this approach, or at least brings it into question as a universal solution for all health professionals. It is true that four of participants expressed a need for

seeking reassurance or validation from their peers, but most were clearly on the side of not talking to anyone, such as Tori:

> Nobody could ever make me feel better about making a mistake. They just can't. Because I'm supposed to be perfect and I'm not supposed to make mistakes. And it doesn't matter how many people, how many of my co-worker friends came up to me and said "you know, anybody could have made that mistake" – you know, people will try to do things like that. It doesn't make me feel better. It doesn't help. It's nice to know that there's support and that if …whenever anybody else makes a mistake, I would never rub it in their face. But certain people will. So it's nice to know they'll be there, and say "no don't be stupid, he didn't write it down, how could you know?" But I mean, I should have known that, I should have known that was too much. I've been here 26 years. How could I not have realized that that was too big a dose...duh. Like I don't know what was going on. That's what I would say to them: "no, I shouldn't have made that mistake. That's stupid." (Tori, female nurse)

We need to help health professionals through the experience of a mistake and help them remold the mask, to "help the individuals recover from mistakes by navigating the initial chaos and accident response, restoring personal integrity, ensuring safety through the inquisition, obtaining any needed emotional first aid, and eventually get to a point of resolution" (Paparella, 2011, p.264).

From the Literature Review, we also know that it is important to tend to the "complex sorrow" of health professionals who are affected by a mistake, ensuring they do not have to go through the crisis alone (Conway et al., 2011, p. 17). Some participants already demonstrate their ability to cope with shame through the four "attributional pathways to recovery" from shame as described by Van Vliet (2009) and explained in the Literature Review, such as identifying external causes and influences for the

mistake (analyzing the mistake), shrinking their global self-judgement (or rationalizing the mistake), believing in the possibility of change (through learning), and decreasing the discrepancy between the ideal self and the actual self (recognizing they are fallible). Helping those who have not found this attributional pathway to recovery is another way to support individuals who have made mistakes.

The findings in this study point to two other approaches: self-forgiveness and therapy.

Self-forgiveness. It was evident that participants were struggling not only with how others felt about them, but how they felt about themselves. It was difficult for them to forgive themselves for the mistake they made.

In recovering from a mistake, it is important that health professionals are able to be compassionate towards themselves, in order to be able to forgive themselves for what they have done; it requires "a positive attitudinal shift in the feelings, actions, and beliefs about the self following a self-perceived transgression or wrongdoing committed by the self" (Wohl, Deshea & Wahkinney, 2008, p. 2). By forgiving themselves, health professionals can face their mistakes while at the same time eliminating the negative thoughts, emotions and behaviours that have been eroding their self, and replace them with compassion (Wohl et al., 2008).

Self-forgiveness is not easy to achieve for health professionals, especially as they it is an intrapersonal construct, and therefore highly influenced by the responses and behaviours of others (Wohl et al., 2008). Symbolic interactionism also tells us that interaction with others is how we reconstruct the self and identity after a loss or change (Charmaz, 2014).

Health professionals are having to battle with their own negative thoughts of self-doubt, self-blame and self-criticism, while protecting themselves from the exposure to the negative behaviours and

actions of those who are judging, blaming, isolating and bullying them. It is therefore likely that those who are traumatized by a mistake will need help and support to achieve self-forgiveness.

Self-forgiveness should not be confused with avoiding responsibility; on the contrary, it involves accepting responsibility while processing feelings of shame (Enright et al., 1996). Forgiveness is "the acceptance of those parts of oneself that have previously been thought of as unacceptable due to self-directed inappropriate thought or action…the outcome of such a shift in thoughts, beliefs, and actions toward the self is an understanding of one's actions, a realisation that one is not unique in this experience" (Enright et al, 1996, p. 2).

It is easy to imagine that those individuals on the end of the erosion/exposure spectrum in my grounded theory model would have difficulty being self-forgiving. Those who reinforce their mask by avoiding responsibility or minimizing mistakes would have nothing for which to forgive themselves. At the other end of the spectrum, those see themselves only as failures would be "stuck in self-condemnation without a chance for healing" (Wohl et al., 1996, p 9).

On the other hand, those in the mid-range of the spectrum would be open to reassessing themselves and coming out the other end of this assessment with a more positive view of themselves. They can acknowledge their own vulnerability without considering themselves a failure.

From the Literature Review, we learned that self-compassion comes from being understanding rather than critical towards oneself in the face of failure, seeing experiences as a component of a larger human experience, and being mindful of our shame without over-identifying with the emotion (Neff, 2003).

Self-compassion and self-forgiveness is the plaster that a health professional needs to remold the mask from the inside.

Therapy. The literature review provided some guidance as to how to therapeutically help an individual through shame. These are listed in the section entitled "therapeutic interventions." Essentially, the therapeutic interventions that help individuals through emotions such as shame help the individual: look for external causes rather than internal causes, shrink their global self-judgement, believe in possibility of change, increase their resilience (ability to maintain equilibrium despite disturbances), connect with their feelings, refocus their view of themselves, and accept their vulnerability.

What we have learned from the study is that therapy for a health professional who is suffering from shame due to a mistake would benefit from therapy that helps him or her learn to be more self-compassionate. Psychological therapy that helps health professionals understand their shame, recognize that it is a natural response to a mistake, and overcome their negative feelings about themselves is key to enabling them to forgive themselves and move on.

The therapeutic technique of compassionate mind training, as explained in the Literature Review, would seem to be an appropriate approach to support health professionals who have made mistakes, giving them a safe place to reduce their sense of being threatened, and help them acknowledge the disappointment and fear associated with failure. It also helps them learn to accept, tolerate and work with that fear, rather than activating the attack-self-criticism and submissive defence pathways (Gilbert & Procter, 2006).

Another therapeutic approach that seems most relevant to the psychology of mistakes is rational emotive behaviour therapy (REBT). REBT is based on the idea that individuals have the capacity to be both rational and irrational, and must work harder to react rationally to certain situations. Therapy is therefore focused on helping the individual change his or her irrational beliefs into rational beliefs, based on an unconditional acceptance that accept humans as fallible, complex and changeable, and that one must strive for unconditional acceptance of self and others (Neenan & Dryden, 2011). Since it was found

that one of the main erosion factors was irrational thinking, and one of the reinforcements was rational thinking, this therapy has the potential to help health professionals overcome the negative effects of shame through rational thought.

Because of the possibility that a health professional might be traumatized by a serious incident – even experiencing PTSD, as Dekker suggests – there might be situations where crisis counselling would be recommended. As noted in the findings, many participants in the study remarked on the inadequacy of the employee assistance programs, partly because the counsellors cannot always relate to the context of health care, and partly because the participants did not trust that the service was entirely confidential. One of the experts consulted in the member checking phase of this study noted that the patient safety officer ends up being the one to counsel those who have made mistakes, even though they are not qualified to do so. It might therefore be valuable to have a qualified psychologist or psychiatrist assigned to help individuals who are traumatized. One participant suggested that organizations could use the crisis counsellors usually available to patients in Emergency departments. One such service is available in the US, Medically Induced Trauma Support Services (MITSS), Inc. is a non-profit organization founded in June of 2002 whose mission is "*To Support Healing and Restore Hope"* to patients, families, and clinicians who have been affected by an adverse medical event" (http://www.mitss.org/aboutus_home.html).

Dekker (2013) suggests that Critical-Incident Stress Management (CISM) would be helpful. He notes that CISM should not be seen as psychological therapy, as it would risk pathologizing the health professional's experience and further stigmatization and shame. Rather, "CISM is intended as a collection of normal proportional steps that aim to reduce stress reactions as quickly as possible, to normalize the unusual experience of the second victim, and to regain the ability to function and work as soon as possible" (p. 85). Dekker (2013) also suggests psychological first aid or "defusing" which focuses on the

immediate physiological and psychological reactions and needs; defusing reassures the individual that what has happened is not novel or unexpected.

Although therapy might be useful to some health professionals, especially in extreme situations, it is important that we not pathologize those mistakes; as noted by Dekker:

> Pathologizing regards or treats something as psychologically abnormal and unhealthy…After all, it can be very normal, not abnormal, to fell guilt and regret and anger and anxiety after having caused or contributed to an incident that should never have happened. And it can be healthy to feel all of these emotions too—necessary even for eventual outcomes of resilience and recovery. (Dekker, 2013, p. 27)

These are some of the ways to help individuals who have been affected emotionally by a mistake they made that caused or had the potential to cause harm. This study also pointed to implications for organizational processes and the education of health professionals that might mitigate the negative effects of shame due to mistakes.

Further Research

The conceptual framework developed from this study, although grounded in the data from in depth interviews of 21 participants, is theory that could be expanded with more investigations. Further research into the psychological process that health professionals undergo after a mistake would help validate the theory, and augment the knowledge gained from the analysis of its findings. More specifically, the follow areas of research might be pursued:

- An examination of the difference between professions, including how each profession reacts to mistakes, interacts with other health professionals, and copes with their emotions during the process of mitigating shame.

- A research study examining the effect of mistakes on health professionals, using independent variables of demographics such as years of experience, gender and age.
- An investigation about the effect of generational diversity on the tendency for perfectionism, and whether this results in a difference in how health professionals react to and cope with mistakes.
- Practice-based simulation studies examining how best to prepare student health professionals for the emotional impact of mistakes.
- A systematic review and environmental scan of current successful therapeutic interventions for health professionals who make mistakes.

Any research that leads to a better understanding of how we might better support health professionals who are coping with the emotional turmoil following a mistake will be a valuable and important contribution to the health care system.

Limitations

One of the key limitations to the study was recognized from the start, as the topic under study is one that is difficult to discuss; it is inherently shaming to talk about shame. Because participants were asked to volunteer to be interviewed about shame from mistakes, those who were unwilling to share – and perhaps those who were too traumatized by such incidents – would not necessarily come forward. This self-selection bias may have therefore limited the type of participant to those who were recovered enough, strong enough or confident enough to talk about their mistakes. However, many of the participants still revealed many deep emotions related to mistakes they had made, and the quality of the interviews allowed me to expand on a range of emotional reactions to mistakes.

Because this was a grounded theory study, variables such as type of profession, age, gender and years of experience were not taken into account. Although this would have been an interesting comparison to make, and might have led to a broader more generalizable theory, this would have required a much larger study that focused not on a conceptual theory but on the differences between these variables. Research taking into consideration variables related to the seriousness of the mistake or outcome might also be useful, although the data in this study seems to indicate that there is no direct correlation between seriousness of the mistake and the emotional reaction of the health professional.

The theory also did not take into account pre-established emotional competence variables such as shame proneness or confidence levels. As noted previously, however, it was not a priority to measure proneness to shame for the purpose of this research study, since it was clear from the literature that health professionals are differentially pulled towards shame after a mistake. It might, however, be valuable to pursue further research using a shame proneness scale; for example, a mixed methods study that took these into account might shed light on why some individuals are better able to mitigate the negative effects of shame than others.

Because I am not a health professional myself, this might have limited my capacity to understand some of the nuances of the health care culture. However, I have worked in the field of health care services, and in patient safety in particular, for the past 10 years. Further, as a constructivist, I acknowledge the role that my own perceptions and biases play in the interpretations of the data and the development of the theory. I realize that may have influenced how I approached the topic and how I reflected what was said by the participants. On the other hand, having some understanding of the health care environment is entirely useful and valuable; as noted by Morse (1992) "theorizing without experiential and substantive knowledge in the area is a bit like 'trying to push the bus you are riding on" (p. 19). As a grounded theorist, I recognize that I bring in my own point of view, observations, conceptual understandings and knowledge, but believe that it enriches rather than takes away from the participants' data. Grounded theorists honour the participants' experiences, but are not bounded by them (Milliken & Schreiber, 2012).

Finally, not all participants were able to identify shame as the core emotion of the process under study. This might have been because they were unclear on the concept of shame, or because they were not willing to admit to an emotion that made them appear vulnerable or weak. One recommendation for future studies would be to de-emphasize the emotion of shame and focus instead on all of the emotions health professionals experience when they make mistakes.

Conclusion

As children, we are taught to take ownership of our mistakes, to take the blame. We are "raised in guilt," according to Peter (male physician); that is, we are in a culture where we are meant to feel guilty about making a mistake, and where we are always looking for someone to blame. We teach our children to feel badly, or to feel ashamed, about making mistakes and to take the blame. If this is the reality of our external culture, how can we expect to change the culture within health care?

The theory developed from this study suggests that the answer to this question is complex and multi-layered. It is only by acknowledging and understanding the various external and internal influences health professional experience when they make a mistake that we can begin to explore how best to help them cope with their shame. We cannot simply overlook the health professional and pretend that mistakes are caused by an abstract system; individuals are intricately and emotionally involved in mistakes, and ignoring this human-ness of mistakes is detrimental not only to the investigation of what went wrong, but to the health professional who is suffering emotionally, and who is isolated and ignored.

The literature review conducted for this study confirmed that research on the topic of mistakes in health care is widely discussed and studied, but has not investigated in depth nor lead to a thorough understanding of the emotional impact of mistakes on health professionals. This study has provided new insights about the psychosocial process of how health professionals mitigate the negative effects of shame due to mistakes. Faced with external influences and internal emotions that erode their identities as infallible health professionals, they reinforce themselves with a number of behaviours and actions that help them rebuild themselves after a mistake. How successful they are depends on such factors as how much they can contain the mistake, think rationally, defuse the blame on themselves and forgive themselves.

The health care environment is still contaminated with myths, the three most significant being that all mistakes are avoidable, health professionals are perfect, and mistakes are rare. It is also besieged by investigative processes that are more like inquisitions than analyses, and organizations that are more apt to abandon than support the health professionals involved. There is clearly still a gap in the understanding of how best to handle the aftermath of a mistake in health care. There is still silence, secrecy and shame among health professionals, who are nowhere near reaching the goal of transparency that is required for what is defined as a safe and just culture. Even in a document released in 2015, the year of publication of this dissertation, the National Patient Safety Foundation's Lucien Leape Institute (2015) notes that transparency about safety issues remains the exception rather than the norm. Unfortunately, the Institute's report does not also take into account the emotional process that health professionals go through after a mistake, but rather proselytizes the same message and language we have been hearing for the past dozen years around systems thinking: build a just culture, learn from mistakes by analyzing them, and expose health professionals to peer review, investigations, and reporting.

The grounded theory that was developed from this study provides a conceptual rendering of the process that challenges current ideas about how to manage mistakes in health care. Rather than focussing on systems thinking, the theory focusses on the individual's emotional journey throughout the process. It emphasizes the importance of considering the human-ness in any organizational processes that want to get to the root of the problem, and of developing a compassionate culture where the emotional needs of the health professionals are paramount.

It is time to redirect our approach to patient safety towards the health professional, not exclusively the system, to examine our thinking about processes that are supposed to help us make care safer. Much in the same way as we are moving from Safety I to Safety II (EUROCONTROL, 2013) where the aim is to look at what we are doing right rather than what we are doing wrong, we need to support the people

who are for the most part doing this right, rather than punishing and abandoning them when they do wrong.

The implications of the theory are wide reaching, and will be useful in helping health professionals cope with mistakes through self-compassion, support from others and supportive organizational processes. The study also leads to recommendations for educating health professionals before they are in the practice environment so that they are better prepared for the experience of making mistakes.

Once the study was complete, I reflected on my own experiences with shame and on one experience in particular that happened 30 years ago. I found that many of the experiences of the participants resonated with my own. At the time I felt compelled to hide my mistake, for fear of the judgement I knew for certain I would feel from others; I feared what people would think if they only knew the "real me." I spoke to nobody about the mistake until I was able to rebuild who I was, believe in myself again. With time, I was able to slowly present myself as someone worth knowing – not a sham, a hypocrite, a fake. But even now, when I am forced to remember, when my mistake is somehow exposed again, I feel all the shame and anger at myself again. Like the participants who carry the shame, so do I; this shame is never completely buried. Even though I believe it is no longer part of who I am, it is part of who I was.

We have all known deeply disturbing feelings brought on by shame. As much as it helps us recognize when we have done wrong, shame's powerful waves of emotion can devastate, immobilize and destroy if an individual is not able to brace him or herself against them. In health care, we need to pay attention to the emotion of shame, to help health professionals successfully recover from mistakes.

We need to prepare health professionals for what they will feel, nurture understanding and empathy in the workplace, and support them when they are struggling with their self-identity as a result of the traumatic event of a mistake. This is how we will move towards a culture of compassion, where health professionals feel not abandoned but cared for, where they feel not judged but empowered, where they are not silenced but are safe to have vital conversations, and finally, where they are not deterred but are inspired to work together to improve patient safety.

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Appendix A

Samples of Draft Diagrams

Diagram 1

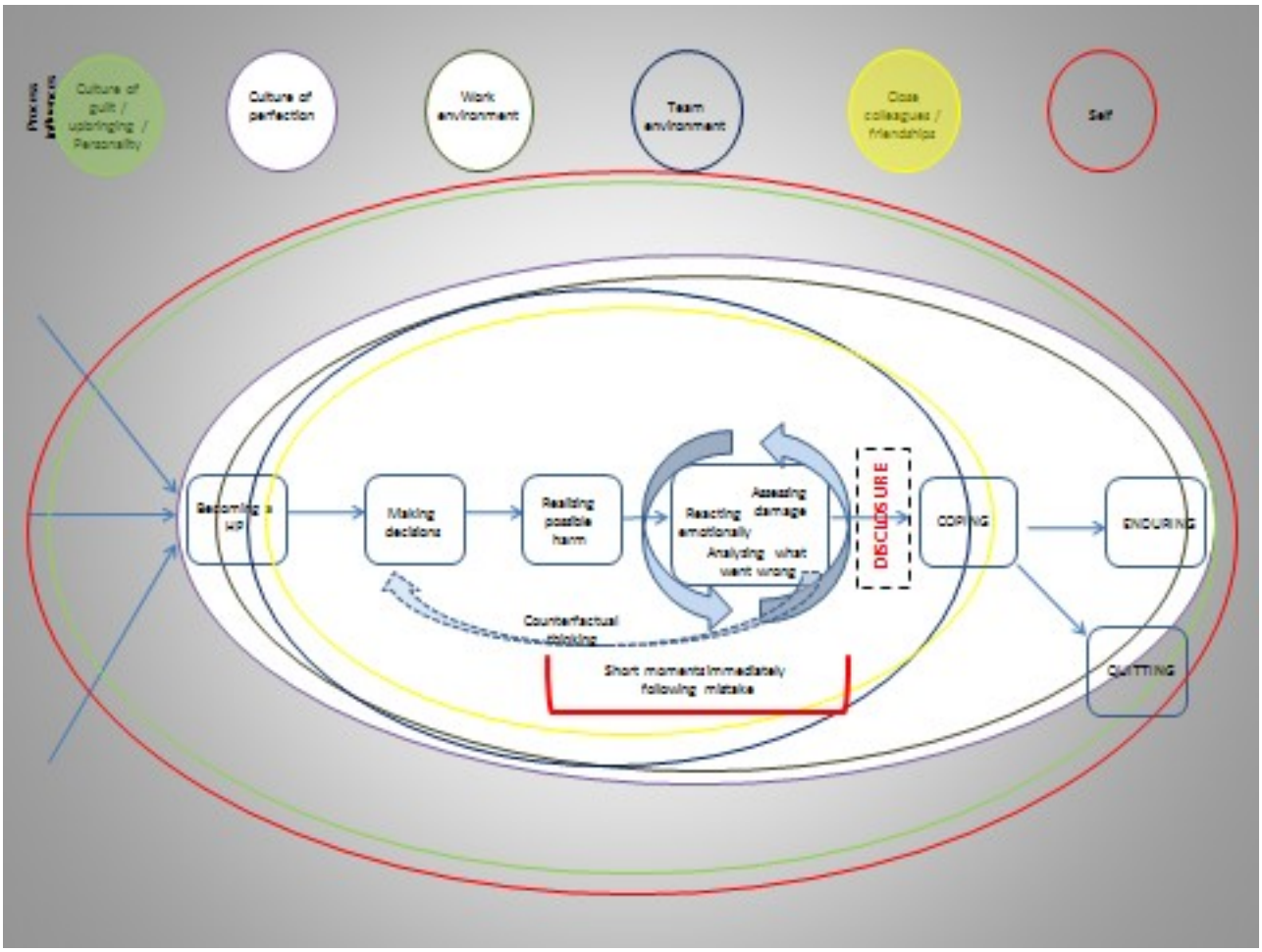


Diagram 2

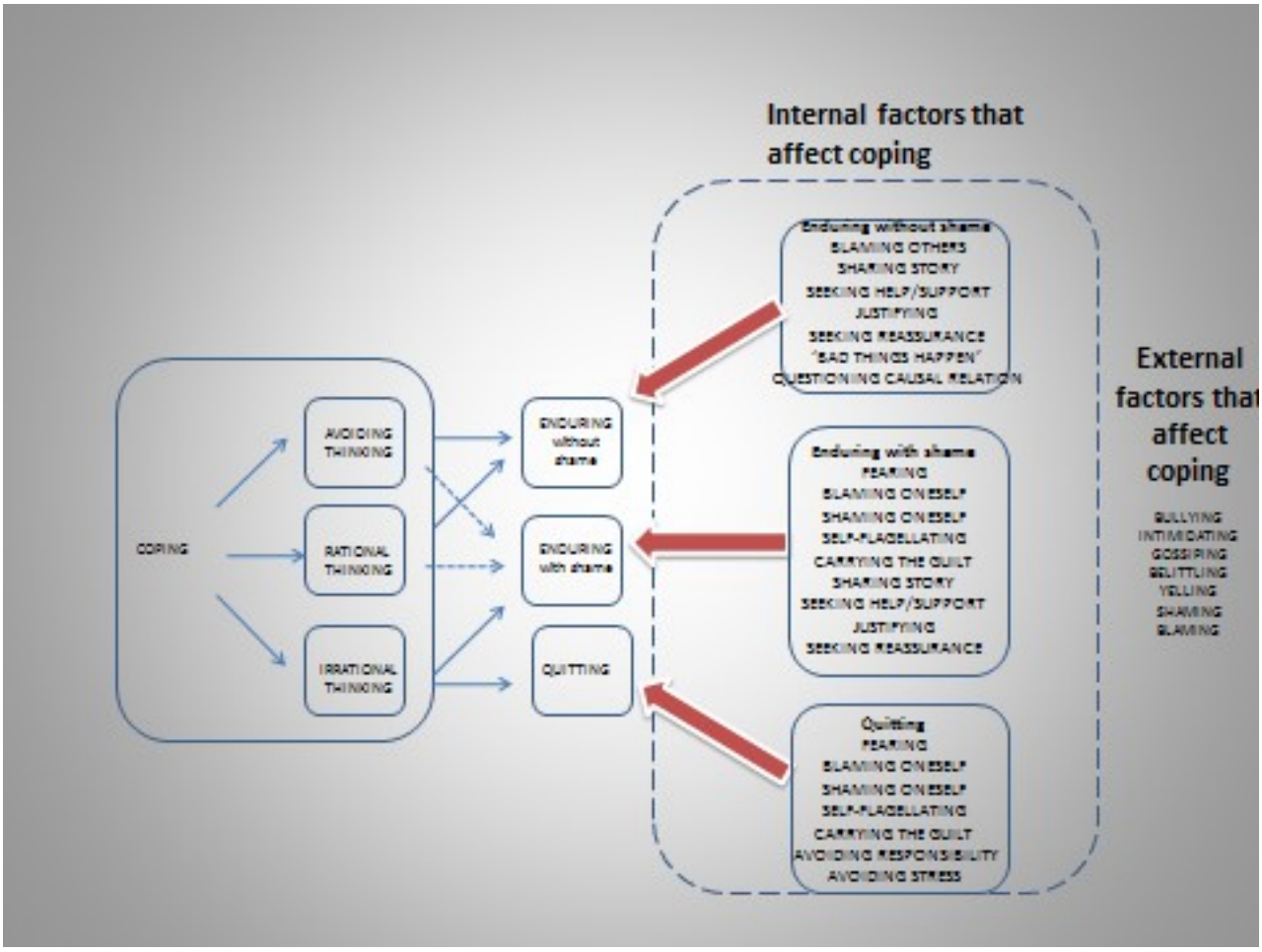

Internal factors that affect coping
Enduring without shame
BLAMING OTHERS
SHARING STORY
SEEKING HELP/SUPPORT
JUSTIFYING
SEEKING REASSURANCE
'BAD THINGS HAPPEN'
QUESTIONING CAUSAL RELATION
Enduring with shame
FEARING
BLAMING ONESELF
SHAMING ONESELF
SELF-FLAGELLATING
CARRYING THE GUILT
SHARING STORY
SEEKING HELP/SUPPORT
JUSTIFYING
SEEKING REASSURANCE
Quitting
FEARING
BLAMING ONESELF
SHAMING ONESELF
SELF-FLAGELLATING
CARRYING THE GUILT
AVOIDING RESPONSIBILITY
AVOIDING STRESS
External factors that affect coping
BULLYING
INTIMIDATING
GOSSIPING
BELITTLING
YELLING
SHAMING
BLAMING
COPING
AVOIDING THINKING
RATIONAL THINKING
IRRATIONAL THINKING
ENDURING without shame
ENDURING with shame
QUITTING

Diagram 3

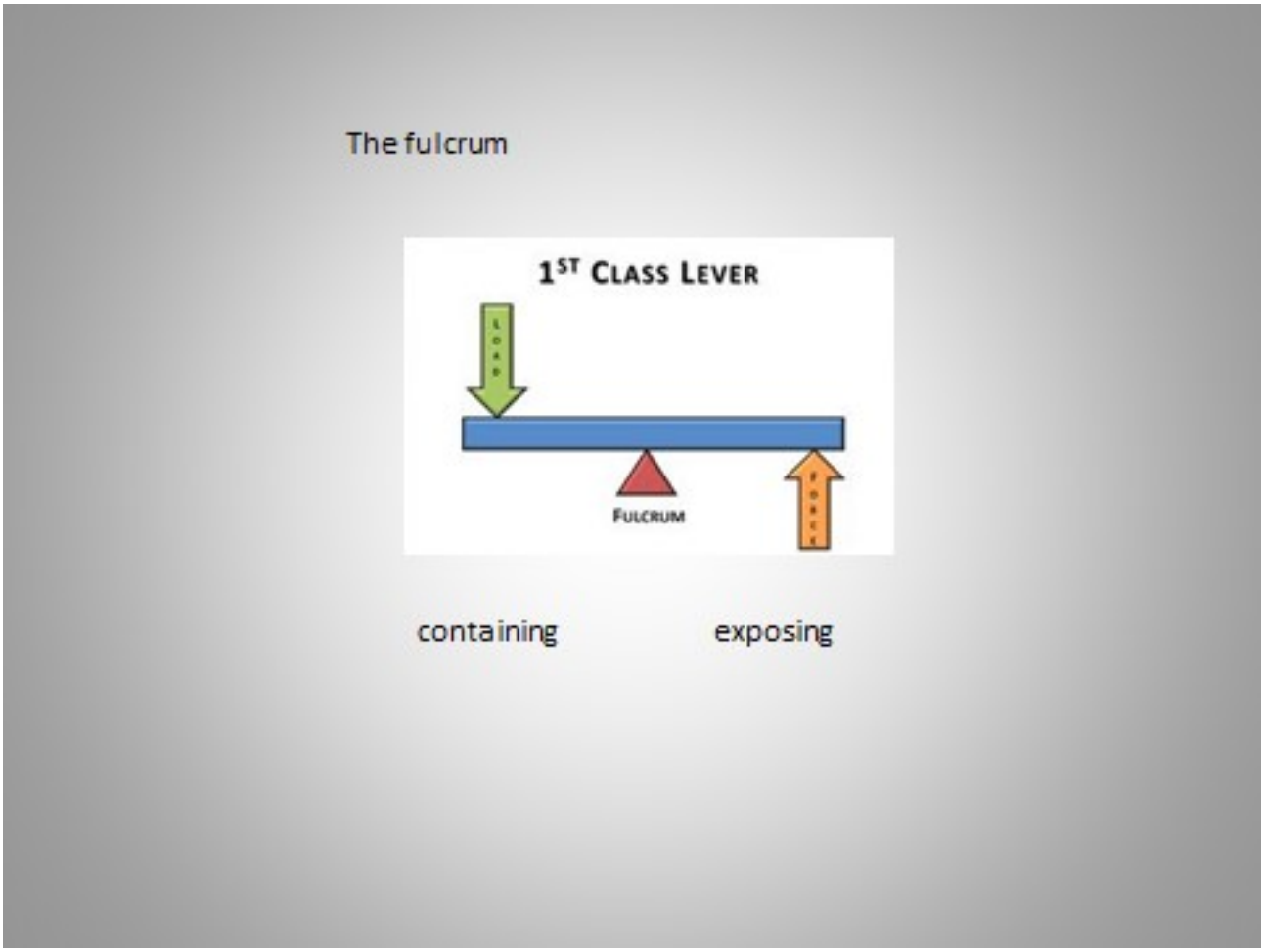
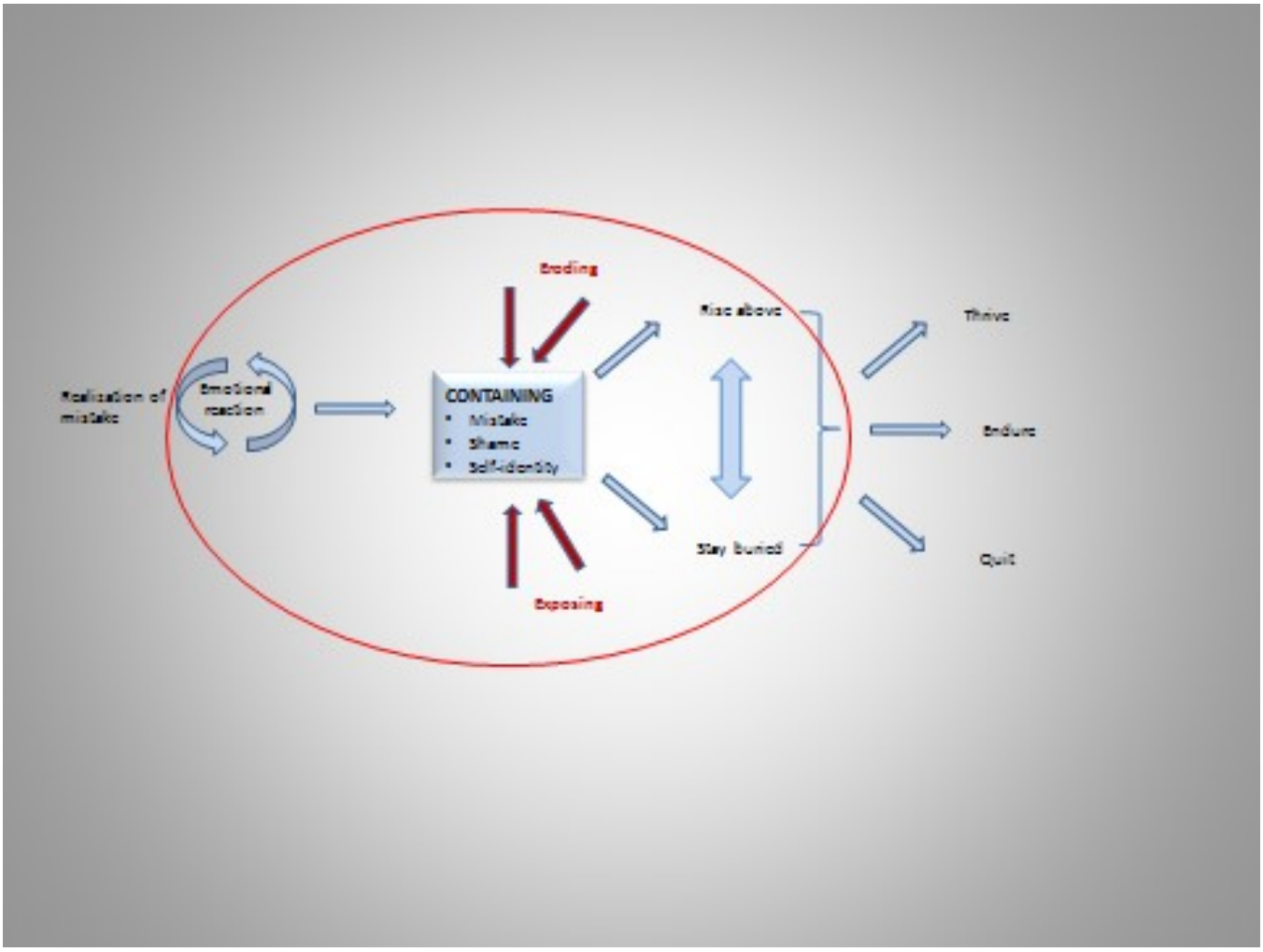

The fulcrum
1ST CLASS LEVER
LOAD
FULCRUM
FORCE
containing
exposing

Diagram 4


Realization of mistake
Emotional reaction
Eroding
CONTAINING
Mistake
Shame
Self-identity
Exposing
Rise above
Stay buried
Thrive
Endure
Quit

Appendix B

List of Initial Codes

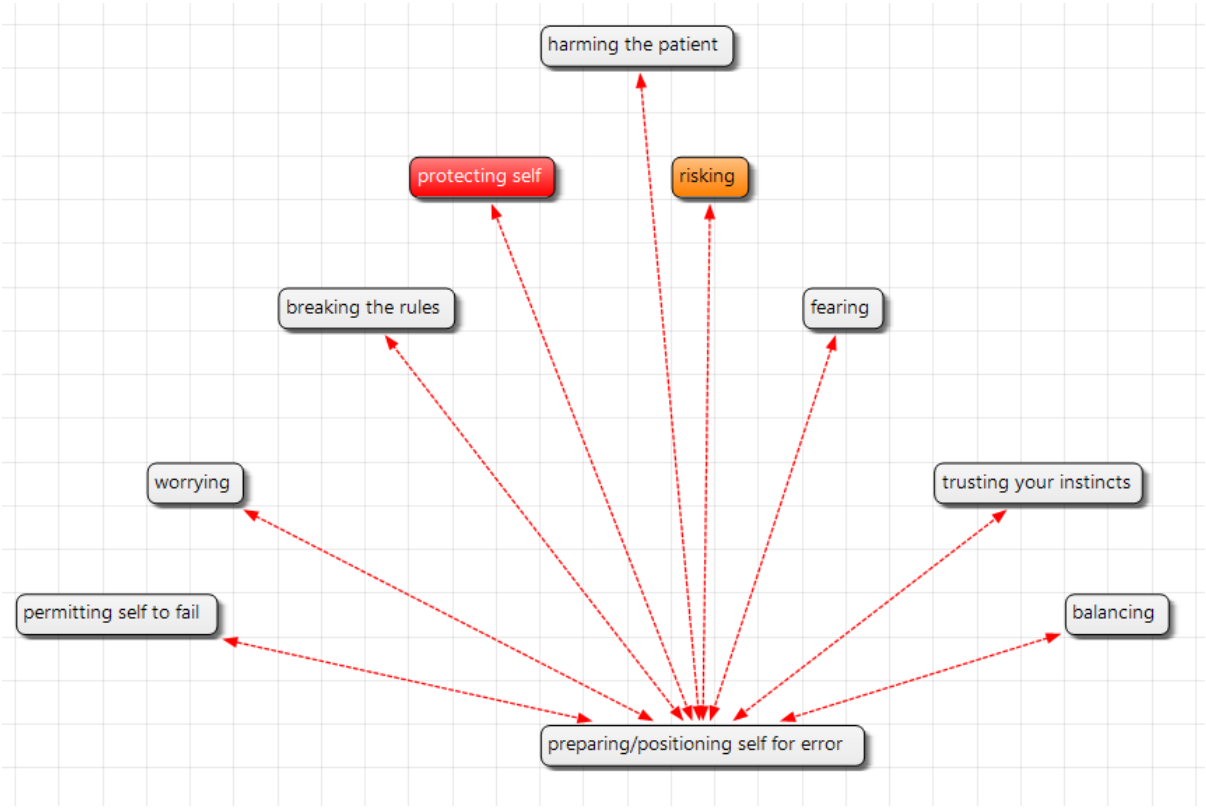
1. acknowledging fault
2. ageism
3. analyzing errors
4. apologizing
5. assuming who is to blame
6. avoiding responsibility
7. balancing
8. being effective
9. being grateful
10. being perfect
11. being reprimanded
12. being right
13. being surprised at self
14. being too certain or confident
15. belittling others
16. belittling self
17. blaming
18. breaking the rules
19. building confidence
20. building knowledge
21. bullying
22. caring
23. carrying the shame
24. catastrophizing
25. competing
26. condition of the patient
27. confirming feelings
28. containing
29. continuing to care for patients
30. controlling
31. coping
32. counterfactual thinking
33. dealing with complexity
34. dealing with patients' reactions
35. dealing with repercussions
36. debriefing
37. defining mistake
38. disapproving
39. disclosing to colleagues
40. disclosing to patient
41. disclosure
42. dissipating the blame or guilt
43. distancing
44. distrusting

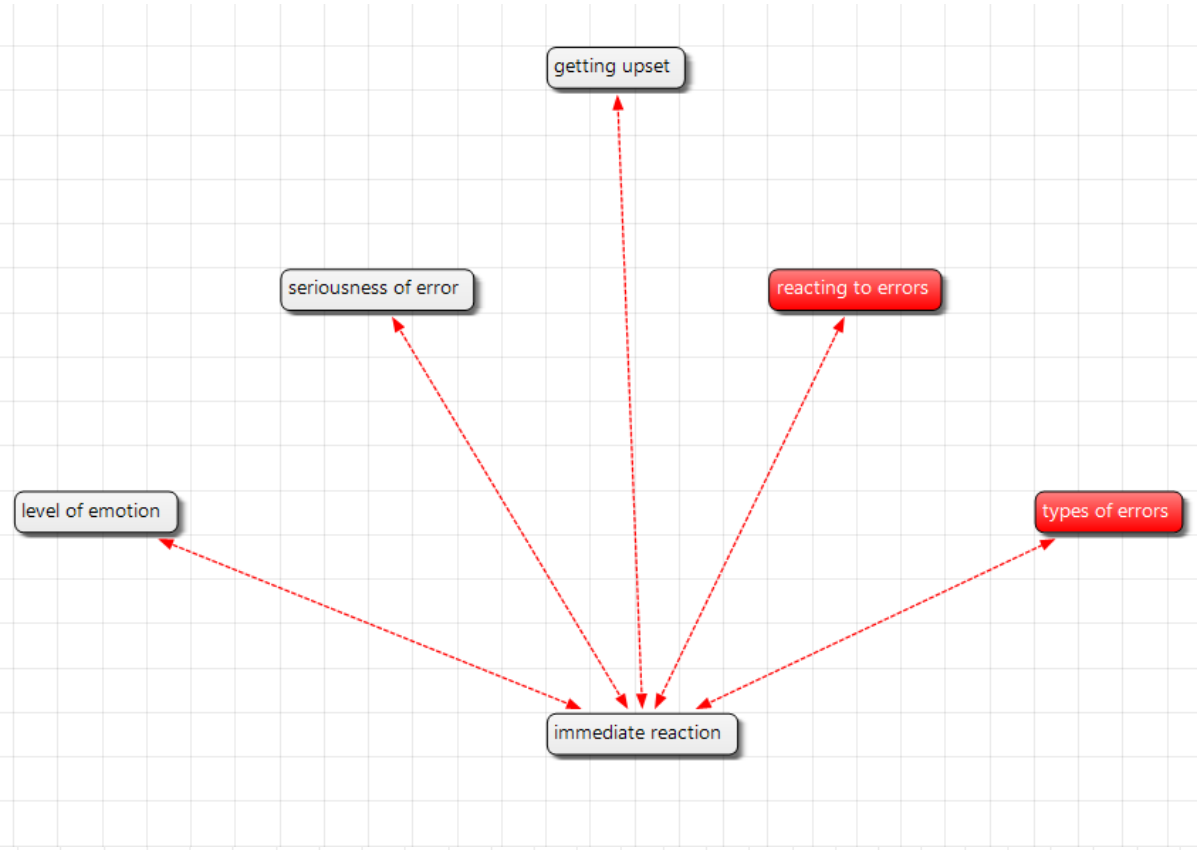
45. doubting decision or self
46. empathizing
47. enduring
48. entrusting
49. erosion
50. expectations of self
51. explaining error without blaming
52. exposing
53. exposure
54. fairness
55. fearing
56. feeling comfortable to discuss errors
57. feeling defensive
58. feeling embarrassed
59. feeling intimidated
60. feeling isolated
61. Feeling unappreciated
62. first error
63. fixing the mistake
64. focusing on the negative
65. forgetting
66. getting closure
67. getting upset
68. gossiping
69. guilt
70. harming the patient
71. haunting
72. helping a colleague cope
73. holding on to shame
74. humanizing errors/inevitability of errors
75. intending to harm
76. internalizing emotions
77. judging
78. justifying the error
79. learning from mistakes
80. letting go
81. level of emotion
82. looking at the positive
83. losing identity
84. luck & randomness
85. making decisions
86. minimizing mistake
87. minimizing risk
88. mitigating negative impact of mistake (on self and on patient)
89. moving on
90. negligence

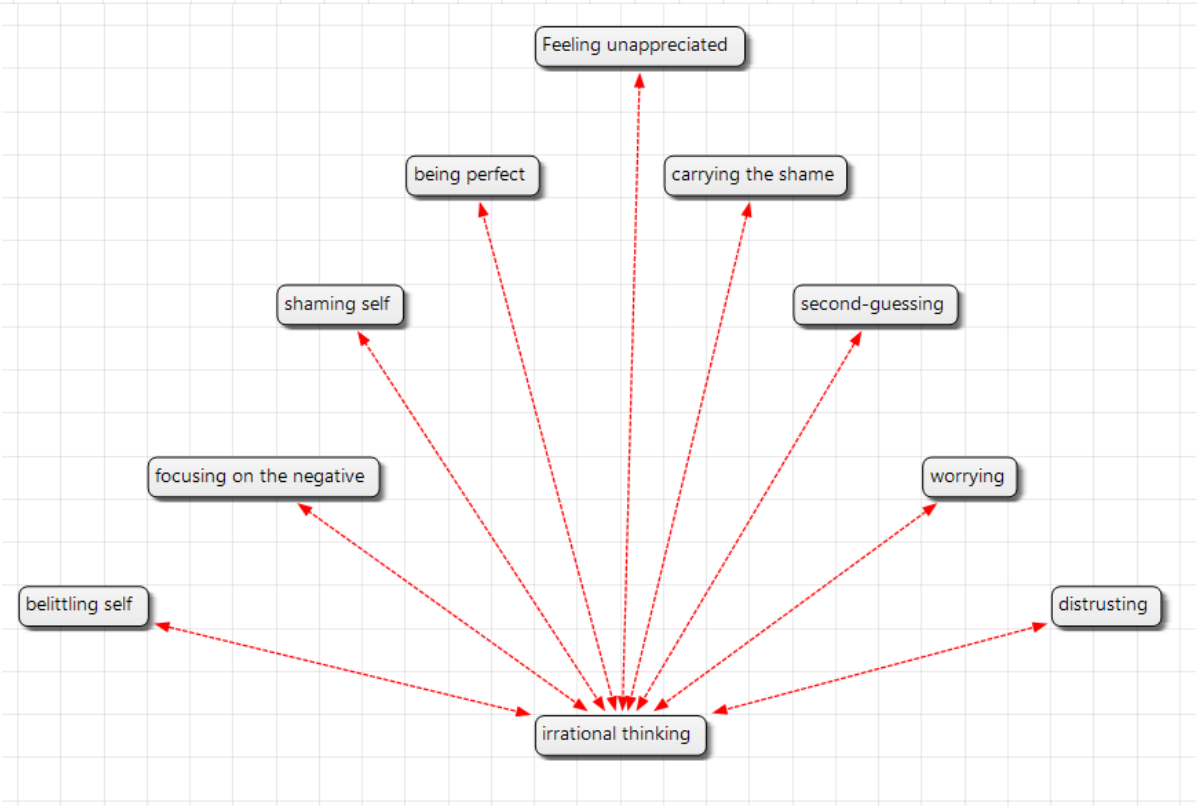
91. overestimating self
92. paralyzing
93. patients' reactions
94. permitting self to fail
95. professionalism
96. protecting others
97. protecting self
98. questioning ability
99. questioning causal relation between outcome and mistake
100. quitting
101. rationalizing
102. reacting to errors
103. reflecting
104. regretting
105. remorse
106. repressing
107. reputation
108. revenge
109. revisiting
110. risking
111. second-guessing
112. secrecy
113. seeking reassurance or validation
114. seeking support from loved ones
115. self flagellating
116. seriousness of error
117. shaming others
118. shaming self
119. sharing openly
120. shielding
121. showing compassion
122. silencing
123. suppressing
124. system error
125. talking to colleagues
126. technology
127. Then of course, the media gets involved, and then it skyrockets out.
128. thinking irrationally
129. thinking rationally
130. tolerating uncertainty and mistakes
131. trusting colleagues
132. trusting your instincts
133. type of team
134. types of errors
135. worrying

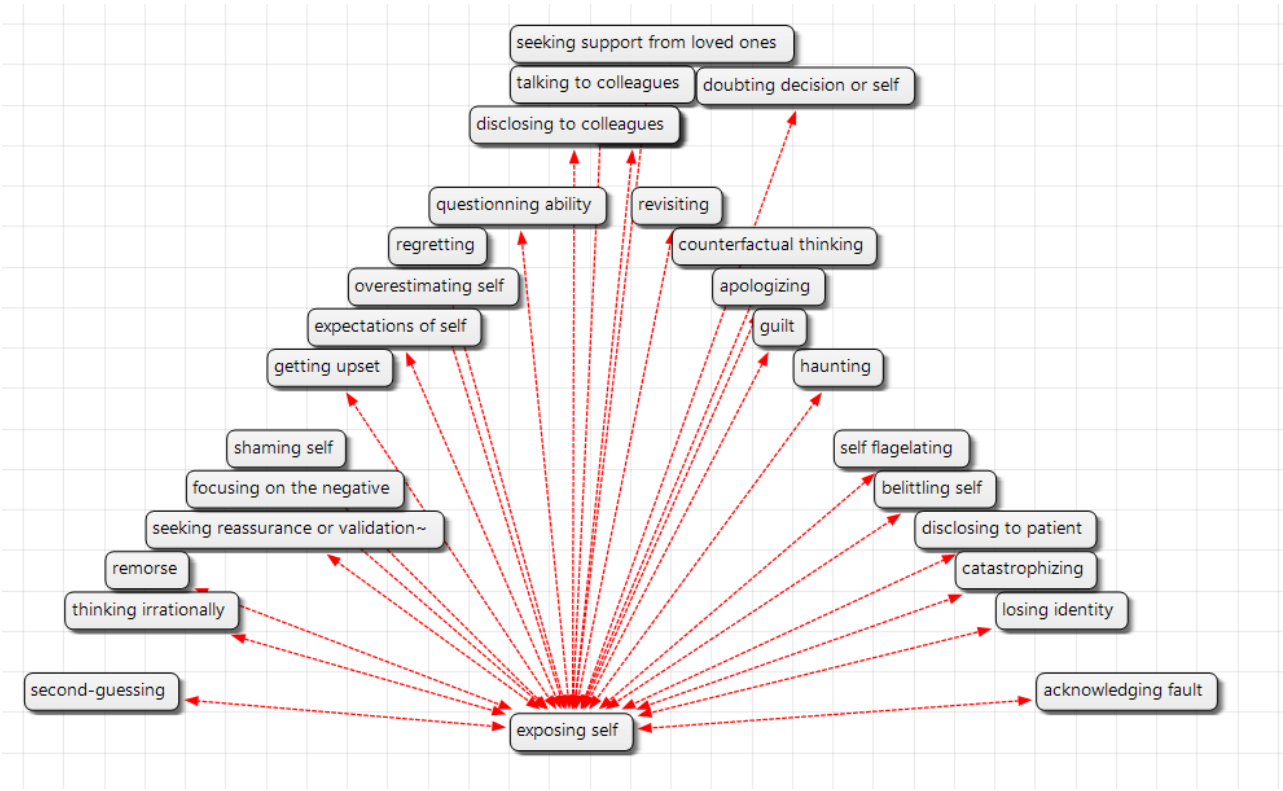
Appendix C

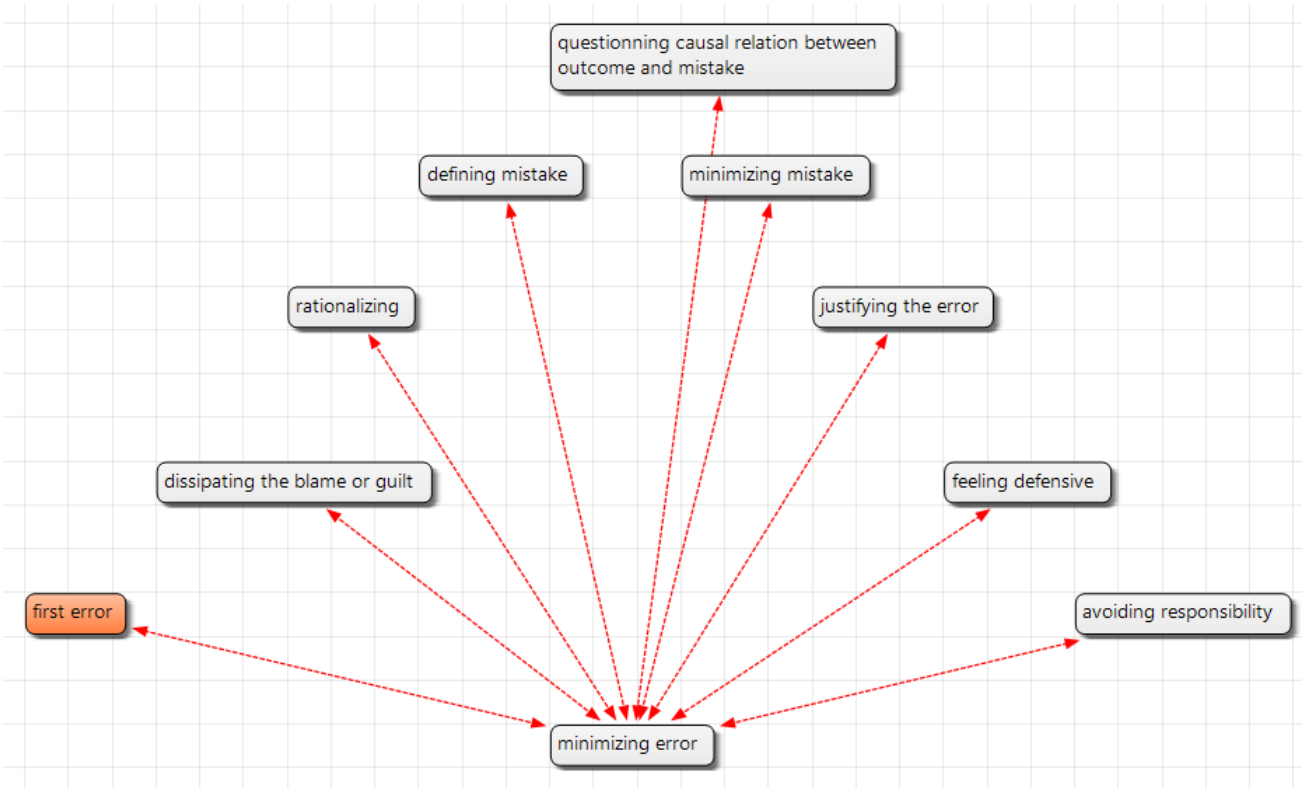
Families of Codes

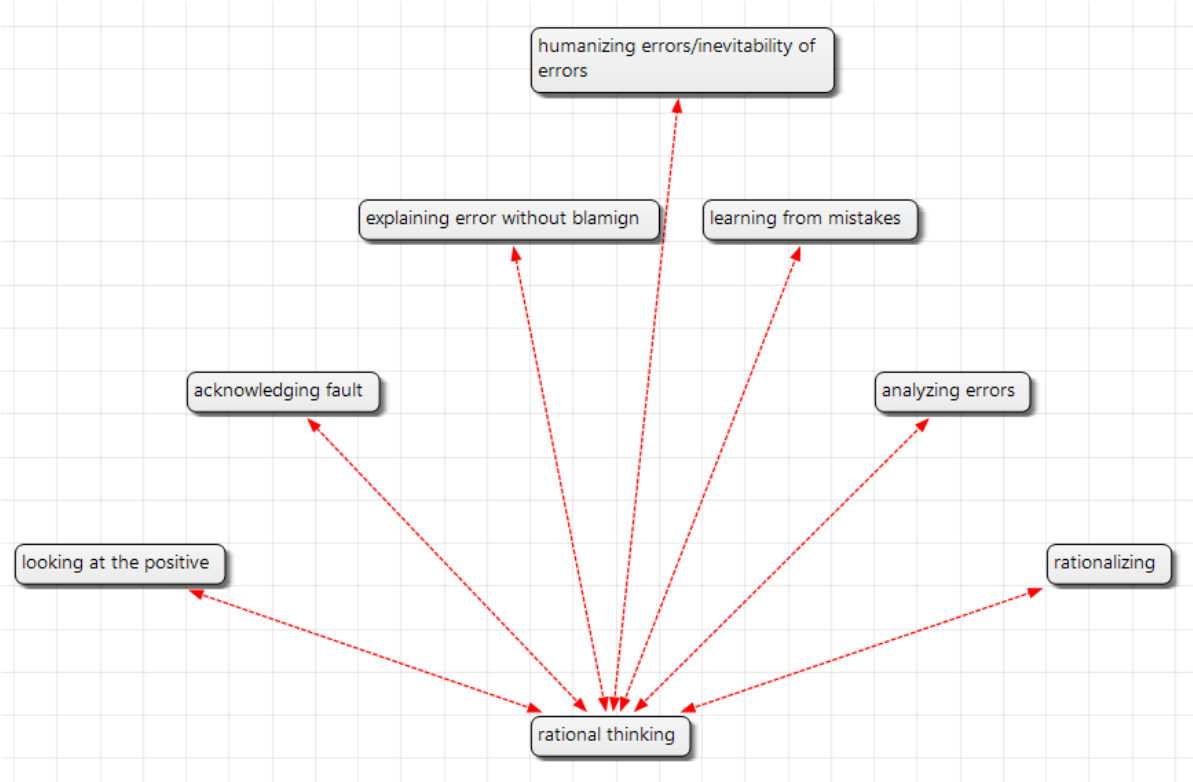


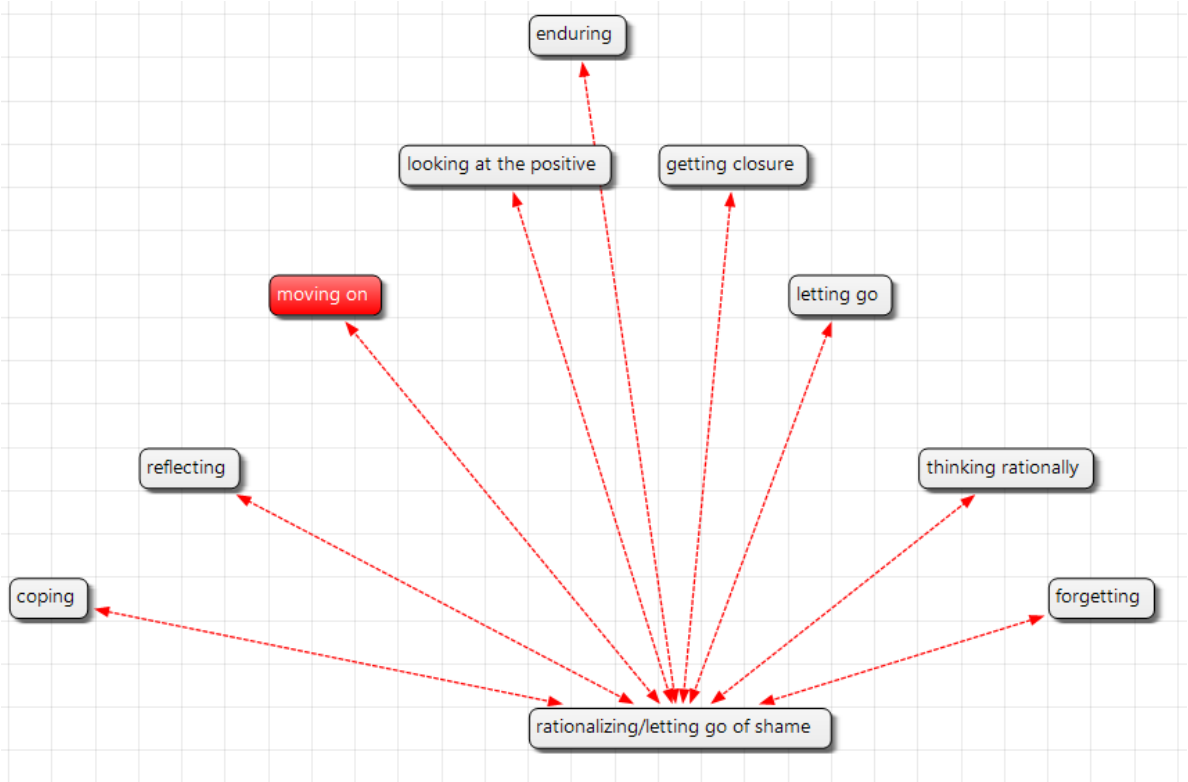

getting upset
seriousness of error
reacting to errors
level of emotion
types of errors
immediate reaction

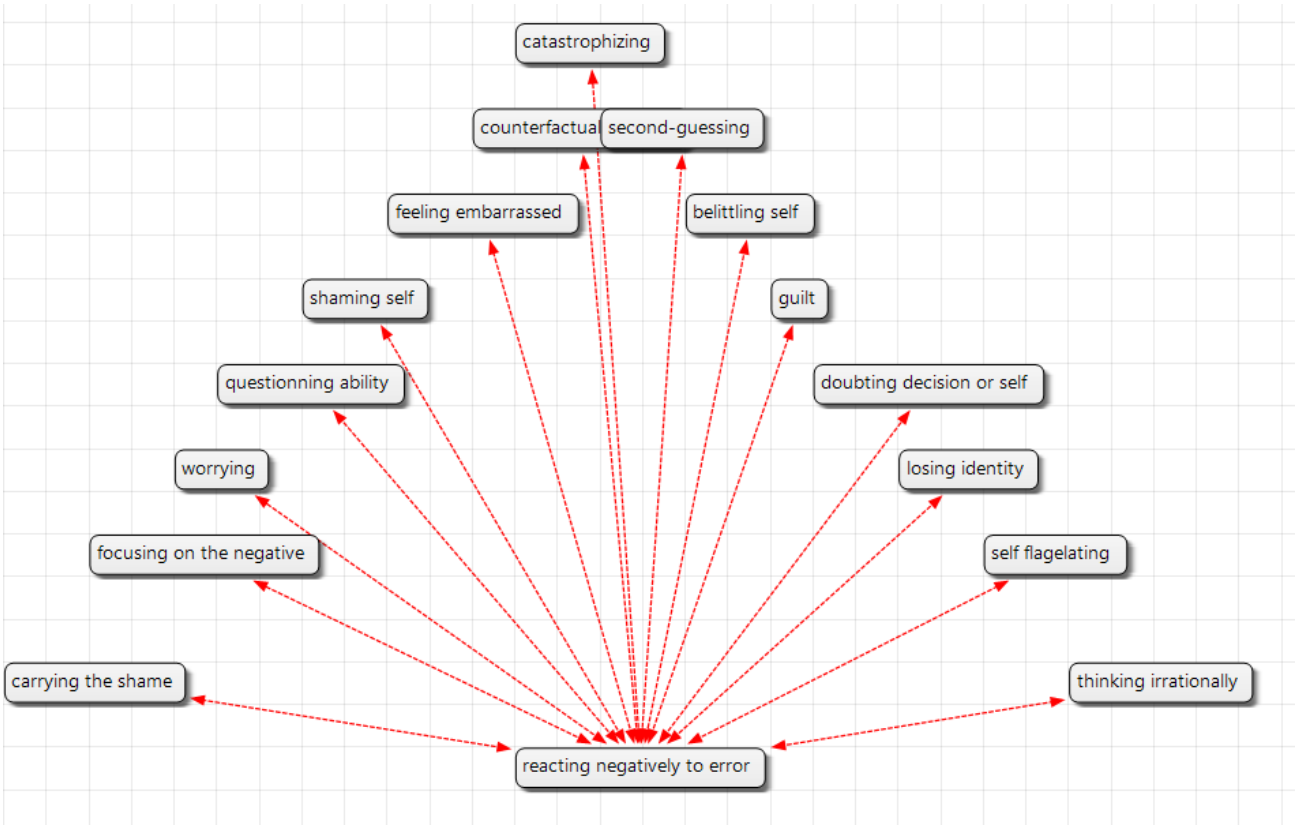

Feeling unappreciated
being perfect
carrying the shame
shaming self
second-guessing
focusing on the negative
worrying
belittling self
distrusting
irrational thinking

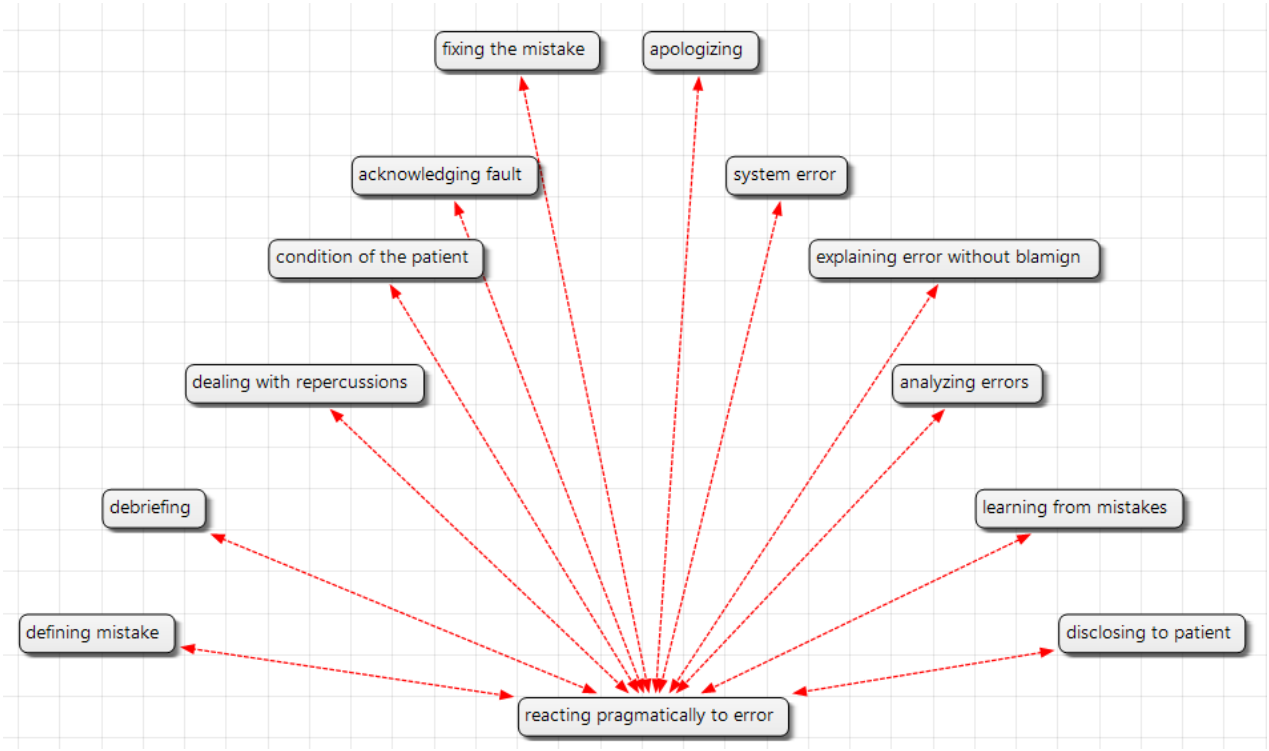

seeking support from loved ones
talking to colleagues
doubting decision or self
disclosing to colleagues
questionning ability
revisiting
regretting
counterfactual thinking
overestimating self
apologizing
expectations of self
guilt
getting upset
haunting
shaming self
self flagelating
focusing on the negative
belittling self
seeking reassurance or validation~
disclosing to patient
remorse
catastrophizing
thinking irrationally
losing identity
second-guessing
acknowledging fault
exposing self

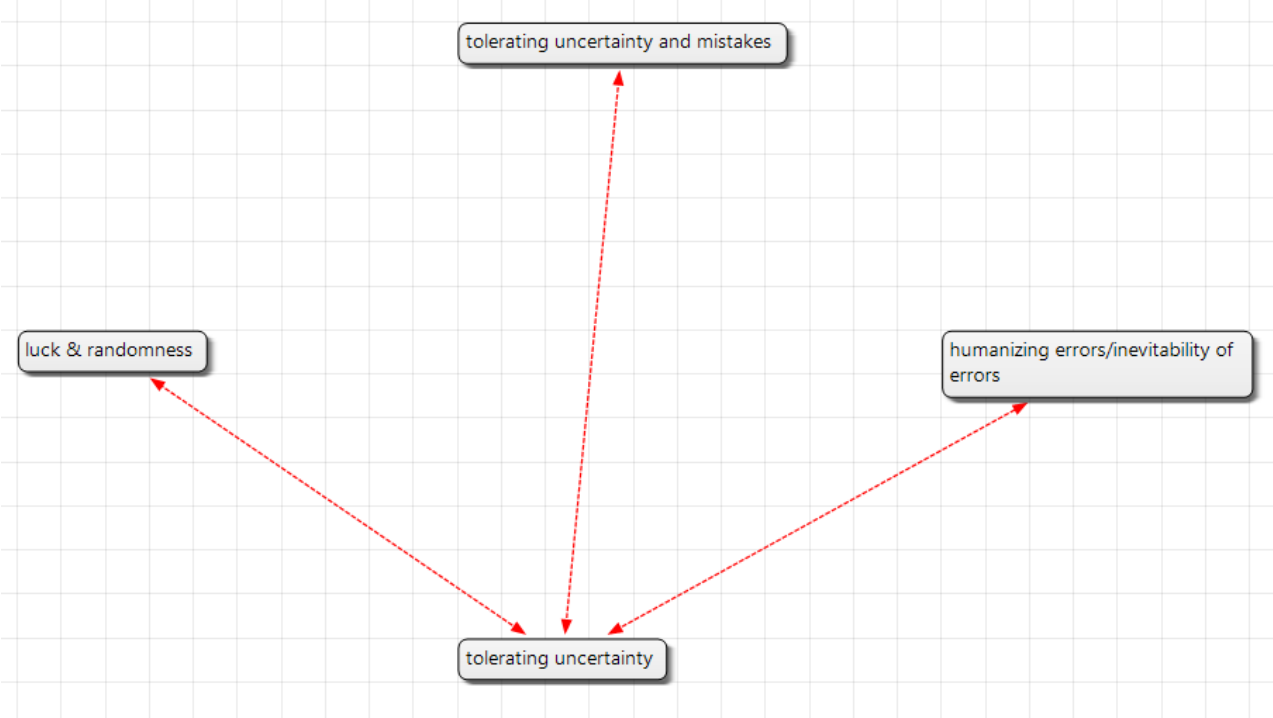

questionning causal relation between outcome and mistake
defining mistake
minimizing mistake
rationalizing
justifying the error
dissipating the blame or guilt
feeling defensive
first error
avoiding responsibility
minimizing error

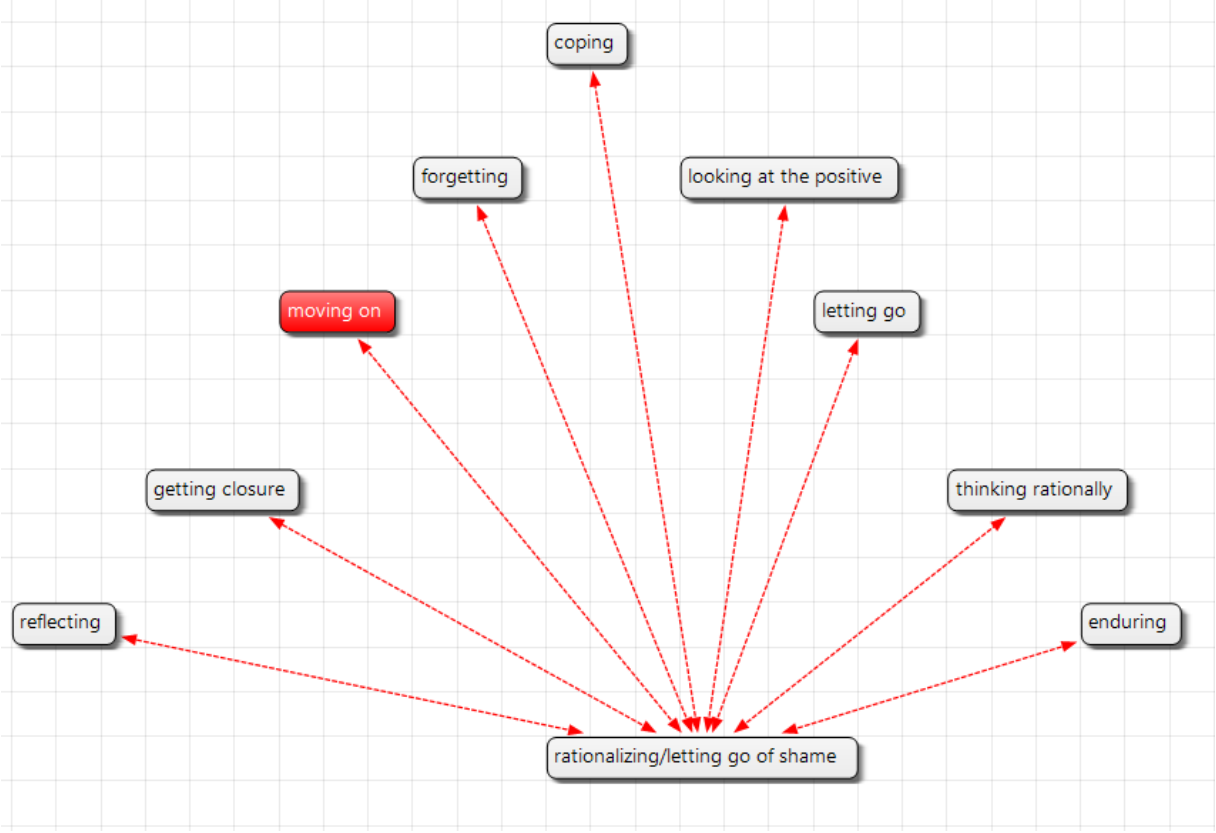

humanizing errors/inevitability of errors
explaining error without blamign
learning from mistakes
acknowledging fault
analyzing errors
looking at the positive
rationalizing
rational thinking

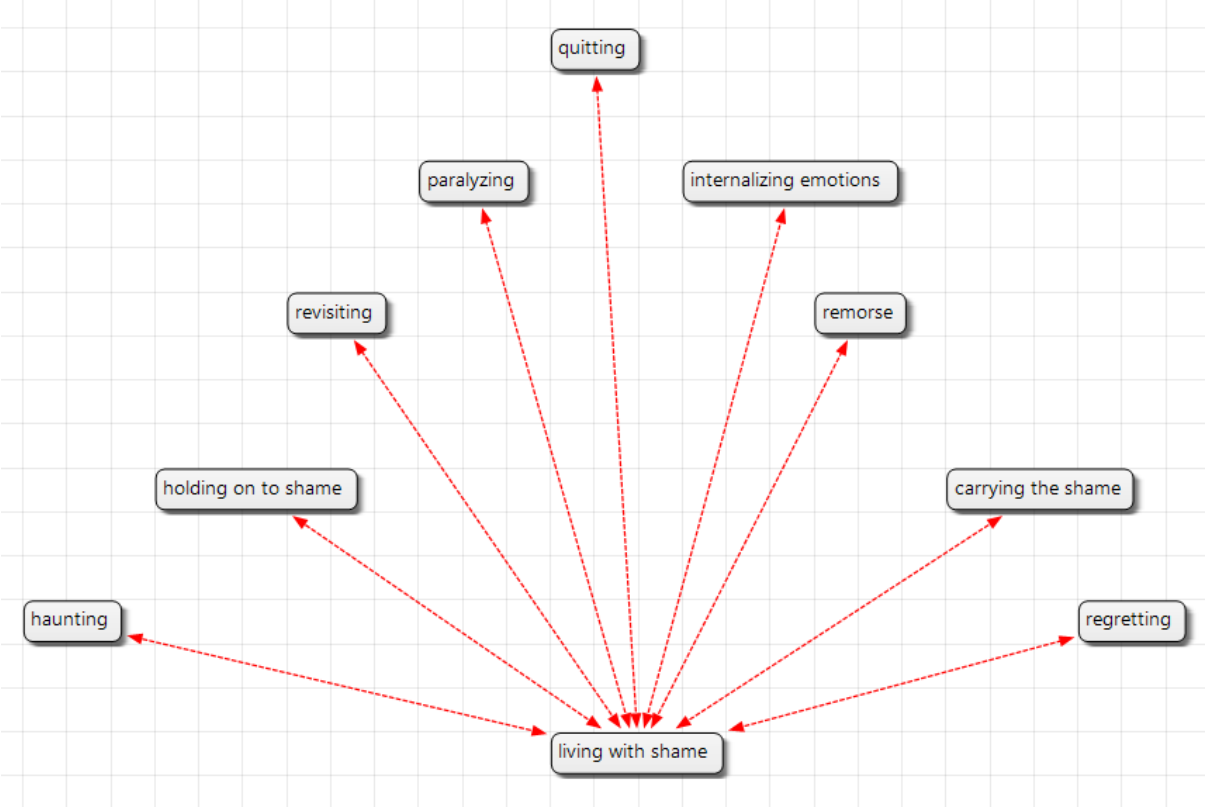

enduring
looking at the positive
getting closure
moving on
letting go
reflecting
thinking rationally
coping
forgetting
rationalizing/letting go of shame


catastrophizing
counterfactua
second-guessing
feeling embarrassed
belittling self
shaming self
guilt
questionning ability
doubting decision or self
worrying
losing identity
focusing on the negative
self flagelating
carrying the shame
thinking irrationally
reacting negatively to error


fixing the mistake
apologizing
acknowledging fault
system error
condition of the patient
explaining error without blamign
dealing with repercussions
analyzing errors
debriefing
learning from mistakes
defining mistake
disclosing to patient
reacting pragmatically to error


tolerating uncertainty and mistakes
luck & randomness
humanizing errors/inevitability of errors
tolerating uncertainty


coping
forgetting
looking at the positive
moving on
letting go
getting closure
thinking rationally
reflecting
enduring
rationalizing/letting go of shame


quitting
paralyzing
internalizing emotions
revisiting
remorse
holding on to shame
carrying the shame
haunting
regretting
living with shame

Appendix D

Information Sheet

UNIVERSITY OF ALBERTA
DEPARTMENT OF
EDUCATIONAL PSYCHOLOGY

ONE-ON-ONE INTERVIEW FOR RESEARCH

INFORMATION SHEET

Title of Research Study:
From shame to safety –
A grounded theory study on the impact of shame on health professionals and on patient safety

Principal Investigator:
Diane Aubin, MSc, PhD Candidate
Department of Educational Psychology
University of Alberta, Edmonton, Alberta
vist@ualberta.com
(780) 263-7553

Supervisor:
Sharla King, PhD, Assistant Professor
Department of Educational Psychology
University of Alberta, Edmonton, Alberta
sjk1@ualberta.ca
(780) 492-0110

Background:
Talking about what went wrong when a patient is harmed can be difficult for health professionals, especially when people like to try to find someone to blame and shame for the incident. This research aims to better understand how shame affects health professionals, and how they might better cope with the negative effects of shame so that they feel safe to talk about – and learn from – their mistakes.

Purpose:
As a nurse, physician, resident or pharmacist, you have been asked to participate in a research project conducted by a PhD candidate, who is collecting this data for her thesis requirement in the department of Educational Psychology at the University of Alberta. The one-on-one interview will be conducted for two reasons: 1) to understand, from your point of view, what it is like to cope with a mistake that might have caused harm to a patient and 2) to get your input on how health professionals might better cope with feelings of shame.

Procedures:
If you agree to participate in this study you will be asked:

- to take part in an in-person, one-on-one interview with the researcher,
- to share your experiences when mistakes happen in health care, and
- to help the researcher understand how you cope with feelings of shame and guilt when you make a mistake.

The interview:

- takes no more than 1 hour,

- will take place in a location and time of your choosing,
- will be audio-recorded for later analysis,
- can be ended at any point should you wish to withdraw, and
- is confidential; nobody other than the researcher will be able to identify you as a participant.

Possible Benefits:

There are no direct benefits to being part of this study. A possible benefit is that you may have a greater understanding of how you can cope with feelings of shame and guilt after making a mistake.

Possible Risks:

Because this involves a sensitive topic, you might feel uncomfortable or emotional during the interview. If this happens, you can pause or end the interview. I will also give you with the name of someone to speak with who can give you support (through your employer's employee assistance program).

Confidentiality:

The researcher will not connect you with any of the information that you provide. In other words, any research data collected about you during this study will not be linked to you by name or other information about you. Your name or other information that may identify who you are will be removed from the transcripts. Any dissertation, article or presentation that comes out of this study will not identify you by name. The study information is required to be kept for 5 years, and will be securely stored for that period of time, after which it will be destroyed. Only the Research Ethics Committee has the right to review study data.

Nobody other than the researcher will know you participated. All personal information gathered relating to this study will be kept confidential; the only exception to this promise of confidentiality is that the researcher is legally obligated to report evidence of criminal activity leading to patient harm (where harm was caused by impairment from drugs or alcohol, *intentional* negligence or *knowing* violations of the law).

Voluntary Participation:

Participating in the interview is optional. It is not required as part of your job. You are free to withdraw from the research study at any time. You may choose to have specific comments you made during the group discussion removed from the transcript. Your employment will not be affected in any way, regardless of whether or not you choose to participate. Neither your employer nor anyone at your hospital will know whether or not you are participating in the research.

Contact Names and Telephone Numbers:

The plan for this study has been reviewed for its adherence to ethical guidelines by a Research Ethics Board at the University of Alberta. If you have concerns about your rights as a study participant, you may contact the **University of Alberta Research Ethics Office at 780-492-2615**. This office has no direct involvement with this project.

If you have any questions about the research project, please contact **Diane Aubin at 780-263-7553.**

Appendix E

Poster

UNIVERSITY OF ALBERTA
DEPARTMENT OF
EDUCATIONAL PSYCHOLOGY

NURSES, PHYSICIANS, RESIDENTS AND PHARMACISTS NEEDED

FOR ONE-ON-ONE CONFIDENTIAL INTERVIEW ABOUT

What is the study?

This is part of my research as a PhD candidate in Educational Psychology at the University of Alberta on the impact of shame on health professionals and on patient safety.

Why is this study important?

Talking about what went wrong when a patient is harmed can be difficult for health professionals, especially when people tend to try to find someone to blame and shame for the incident. I would like to better understand how shame affects health professionals, and how they might better cope with the negative effects of shame so that they feel safe to talk about – and learn from – their mistakes.

Why should I participate?

For this study to have meaning, I need to hear from you about what it is like to cope with an error that might have caused harm to a patient. I also need your input on what you need to successfully manage feelings of shame. This way, you can help contribute to a better understanding of shame in health care.

What is the commitment?

An in-person, one-on-one interview with me that:

- takes no more than 1 hour,
- will take place in a location and time of your choosing,
- is confidential; nobody other than the researcher will know you are participating.

Participating in the interview is optional. It is not required as part of your job.

PLEASE CONTACT DIANE AUBIN AT (780) 263-7553 or

vist@ualberta.ca

…what is the shame in

Appendix F
Consent Form

UNIVERSITY OF ALBERTA
DEPARTMENT OF
EDUCATIONAL PSYCHOLOGY

CONSENT FORM FOR INTERVIEW

Title of Study: From shame to safety – A grounded theory study on the impact of shame on health professionals and on patient safety

Principal Investigator(s): Diane Aubin **Phone Number:** 780 263 7553

Study Supervisor: Sharla King **Phone Number:** 780 492 0110

	Yes	No
Do you understand that you have been asked to be in a research study?	☐	☐
Have you read and received a copy of the attached Information Sheet?	☐	☐
Do you understand the benefits and risks involved in taking part in this research study?	☐	☐
Have you had an opportunity to ask questions and discuss this study?	☐	☐
Do you understand that you are free to leave the study at any time, without having to give a reason?	☐	☐
Has the issue of confidentiality been explained to you?	☐	☐

Who explained this study to you? _____

I agree to take part in this study. YES ☐ NO ☐
I agree to be audio-recorded as part of the interview, for research purposes only. YES ☐ NO ☐

Signature of Research Participant _____

(Printed Name) _____

Date:_____

I believe that the person signing this form understands what is involved in the study and voluntarily agrees to participate.

Signature of Investigator_____ Date _____

THE INFORMATION SHEET MUST BE ATTACHED TO THIS CONSENT FORM AND A COPY GIVEN TO THE RESEARCH PARTICIPANT

Appendix G

Email from Site Investigator at Participating Hospitals

Subject line: Nurses, physicians, residents and pharmacists needed for study about shame

Diane Aubin, a PhD candidate in Educational Psychology at the University of Alberta, is looking for nurses, pharmacists, physicians and residents working at [insert name of hospital] who are willing to talk to her in a one-hour one-on-one confidential interview about the impact of shame on health professionals. If you would like to participate, please call Diane Aubin at (780) 263-7553 or email her at vist@ualberta.ca

Participating in the interview is optional. It is *not* required as part of your job.

Please see attached document [recruitment poster] for more information.

[insert signature]

Appendix H

Confidentiality Agreement

UNIVERSITY OF ALBERTA
DEPARTMENT OF
EDUCATIONAL PSYCHOLOGY

Confidentiality Agreement

Project Title: From shame to safety – A grounded theory study on the impact of shame on health professionals and on patient safety

I, _____, the _____ (specific job description, e.g., supervisor, transcriber) have been hired/asked to _____

I agree to -

1. keep all the research information shared with me confidential by not discussing or sharing the research information in any form or format (e.g., disks, tapes, transcripts) with anyone other than the *Researcher(s)*.
2. keep all research information in any form or format (e.g., disks, tapes, transcripts) secure while it is in my possession.
3. return all research information in any form or format (e.g., disks, tapes, transcripts) to the *Researcher(s)* when I have completed the research tasks.
4. after consulting with the *Researcher(s),* erase or destroy all research information in any form or format regarding this research project that is not returnable to the *Researcher(s)* (e.g., information stored on computer hard drive).

_____ _____ _____

(Print Name) (Signature) (Date)

Researcher(s)

_____ _____ _____

(Print Name) (Signature) (Date)

The plan for this study has been reviewed for its adherence to ethical guidelines and approved by Research Ethics Board *(specify which board)* at the University of Alberta. For questions regarding participant rights and ethical conduct of research, contact the Research Ethics Office at (780) 492-2615.

Appendix I

Ethics Approvals

UNIVERSITY OF ALBERTA

RESEARCH ETHICS OFFICE

308 Campus Tower
Edmonton, AB, Canada T6G 1K8
Tel: 780.492.0459
Fax: 780.492.9429
www.reo.ualberta.ca

Notification of Approval

Date:	August 21, 2013
Study ID:	Pro00038931
Principal Investigator:	Diane Aubin
Study Supervisor:	Sharla King
Study Title:	From shame to safety: A grounded theory study on the impact of shame on health professionals and on patient safety
Approval Expiry Date:	August 20, 2014

	Approval Date	Approved Document
Approved Consent Form:	21/08/2013	information letter
	21/08/2013	Consent form

RSO-Managed	Project ID	Project Title	Speed Code	Other Information
Funding:	There are no items to display			

Thank you for submitting the above study to the Research Ethics Board 1. Your application has been reviewed and approved on behalf of the committee.

A renewal report must be submitted next year prior to the expiry of this approval if your study still requires ethics approval. If you do not renew on or before the renewal expiry date, you will have to re-submit an ethics application.Approval by the Research Ethics Board does not encompass authorization to access the staff, students, facilities or resources of local institutions for the purposes of the research.

Sincerely,
Dr. William Dunn
Chair, Research Ethics Board 1
Note: This correspondence includes an electronic signature (validation and approval via an online system).