PRESSURES TO ‘MEASURE UP’ IN SURGICAL TRAINING: MANAGING ONE’S IMPRESSION AND MANAGING ONE’S PATIENT

by

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A thesis submitted in conformity with the requirements for the degree of Master of Science
Institute of Medical Science
University of Toronto

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2014

Abstract

The surgical culture values certainty and confidence, and this was proposed to be a source of internal conflict for surgeons, particularly during times of stress and uncertainty. Surgeons previously described the need to manage their image during these times, putting on an external appearance that is inconsistent internally. As part of a larger program of research on surgical judgment and decision making, this study used a constructivist grounded theory approach to explore 15 general surgery trainees’ perceptions and experiences of impression management during moments of decision making. Residents described their perceived expectations in training, and the impression management strategies they used to appear as though they were meeting them in circumstances when they were not. Participants described those who did not meet these expectations as branded the ‘struggling resident’. Concerns about one’s impression had implications for residents’ evaluations, learning opportunities, decision making, and wellness.
Acknowledgements

First, I would like to thank the study participants that shared their stories that made this work possible.

I would like to thank my primary supervisor, Dr. Carol-anne Moulton for the endless support you offered me as a mentor. You constantly encouraged me to step outside my comfort zone and showed me how to have confidence in myself. I never imagined that I would grow so much as a person and a professional in a matter of two years.

Thank you to my committee members, Dr. Maria Athina Martimianakis, Dr. Simon Kitto, and Dr. Steven Gallinger for all the support and advice. You were always there to answer my questions and provided me with the theoretical, clinical, and methodological expertise throughout this study.

Also, I would like to thank Dr. Lucas Murnaghan for all your wisdom and metaphors each week during our lab meetings.

Carween Mui, Laurent St-Martin, Nathan Zilbert – thank you for the laughs, support, and friendship – you’ve made the past two years magical.

Natashia Seeman and Dorotea Mutabdzic, thank you for the words of encouragement during the final phases of my thesis writing.
Thank you to my best friends, Sarit Reuben and Carol Duong. You were there to bring me laughs, late-night studying, break-times, coffee, food, and love for the past two years. You always taught me how to believe in myself.

To my family – Priya Patel, you spent days helping me prepare for my MSc interview and my first interview with Dr. Carol-anne Moulton. Thank you for all your support and the warm meals on the days I needed them the most.

To my parents, grandparents, sister, and brother-in-law – no matter what I do, how stressed I am, or how long I go without talking to you because I’m “busy working on my thesis”, your love and support has been unconditional. You’ve always believed in the choices I’ve made and encouraged my every decision. I love you all.

And to Jai, for your love and laughs, and endless support throughout the past two years, which I know, haven’t always been easy. Lists should always have commas. I love you.
Dedication

This thesis is dedicated to my family, specifically my parents, sister, brother-in-law, grandmothers, grandfathers who are no longer with us, and Jai Patel, who have given me unconditional love and support throughout this undertaking.
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<td>NDM</td>
<td>Naturalistic Decision Making</td>
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<td>SSC</td>
<td>Surgical Skills Centre</td>
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1.1 Introduction

Decision making is an important element of expertise for surgical professionals. Historically, surgical decision making has been discussed in the realm of cognition because the process of selecting a course of action from alternative choices requires mental processing. However, previous research in the naturalistic decision making domain suggests that individual decisions are neither purely cognitive nor formed in isolation, but are also influenced by the sociocultural context in which an individual is immersed.

This study is a part of a larger program of research focused on extending a model of particular importance to surgical judgment and decision making – ‘slowing down when you should’. Previous work that developed this model highlighted some of the sociocultural aspects that influenced surgical decisions (Moulton et al., 2010; Leung et al., 2012). One influence that was described of particular interest for the current study included a surgeon’s need to manage the impression they projected to their colleagues when making decisions – a term coined by the social psychologist Erving Goffman (1959) as “impression management”. A surgeons’ need to manage his or her impression was influenced by their desire to portray an impression that was considered ‘ideal’ by the community. Based on previous sociological literatures, it was recognized that surgeons are embedded within a powerful surgical culture early on within their training, in which
they learn the ideals, values, and expectations that contribute to the development of their professional identity. With the recognition that managing one’s impression as an ‘ideal surgeon’ is learned early on during surgical training, this project focused on studying issues surrounding impression management in the population of surgical trainees.

The relevant literatures that informed this exploration included the theory of impression management and its possible interaction with the cognitive aspects of the ‘slowing down’ framework through a model of ‘cognitive capacity’.

While previous work on the ‘slowing down’ phenomenon focused on surgeons and looked at judgment as primarily a cognitive activity, this study will expand that model by exploring the way the sociocultural environment may similarly affect general surgery trainee’s abilities to make decisions. This study used a grounded theory approach by drawing on the tenants of a grounded theory methodology from a constructivist paradigm. An overview of the methodological approach used in this study will be presented.

1.2 Understanding Decision Making from a Cognitive Perspective

Traditionally, how people think and make decisions has been viewed predominantly from a cognitive perspective in the decision making literature (Endsley, 1995; Hogan et al., 2006; Kahneman, Slovic & Tversky, 1982; Way et al., 2003; Flin, Youngson & Yule,
Research concerning surgical judgment and decision making explored how surgeons made decisions in the complex, real-world setting of the operating room as opposed to a simulated operating room in a laboratory setting. This approach categorized key features of cognitive processes involved in surgical decision making such as intuition and creativity (Flin, Youngson & Yule, 2007). In addition, errors in decision making were attributed to cognitive shortcuts or the loss of situation awareness (Way et al., 2003; Mishra et al., 2008; Parker, 2010). A recent cognitive model was developed for understanding surgical judgment and decision making in the naturalistic setting – ‘slowing down when you should’ (Moulton et al., 2007). The current study aims to expand this model to include the way the social environment may affect general surgery trainees’ ability to make decisions.

The cognitive aspect of decision making and judgment was previously studied through a model of surgical expertise described as ‘slowing down when you should’ (Figure 1) (Moulton et al., 2007). The ability of a surgeon to appropriately ‘slow down’ in the operating room was described as one of the hallmarks of surgical expertise (Moulton et al., 2007). ‘Slowing down’ moments required a surgeon to utilize more attention resources during a specific part of the case (Moulton et al., 2010). The phenomenon of ‘slowing down’ described a surgeon’s transition from a routine, automatic mode of practice to a more effortful mode of practice, in which free cognitive resources were consumed to attend to or rectify critical moments of intraoperative procedures. These critical moments were either proactively planned, where the surgeon acknowledged a
challenging part of the case preoperatively and anticipated ‘slowing down’, or situationally responsive, where unexpected, complicating circumstances occurred intraoperatively and signaled the surgeon to ‘slow down’. The ability to recognize key parts of a procedure and transition appropriately during these moments was considered an essential marker of surgical expertise and sound surgical judgment.

Figure 1: Framework for understanding surgical judgment and decision making (adapted from “‘Slowing Down When You Should’ Initiators and Influences of the Transition from the Routine to the Effortful” by Moulton et al. [2010])

In an attempt to better understand this transition in the surgical setting, Moulton et al. (2010) recently explored expert surgeon perceptions of the factors that influence their ability to ‘slow down’ in their own operative practice. From surgeon accounts of their
‘slowing down’ experiences, the researchers identified 3 categories of factors that influenced their transition (Table 1): transitory “internal” factors such as fatigue, endurance and physical ailments; “personality” factors such as confidence, fear of doing harm, willingness to learn, fear of losing reputation, ego, greed, and mindfulness; and “situational” factors such as time pressures, hierarchical pressure, teaching pressures, social pressures, team considerations, availability of resources, and distractions. Surgeons acknowledged that the presence of these influences might hinder their ability to recognize and respond to subtle, yet critical cues in their environment that triggered the ‘slowing down’ transition. For example, a surgeon may feel a pressure to maintain a “fun” social environment in the operating room or they may “[get in] over their heads” if they were overconfident or unwilling to ask for help (Moulton et al., 2010). This study highlighted the social and cultural context within which surgeons practiced had the ability to alter or influence a surgeon’s thinking or decision making in their daily activities.
Table 1: Influences on the ‘slowing down’ moments (from “‘Slowing Down When You Should’ Initiators and Influences of the Transition from the Routine to the Effortful” by Moulton et al. [2010])

<table>
<thead>
<tr>
<th>Transitory “internal” factors</th>
<th>‘Personality’ factors</th>
<th>Situational factors</th>
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<tbody>
<tr>
<td>Fatigue</td>
<td>Adaptability</td>
<td>Time pressure</td>
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<tr>
<td>Endurance</td>
<td>Confidence</td>
<td>Hierarchical pressure</td>
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<tr>
<td>Physical ailments</td>
<td>Humility</td>
<td>Distractions</td>
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<td></td>
<td>Fear of doing harm</td>
<td>Availability of resources</td>
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<td></td>
<td>Willingness to learn</td>
<td>Teaching pressures</td>
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<td></td>
<td>Fear of losing reputation</td>
<td>Team considerations</td>
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<td></td>
<td>Mindfulness</td>
<td>Social pressure</td>
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<tr>
<td></td>
<td>Ego</td>
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<td></td>
<td>Greed</td>
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A recent study by Leung et al. (2012) used a constructivist grounded theory methodology to further investigate the multifaceted nature of influences on surgical decision making. The findings from Leung et al.’s study led to a deeper understanding of various cognitive, environmental and sociocultural factors involved in surgical decision making, and provided a framework for considering these factors in daily activities.

Leung et al. (2012) conducted thirty-nine semi-structured interviews with expert surgeons in various specialties throughout four academic hospitals to explore the factors that influence intraoperative decision making. Surgeons were encouraged to articulate their thought processes during decision making moments, as well as broadly discuss factors that made them uncomfortable in the operating room (Leung et al., 2012). The investigators conducted observations of surgeons in practice and explored their
perceptions of the influences on these decisions. An inductive approach was used to classify and code the various factors that surgeons felt influenced their decisions. This analysis was later followed by a deductive approach using a pre-existing theoretical framework on professionalism when it appeared that the framework was a useful way to organize the emergent dataset (Ginsburg & Lingard, 2003). All surgeons in Leung et al’s (2012) study acknowledged their intraoperative decisions were dependent on and influenced by the context in which they occurred with multiple competing priorities being negotiated in any given moment. The factors described by participants were classified under the categories of ‘avowed,’ ‘unavowed,’ and ‘disavowed’ (Table 2) (Leung et al., 2012).
<table>
<thead>
<tr>
<th>Category and factors</th>
<th>Representative comments</th>
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<tbody>
<tr>
<td>Avowed</td>
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| Fear of doing harm                   | If I’m worried I’m going to do some damage that’s going to have long-term, bad consequences for the patient then usually before I take the next step that’s where I’ll call for help.  
(Interview 24, C09) |
| Patient’s interest                   | With his [the patient’s] cardiac history, I decided a quick operation is a good operation, and didn’t let the resident do much.  
(Interview 22, C05) |
|                                                                                         | A lot of the times the risk is stoma or no stoma… Do I make this patient live through having a stoma for a few months which for a young patient is a big deal and not take the risk or do I just go ahead and hook it all together and take the risk?  
(Interview 24, C09) |
| Unavowed                             |                                                                                                                                                        |
| Consideration for colleagues        | It’s mostly just not having to inconvenience someone. You feel bad. They have a list the next day. They’re not on call. Our life is busy enough as it is.  
(Interview 20, C04) |
| Patient pressure                     | A patient who says I’d rather die than have a colostomy… you end up doing things sometimes to try and get away with not having a colostomy whereas you know that from a purely medical point-of-view that you may not be doing the best thing.  
(Interview 17, C01) |
| Teaching pressure                    | And I find it hard to stop because I feel like they are there to learn and if I don’t teach them how to do this, in this case, and if I don’t let them go through it, that’s going to be my failure as a teacher.  
(Interview 19, C03) |
| Time pressure                        | I think the pressure of the clock is distracting and you hurry things along… We know that it is a wrong thing to operate by the clock but we’re put in a position where we’re in some ways forced to do that.  
(Interview 1, A01) |
|                                                                                         | I think there have been times when we’re trying to finish the day and we’re trying to go so fast it’s purely to meet some arbitrary time number and I just think or felt this was crazy. I just feel like everything is rather driving 100 I’m driving 120 or 125 you know.  
(Interview 19, C04) |
|                                                                                         | I’m also great at explaining to patients why their case was cancelled, because it used to happen to us all the time, if you were late and the last case would get cancelled and we didn’t finish up. So if you hate that, you don’t want to talk to patients about that, maybe you’re more likely to rush, at any cost just to finish the case.  
(Interview 5, A10) |
|                                                                                         | I think that there’s some times when I’ve been extremely pressured for time when I really accelerate the operation to a point that it becomes a very, very different operation. But it’s not an unsafe operation for the patient.  
(Interview 23, C08) |
| Disavowed                            |                                                                                                                                                        |
| Concern for personal image and reputation | If you are in your first year and you’re verbalizing uncertainty (the residents) are probably thinking that you don’t know what he or she is doing.  
(Interview 6, A11) |
| Ego/Overconfidence                   | There are ones like, well do I really need this help, do I want to seem like a loser, am I going to call someone?  
(Interview 25, C10) |
|                                                                                         | I was called a pushy wildebeast I wouldn’t operate on these things.  
(Interview 14, B05) |
|                                                                                         | There is a level of confidence that I think every surgeon should have but there’s a fine line between confidence and arrogance… to be humble enough to know when you should call for help and not to feel like you can take on everything and not be ashamed of needing help at times. Of course it’s a blow to the ego… At the end of the day you really can’t compromise patient care because of ego.  
(Interview 16, B08) |
| Hierarchy                            | If somebody who is really well respected comes in and does something you don’t really agree with, even though it’s your case, you are going to sort of keep your mouth shut.  
(Interview 24, C09) |
| Monetary motivations                 | One of my teachers used to say there’s nothing in this world more dangerous than a surgeon who has got a gap in their OR schedule because he’ll make bad decisions and those decisions may be based on greed. In terms of softening indications for surgery, people sometimes put an academic guise on it.  
(Interview 17, C01) |
|                                                                                         | If you’re in a fee-for-service world and it’s a marginal call, maybe needs an operation, maybe doesn’t… It is inconceivable to me that there is not some financial element that goes into decision making in surgery.  
(Interview 11, A17) |
|                                                                                         | Yeah, money. How stupid is it to pay surgeons by unit?  
(Interview 14, B05) |
|                                                                                         | It’s very common for patients to be observed with brain tumors and defer the risk of surgery until the time when it’s needed, and a lot of people just jump in and operate initially, sometimes motivated by other things like financial remunerations.  
(Interview 13, B04) |
| Pressure to fill operating list      | I mean in the back of your mind, you get this many OR days, if they’re constantly saying, well she is giving up her OR days because she can’t fill her list, does she need that much OR time?  
(Interview 19, C03) |

**Table 2:** Categorization of Factors that Surgeons Indicated Influenced Their Intra-operative Decision-Making (from “First Do, No Harm: Balancing Competing Priorities in Surgical Practice” by Leung et al. [2012])
The factors in the ‘avowed’ category reflected generally accepted ideals and principles that aligned with the profession and would unlikely be challenged from an ethical standpoint. In particular, actions and behaviors that were in the best interest of the patient and consistent with the Hippocratic Oath of ‘first do no harm’ were included. For example, a surgeon who decided to forego his or her teaching responsibilities during an operation so they were able to attend more carefully to a patient with a high risk for complications was classified as ‘avowed’ factors that influenced a surgeon’s decision.

Surgeons also described ‘unavowed’ factors, which reflected implicit, unacknowledged principles considered necessary to cope with their competing priorities. Although these factors were typically undisclosed to patients, they were discussed with colleagues without fear of judgment or disapproval. For example, surgeons described speeding up a case to avoid cancelling their next one to cope with time pressures. Ultimately, these factors were discussed within groups or meetings among colleagues.

Finally, ‘disavowed’ factors were related to the benefit of the surgeons themselves and were at-odds with the construct of patient-centered care. Thus, the surgeon would explicitly deny being driven by disavowed factors, and the profession would also deny them. For example, surgeons described that monetary incentives may influence them to perform a laparoscopic procedure instead of an open surgery. They also shared that they may be reluctant to call for help during a difficult or critical part of a procedure fearing harm to their reputation, impression, or ego. Additionally, a newly staffed surgeon may be concerned with how they are perceived by their residents if they verbalize uncertainty.
From this study, it became clear that factors unrelated to the patient were sometimes considered during intraoperative decision making. The influence of a surgeon’s social context on their decisions welcomed further exploration, particularly their preoccupation with factors such as their impression and reputation, which is lacking in the existing medical education literature. Thus, this paper explored the sociocultural milieu that underlies the surgical profession, particularly focusing on general surgical trainees’ perceptions and experiences of managing their impression during decision making moments. Many of the ‘disavowed’ factors associated with issues of identity, impression and reputation described by the surgeons in Leung et al.’s (2012) study prompted the exploration of the literature for well-studied concepts of professional identity and professional socialization. These literatures will be discussed later in further detail.

1.3 Understanding Decision Making from a Sociocultural Perspective

Although most models of decision making have focused on cognitive processes, recent studies have started paying attention to more psychosocial and sociocultural influences such as hierarchical bullying (Wetzel et al., 2006; Sarker, Chang & Vincent, 2008), cultural and organizational threats (Vincent et al., 1998; Vincent et al., 2004, Catchpole et al., 2006), intraoperative threats such as pressures from the watchful eye of a surgeon, deferential OR teams not challenging decisions, bravado, and the pressure of being a female surgeon (Pauley, Flin, Yule & Youngson, 2011).
Non-medical professions also started exploring the psychosocial aspects of decision making. Aviation research studied the involvement of social psychological phenomena on airline pilots’ decision making processes (Paletz et al., 2009; Orasanu & Fischer, 1997; Orasanu et al., 1998; Wiener et al., 1993). Recently, Paletz et al. (2009) conducted a qualitative interview study with 28 pilots who provided detailed accounts of their decision making processes in response to weather-related challenges while airborne. Although participants were not explicitly asked to consider social pressures, the discussion of psychosocial pressures on their decision making surfaced throughout the interviews. Pilots described being persuaded by social influences such as being motivated by impression management, which was the need to boost or preserve their self-esteem to avoid appearing unfavorably to themselves or others. For example, they discussed their decisions to continue with a flight despite challenging weather conditions because they wanted to avoid facing social disapproval or passenger disappointment that could come with cancellations (Paletz et al., 2009). Decisions made in aviation amidst ambiguity, complexity and the need to satisfy one’s colleagues, self, and the public reflect decisions made by surgeons on a daily basis for their patients.

The sociocultural influences on an individual is determined in part by the professional values and norms that are considered to make an ideal professional such as a pilot or a surgeon. These represent the qualities surgical trainees try to emulate to develop a professional identity. To understand this further, how the professional identity is socially constructed during training through the process of professional socialization is explored.
1.4 Professional Identity and Socialization

The successful transformation of a trainee into the professional role of a surgeon relies on them adjusting to the unique culture of surgery, in other words, undergoing the process of professional socialization (Merton, Reader & Kendall, 1957). This socialization process relies on trainees adopting the values, traits, norms, attitudes, knowledge and skills, which conform to those inherent within the surgical culture (Merton, Reader & Kendall, 1957). Knowledge about the medical culture is developed within medical interactional settings including patient rounds, teaching conferences, anatomy labs, and nights “on call” (Apker & Eggly, 2004). Thus, surgical training and practice not only equips students with the knowledge and skills sets relevant to surgery, but also develops the students’ professional identity as ‘the Surgeon’.

Professional identities are one of the multiple identities an individual forms and sustains alongside their gender, ethnic, and social class identities (Monrouxe, 2010; Shotter & Gergen, 1994). Monrouxe (2010) defines identities as ‘products of intersubjective and external social processes.’ This implies that identities are constructed and co-constructed through daily social encounters, as well as through “the use of language and artefacts, and within power relations” (Monrouxe, 2010). Thus, identities are not fixed, but rather, they are constantly undergoing transformation throughout our lives (Monrouxe, 2010). In fact, our identities develop through the process of identification: an internal-external process of self-categorization (“who I think I am”) and the categorizations of others (“who I think you think I am”) (Jenkins, 2008; Lave & Wenger, 1991; Wenger, 1998; Holland & Lave,
Although identity and identity construction have been extensively explored in broader health and social science domains for decades, they are often peripheral topics within medical education (Lingard et al., 2003; Madill & Latchford, 2005; Monrouxe, 2009; Monrouxe, Rees & Bradley, 2009). However, establishing a professional demeanour from a strong identity as a doctor is important in facilitating the trust between patients and their doctors, as well as the general public and the medical profession as a whole (Freedman & Holmes, 2003).

The nature of surgical operations leaves little opportunity for second-chances or do-overs (Cassell, 1987). Typically, surgeons cannot execute a procedure to determine its efficacy and then choose to modify or supplement it later. For example, while re-suturing bowel may be feasible, the decision to remove a portion of the bowel cannot be reversed. Thus, sound decisions reflecting certitude and decisiveness are most often valued in surgery (Cassell, 1987). These positive attributes are often considered to be ‘typical’ of a surgeon. In fact, many studies exploring the perceived temperament and ethos of ‘the surgeon’ described surgeons as a relatively homogenous group with 60-70% similarities in personality traits (Mattie, 1970; Otis & Weiss, 1973; Zimet & Held, 1975; Schwartz et al., 1994). For example, medical students previously characterized surgeons as ‘arrogant,’ ‘dominant’, ‘aggressive’, ‘concerned with their own prestige’, ‘egotistical’ ‘interested in quick action’, ‘intensely gung-ho’, and ‘self-confident’ (Otis & Weiss,
Likewise, surgeons identified themselves as ‘self-assured’ with a ‘self-confident demeanor’ and anaesthesiologists, who engage in daily interactions with surgeons, classified them as ‘forceful’ and ‘aggressive’ (Coombs et al., 1993). Thus, these studies collectively support the perception that surgeons display markedly different ‘personalities’ than other specialties of doctors.

While these findings are aligned with most published studies exploring the temperament of surgeons, Coombs et al. (1993) found minimal differences in developmental personality profiles taken from medical students at both the onset and conclusion of medical school who pursued either a surgical or non-surgical residency following graduation. These findings conflicted with the more common perception that recognizable distinctions exist between both groups. However, the discrepancy was reconciled by suggesting that perhaps the surgery-orientated medical student develops his or her identity as ‘a surgeon’ during specialty training and practice (Coombs et al., 1993; Borges, & Savickas, 2002).

Based on the “disavowed” factors discussed earlier such as the need to uphold a certain impression, we believe that surgical professionals may manage their impression to align with their desired professional identity. This process is illustrated in Erving Goffman’s work on impression management – one of the sensitizing concepts used in this study.
1.5 Impression Management

Sociologist Erving Goffman, who is best recognized for his seminal work exploring the nature of social interactions and seemingly mundane elements of ‘everyday life’, accepted the notion that an individual plays many roles. He not only believed that we played many roles throughout our lives, but also believed that we play multiple roles at any given moment based on our context and audience. Goffman (1959) developed the theory of impression management through his anthropological field research exploring social interactions in a small rural community in the Shetland Isles. Goffman observed that individuals communicated using linguistic (verbal) and non-linguistic (body language) gestures when presenting themselves to others. During social interactions, he noticed that people accentuated gestures that strengthened the impression they desired to project and understated gestures that weakened this impression. In essence, during face-to-face interactions, individuals actively engaged in purposeful communication to influence how others perceived them – a process Goffman coined ‘impression management’ (also called self-presentation) (Goffman, 1959).

Goffman (1959) likened impression management to theatrical performances. Like actors in a play, Goffman suggested that an individual maintains façades that are expected of them in social circumstances and hence manages and controls how others envision them. The ‘performer’ was considered the person actively engaged in impression management and his or her ‘performance’ included all the activity they participated in for the purpose of influencing their observers or audience (Goffman, 1959). The performance transpired
in two distinct regions: the public ‘front region’ of the social world analogous to the frontstage in theatre, and the private ‘back region’ analogous to the backstage in theatre (Goffman, 1959). The ‘front-stage’ defined the relatively formal space where the presence of an audience may trigger performers to accentuate certain aspects of themselves, while concealing other aspects that discredit their desired impression. In contrast, the ‘backstage’ defined the relatively informal region where suppressed aspects of an individual were more likely performed while the impression fostered by the ‘front stage’ performance could be contradicted (Goffman, 1959). He also defined the term “front” as a person’s performance that functioned to define the context or situation for those observing the performance (Goffman, 1959). In fact, he mentioned “it is through the effect of the self-as-performer that social identity is formed. Hence, individuals are active in the shaping of how others conceive of them” (Goffman, 1959; Riley & Manias, 2004).

The notion of front and backstage is appropriately illustrated by Goffman’s earlier observations at the Shetland Hotel (1959). He noted that the hotel workers’ (i.e., the ‘performers’) behaviours changed depending on where they were situated: the dining room full of hotel guests (front stage) or the kitchen (backstage). While the hotel owners and workers were formal and reinforced the workplace hierarchy in front of the guests, they mocked customers and demonstrated egalitarianism backstage (Goffman, 1959; Leary & Kowalski, 1990)
Usually, backstage regions are separated from front regions by physical partitions that block the line of sight from audiences, and secrets about the production of the show are confined.

Moreover, Goffman suggests that front and back regions ‘are not static physical barriers, but [a] temporal component that vary according to the presence or absence of an audience’ (Goffman, 1959; Riley & Manias, 2004). Thus, even though certain regions can be defined as the front region and back region at one time and in one sense, these regions can actually function distinctly during different moments (Goffman, 1959). For example, although an executive’s office may reflect a front stage space when engaging in business related activities with employees, it could be transformed into a backstage space afterhours where the executive unwinds with an executive of his or her own rank. Goffman (1959) also suggests that impression management is most obvious when a performer transitions between front and backstage regions where they move in and out of their role (Goffman, 1959).

Impression management, one of the fundamental theories of interpersonal behaviour, has recently appealed to many researchers, particularly deepening knowledge about a range of interpersonal phenomena such as social anxiety (Schlenker & Leary, 1982), attitude change (Schlenker, Forsyth, Leary, & Miller, 1980; Tedeschi, Schlenker, & Bonoma, 1971) and counseling processes (Friedlander & Schwartz, 1985). In addition, Goffman’s theory of impression management has also been observed in medical literatures to illuminate the nature of interprofessional relations and teamwork (Lewin & Reeves,
behaviours of hospice workers in front and backstage regions (Cain, 2012), nursing (Melia, 1987), and medicine (Becker, Geer, Hughes, & Strauss, 1961; Broadhead, 1983).

Tanners and Timmons (2000) applied Goffman’s concepts of front- and back- stage to illuminate their observations of staff behaviour in the operating room. They found that nurses, surgeons and anaesthetists engaged in backstage behaviours in private operating rooms with anaesthetized patients who were unable to see and hear, and front stage behaviours in the public areas of the hospital. The investigators noted that the interaction between different groups of staff, such as nurses, surgeons and anaesthetists, shifted based on their ‘stage’. In the operating room, nurses and doctors communicated on a first name basis and engaged in personal conversations (i.e., most lucrative procedures, gossip, personal life) and jokes (i.e., patient wearing high skirt) yet, rarely engaged in discussions in public corridors. The operating theatre was considered a backstage space for surgeons and nurses, given that they were observed discussing topics that would not be discussed otherwise.

Similarly, Riley and Manias (2004) used Goffman’s work to add a layer of understanding to the features of operating room nurses. Unlike Tanner and Timmons (2000) who presented a ‘static representation of front stage and backstage regions’, Riley and Manias (2004) considered the front and backstage regions of the operating room as temporal and dynamic. For example, operating room nurses created ‘fad’ or ‘preference’ cards that specified the surgical supplies and instruments unique to each surgeon for different
procedures. In one observed event, a nurse was reprimanded by the surgeon for selecting the incorrect stitch from two stitches unclearly indicated on the card. In this event, the authors suggested that the nurses were internally positioned backstage by the surgeon. Although the nurses felt that updating the card was ‘time consuming’ and ‘distracting’ they maintained a front stage performance by ensuring the cards reflected the surgeons’ preferences in order to foster an impression of competence and professionalism to the surgeon. Moreover, the space around the operating table was considered public front stage as the close proximity of other team members made conversations accessible by the team. In these instances, nurses created backstage spaces through the engaging in ‘private whispers’. For example, they used this practice when the instrument nurse needed help from the circulating nurse to clarify the surgeon’s preference card. By changing a domain from a front stage to backstage space without the surgeon being aware of this transition, the nurse was able to conceal her lack of knowledge. Consequently, she was able to foster a positive impression and maintain the ‘status as a competent operating room nurse’.

Moreover, although the operating room can be considered the backstage when compared to the hospital as a whole, interactions that require nurses, for example, to foster a good impression of their performance to their medical staff audience, rely on positioning themselves in a front stage space.

The literature on impression management examined in both medical and non-medical domains suggests that individuals manage their impression during daily interactions in professional settings. In this study, we were interested in exploring surgical trainees perceptions of this process and their possible interaction with the cognitive aspects of
decision making practices. As illustrated with the concept of slowing down, surgeons work within a limited cognitive capacity to attend to various stimuli that inform the decision making process. Attending to the sociocultural pressures through active and effortful impression management strategies potentially occupies and interferes with cognitive capacity. A brief review of this cognitive capacity model follows.

1.6 Cognitive Capacity Model

“The attentive pupil who wishes to be attentive, his eyes riveted on the teacher, his ears open wide, so exhausts himself in playing the attentive role that he ends up by no longer hearing anything.” – John Paul Sartre

Previous studies suggest that external social influences such as impression management may interact with an individual’s cognitive abilities (Moulton et al., 2010; Jin et al., 2012). According to the “capacity model” of attention, an individual’s cognitive capacity represents the finite amount of resources available to complete a cognitive task such as monitoring and interpreting environmental cues (Kahneman, 1973; Moulton et al., 2010). These cognitive resources are limited and once they are fully consumed, in order to engage with new stimuli an individual must reallocate their attention resources from one stimuli to another (Kahneman, 1973; Moulton et al., 2007). This widely accepted model has implications for surgeons during moments of ‘slowing down’.
As described earlier, the slowing down phenomenon represents an individual’s transition from a routine mode of practice to a more effortful mode, which requires increased attention through the recruitment of additional cognitive resources (Moulton et al., 2010). A surgeon must monitor their environment in order to know when to appropriately transition and engage these resources. It was suggested that there are four manifestations of slowing down: stopping the operative procedure, removing distractions from the environment such as music, focusing more intently such as withdrawing from conversations without removing the distraction itself, and fine-tuning such as temporarily pausing. Engaging in these actions allowed surgeons to free up cognitive resources that they reinvested into ‘slowing down’ (Moulton et al., 2010). Jin et al. (2012) suggest that the pressure to manage one’s impression may similarly consume cognitive resources that are needed to monitor one’s environment and detect relevant cues that signal surgeons to appropriately slow down. In particular, thoughts, feelings and emotions associated with such sociocultural processes may consume attention resources, which may impact an individual’s thought processes, and ability to monitor his or her environment and execute tasks (Kahneman, 1973; Jin et al., 2012).

Vohs et al. (2005) suggest similar implications for impression management practices on cognitive resources. Consistent with the cognitive attention model, they suggest that individuals have a global, but limited resource capacity to utilize when they are not using their habitual, natural responses (Baumeister & Voh, 2003). Vohs et al. (2005) borrowed from this self-regulatory resource model, suggesting that when managing and modifying the self, an individual draws on the same resources that are used for other self-regulatory
activities such as cognition and thought processes. If multiple self-regulatory tasks are performed simultaneously or successively, the likelihood of either one being performed well greatly diminishes. An individual performing active, effortful impression management expends self-regulatory resources because they are self-regulating a desired impression by monitoring and modifying behaviours.

From several experiments conducted in the study, the authors suggest that the more actively and effortfully someone is trying to manage their impression, the more regulatory resources they are consuming. In one experiment, participants were asked to act modestly in front of a stranger and present favorably in front of a friend regarding questions about their personal life. Acting modestly in front of a stranger and favorably in front of a friend were atypical and opposite self-presentation conventions, as people normally behave modestly with friends and favorably with strangers. Following each interaction, participants completed a mathematical test that required cognitive effort, and persisted until they finished or chose to stop. Since displaying the aforementioned impressions deviated from participants’ normal behaviours, they consumed regulatory resources and demonstrated a decrease in self-regulation causing them to persist less on mathematical task or stop sooner. On the other hand, participants presenting modestly to friends and favorably to strangers, aligned with typical conventions, persisted longer on the task. This suggested that an individual who actively engages in self-presentation practices depletes regulatory, cognitive resources.
These studies demonstrate the importance of understanding the influence of engaging in impression management practices on an individuals’ cognitive capacity and in turn, their decision making. As part of an ongoing research program exploring these sociocultural influences on judgment and decision making in surgery, this study will explore the trainees perceptions and experiences of impression management on their daily activities particularly as they relate to decision making in clinical practice.

1.7 Methodological Framework: Background of Key Tenets Borrowed from Grounded Theory Methodology

This study was pursued using a grounded theory approach by drawing on tenants from the constructivist grounded theory methodology.

Grounded theory is used to understand social processes in a social context, particularly understanding human behavior in a particular context (Glaser & Strauss, 1967; Charmaz, 2006). Grounded theory aims “to generate a theory that accounts for a pattern of behavior which is relevant and problematic for those involved” (Glaser, 1978). This methodology is unique as it moves beyond description by generating a theoretical rendering of key concepts and the relationships between them to explain the phenomenon of study (Charmaz, 2006).

Several key tenets underlying the methodology are used in this study including the iterative approach, theoretical sampling, constant comparative analysis, and sensitizing
concepts (Charmaz, 2006). First, an iterative approach is utilized with data collection and
analysis occurring concurrently. This approach provides the researchers with the
opportunity to further specify their research focus. Data is coded on a line-by-line basis to
look for shared themes that emerged among the participants’ accounts. Memos are
written throughout the coding process to record the themes and concepts that developed,
as well as the relationships between them. Memoing informs further data collection,
particularly the participants chosen and strategies used. Data collection continues until no
new themes emerge during the analysis, also known as the point of saturation (Charmaz,
2006).

Second, data sources are selected based on how they can confirm, expand, or challenge
the developing theory or framework through the process of theoretical sampling
(Charmaz, 2006). This process helps fill conceptual gaps found during the analysis
process (Charmaz, 2006).

Third, a constant comparative approach is used during the analysis, whereby the
similarities and differences in the data are considered (Charmaz, 2006). Constant
comparative analysis can also identify extreme cases or exceptions, which allow the
investigators to create new categories that are further developed by theoretical sampling.
Theoretical coding is used to further integrate the developing theory by analyzing the
data in theoretical as opposed to descriptive terms (Charmaz, 2006). Thus, the theory or
conceptual framework is not predetermined, but rather grounded in the data.
A final key tenant borrowed from the grounded theory methodology is sensitizing concepts. A sensitizing concept is defined as “those background ideas that inform the overall research problem” (Charmaz, 2003). It has been argued that introducing previous literatures associated with the area under study while building a theory can result in ‘theoretical tunnel vision’ (Charmaz, 2000). Glaser and Strauss (1967) contended that all knowledge of previous literature should be avoided as it may cause the researchers to overlook themes emerging from the data. In essence, researchers may ‘force’ the data to fit within the theoretical perspective from a preconceived theory (Glaser, 1992). Others responded to this critique by stating that knowledge from theoretical perspectives can inform the data without disturbing the process of emergence. Additionally, they stated that it is impossible to enter the research atheoretically as initial theoretical perspectives likely lead the researcher to develop their research questions and study decisions, as well as largely dictate what is seen, heard and done during data collection and analysis processes (Kushner & Morrow, 2003; Rennie, 2000). It is this latter position that frames the current project as sensitizing concepts were used in this study.

The grounded theory methodology has been approached from different paradigms of inquiry with this study aligning with the constructivist paradigm (Guba & Lincoln, 1994). A paradigm refers to a worldview or a “set of propositions that explain how the world is perceived” and a paradigm of inquiry allows researchers to determine “what is important, what is legitimate, what is reasonable” regarding their inquiries (Sarantakos, 1993). To differentiate between the paradigms of inquiry, Guba and Lincoln (1994) suggested referring to ontological and epistemological questions. Ontologically, one should
consider “the nature and form of reality”, as well as “what can be known about reality” (Annells, 1996). Epistemologically, one should consider the “nature of the relationship between the knower (the inquirer) and the would-be knower and what can be known” (Lincoln & Guba, 1994; Annells, 1996).

Grounded theory methodology was originally positioned in the positivist paradigm, which holds that a singular truth can be ascertained through research, and that the researcher is independent and detached from the researched “object” (Guba and Lincoln, 1994). Over time, some rejected the notion of a singular truth, which led to the emergence of new paradigms, such as constructivism, that followed the ontological view of relativity (Lincoln and Guba, 1994). Kathy Charmaz (2000) developed an approach to grounded theory with roots in the constructivist paradigm. The constructivist approach is followed in this study and claims that an individual mentally constructs reality and multiple constructions of reality can exist (Lincoln and Guba, 1994).

By positioning oneself in the constructivist paradigm, one views context as an essential element in the development of knowledge. In constructivist grounded theory, researchers search for meaning rather than truth. Aligned with Charmaz’s approach, meanings underlying the data, such as tacit meanings about values, beliefs and ideologies, are sought after (Charmaz, 1995). According to Charmaz, the interactive role between the researcher and the participant is essential as it “produces the data, and therefore the meanings that the researcher observes and defines” (Charmaz, 1995). In particular, knowledge is co-created by both the researcher and the participant, whereby the
researcher as a co-producer “add[s]…a description of the situation, the interaction, the person’s affect and [their] perception of how the interview went” (Charmaz, 1995). Charmaz contended, “Data do not provide a window of reality. Rather, the ‘discovered’ reality arises from the interactive process and its temporal, cultural, and structural contexts” (Charmaz, 2000). The constructivist view was adopted in this study and acknowledged to influence the interpretation of the data.

1.8 Summary

The literatures reviewed in this section suggest that decision making is multifaceted. While previous work on the ‘slowing down’ phenomenon largely focused on the cognitive aspects involved, both recognized that the social environment interacts with cognition. The current study focused on surgical trainees’ desire to present a certain impression while performing in their ‘front stage’ during their training. While Goffman’s theory stipulates that impression management is a relational process that occurs during social interactions, the aim of this study was to use a grounded theory approach to understand the trainees’ perceptions of their need to manage their impression as they may act on those perceptions when making decisions.
Chapter 2
Research Aims

This aim of this thesis is to explore general surgery trainees’ perceptions and experiences of impression management during moments of decision making using a constructivist grounded theory approach. This study is presented as a step towards extending the current theory of ‘slowing down when you should’. In particular, this research will help develop a deeper understanding of the influence that the need to manage one’s impression has on decision making among surgical trainees.

Erving Goffman’s (1959) theory of impression management, and Leung et al’s (2012) theoretical framework describing the “Avowed, Unavowed, and Disavowed” factors influencing surgical decision making were both used as sensitizing concepts to guide this research.

Aligned with the tenets of a grounded theory approach, no hypothesis was made regarding how trainees employed impression management strategies in their training. Instead, emergent findings from interview data were used to guide further avenues of exploration in an iterative fashion.
Chapter 3
Methods

3.1 Overview

This study explored general surgery trainees’ perceptions and experiences of managing their impression during moments of decision making. A grounded theory approach was used by drawing on the tenets of the grounded theory methodology from the constructivist paradigm. Some key tenets used to guide this study included purposive and theoretical sampling, open coding, an iterative and constant comparative analysis, theoretical saturation, sensitizing concepts, and reflexivity. Individual in-depth, semi-structured interviews were conducted with 15 surgical trainees (post-graduate year 1-2; n = 7) and senior (post-graduate year 3-6; n = 8); female = 7; male = 8) across the general surgery specialty.

Although data collection and analyses occurred concurrently as part of the iterative process, each will be discussed separately.

3.2 Methodological Framework

Three qualitative methodologies were considered during the inception of the study: grounded theory, phenomenology, and ethnography. A grounded theory study aims to develop an explanatory theory of a social process using participant interviews and sometimes observations (Pitney & Parker, 2002; Creswell & Clark, 2007; Starks & Trinidad, 2007). A phenomenological approach aims to develop a clear description of the
lived experience of individuals using participant interviews (Creswell & Clark, 2007; Starks & Trinidad, 2007). Ethnographic approaches seek to identify and provide rich descriptions of cultural settings and patterns of behaviours through prolonged fieldwork, and sometimes artifacts (Pitney & Parker, 2002; Creswell & Clark, 2007). Although it would be appropriate to study impression management in trainees using each of these approaches, a grounded theory approach was selected to guide this research by drawing on tenets of the grounded theory methodology. This approach allowed the investigators to study the trainees’ perceptions of the social process of impression management. The first layer of analysis from the grounded theory methodology was used because it provided rich, detailed descriptions of the trainees’ perceptions, which was necessary to understand impression management in this specific context. The first layer of analysis from the grounded theory methodology attained from this approach will also be abstracted in future work to develop an explanatory model that extends the ‘slowing down’ framework.

When selecting a methodology, it was recognized and accepted that different team members may have chosen to use methodologies such as ethnography or phenomenology. To manage the multiple perspectives that informed the conception of the study and analysis process, a concerted effort was made to respect the priorities of the larger research program of surgical judgment and decision making. The use of several appropriate methodologies was discussed and the PI selected a grounded theory approach with the approval of the team. The purpose was not necessarily to achieve absolute
agreement on every matter, but rather to be respectful of each person’s position and priority of what wanted to be achieved from the research project.

3.3 Ethics Approval

Institutional review board approval was obtained from the University of Toronto and University Health Network for the academic hospital where the study was conducted (Appendix A and B, respectively).

3.4 Program and Institution

Aligned with the general principles of qualitative research, it is important to note that the findings are context-specific as the unique culture of a context informs participants’ experiences. The excerpts are taken from the experiences of 15 trainees within the context of their General Surgery training program at a teaching hospital – one of the fully affiliated urban, academic health centers of the University of Toronto in Ontario, Canada. According to the program outline, this program is regarded as the largest and most diverse in Canada and delivers surgical care to a large urban patient population surrounding Toronto, as well as through a referral network. The residency program is a five-year program that accepts 12 incoming residents per year. Residents complete mandatory and elective rotations in both academic and community based hospitals, which range from 1-4 months each.
3.5 Data Collection

3.5.1 Semi-structured Interviews

The study was designed to explore surgical trainees’ perceptions and experiences of impression management during moments of decision making. Semi-structured interviews were chosen as the method of data collection. Goffman previously studied the phenomenon of impression management through observations of interaction between actors and their audience. However, there were several reasons for selecting interviews rather than observations as the primary data source.

Conducting interviews led to an understanding of the meanings general surgery trainees ascribed to their interactions, particularly the trainees’ meaning making of impression management at a given point in time as opposed to how trainees engage in this practice in the moment. Studying trainees’ perceptions was the main interest because it could be inferred that they will act on those perceptions and may do so while making decisions. Also, interviews allowed for patterns and repetitions of the meanings trainees ascribed to their experiences with impression management, which lead to an understanding of the implicit influences on the trainees that may not be attained from observations alone. Thus, understanding the ways trainees made sense of their experiences with impression management and how they perceived its influence on decision making was central to the analysis.

The discussions from the interviews provided the PI with many instances where trainees may feel the need to manage their impression such as when they are asked a question by
their staff. Similar scenarios discussed in the interviews can inform what investigators may pay attention to while observing the phenomenon of impression management within a training context in future work.

Data were collected between January and December 2012. All data were collected through in-depth, semi-structured interviews by the principal investigator (PI) at a mutually convenient time and location for the interviewer and interviewee including the investigator’s office and resident lounge. The PI was explicit in her decisions about the interview location and maintained privacy by ensuring that no one else was present in either the office or lounge. In some cases, the interviews were conducted in the primary supervisor’s office, a staff surgeon who may have supervised some participants.

Participants were aware upon initial contact prior to their interview of her role as the primary supervisor of the study and they were assured during the interview that any identifying information would be removed before she saw the data. The length of each interview ranged between 60 and 80 minutes.

The purpose of the interviews was to gain a deeper understanding of the experiences and motivations of trainees’ managing their impression while making decisions. A semi-structured interview format was used in order to explore several key questions that helped frame the topic being explored, while still permitting the interviewer or interviewee to deviate from the question and pursue another idea in detail (Charmaz, 2006). The formation of the interview template is discussed in further detail in the ‘Sensitizing Concepts’ section under the Methodology. Probing strategies were employed where follow-up questions were asked following participant responses (e.g., “Can you tell me
more about that?” and “Do you have an example?”). The semi-structured interview style was especially valuable due to its flexibility, particularly allowing the interviewer to uncover and then further explore issues that were important to participants but overlooked when creating the interview template.

The initial two interviews began with a brief description of the study followed by questions asking the participant to reflect on a time when they made a mistake with the aim of retrospectively probing their behaviours and thought processes during moments of decision making. However, this approach limited our understanding to decisions that led to a ‘mistake’, ignoring other important experiences that might be relevant to capture a wide range of experiences with impression management. Instead, the interview template was altered to begin interviews by more broadly questioning the trainee’s responsibilities while emphasizing the nature of their decisions. The interviews explored the moments trainees experienced the need to manage their impression such as instances where they felt a pressure to perform certainty or confidence in front of others. In addition, trainees were asked whether these experiences changed the way they made decisions (e.g. hindered them from calling for help). The interviewer also asked the trainees to reflect on their perceptions of and experiences with ideal surgical characteristics, impression management, hierarchy, reputations, acting, and uncertainty.

During the preliminary phase of this research, informal observations were conducted to inform the development of the interview template. The PI initially participated in observations in the operating room, quality assurance and ward rounds, and clinics of the
participating institution. These observations helped identify specific moments that could inform our exploration of the phenomenon of impression management in our interviews. For example, the PI asked participant residents about the possible need to manage their image during daily in-patient ward rounds after observing the numerous questions put forward by the supervising surgeon. The interview template was refined following observations in quality assurance rounds to include moments when residents felt uncertain responding to questions about cases that led to complications or poor outcomes. Another avenue of exploration that resulted from observations was the perceived change noticed by the PI in the operating room when the staff was present and absent. In these ways, the observations were used to develop and refine the semi-structured interview template. The PI also observed these settings to familiarize herself with the everyday context in which residents were immersed.

Interview questions and strategies were added and refined during the iterative phases of data collection and analysis (Appendix E). All interviews were digitally recorded and transcribed verbatim. Each interview was reviewed for accuracy by the PI and labeled with an identifier code to maintain anonymity.

### 3.5.2 Sampling Strategies: Purposive and Theoretical

We purposefully sampled for both junior (PGY 1-2; n = 7) and senior (PGY 3-6; n = 8), and male (n = 8) and female (n = 7) trainees. This sampling strategy was employed to capture a rich understanding of the range of experiences that are encountered during residency. Since the responsibilities of surgical trainees vary based on their training level,
the experiences discussed may differ for those entering residency as opposed to those that have been immersed in the training process and culture.

A theoretical sampling strategy (Emerson, Fretz & Shaw, 2001) was employed to inform emergent issues from the data. One prominent theme that emerged from the data was the influence of impression management on learning. The investigator made an explicit choice to further develop an understanding of this emergent issue given that the intersection between impression management and learning in training surgeons was not previously investigated. Probing issues of learning, such as the way trainees perceived their impression influenced the learning opportunities they were afforded, provided more detailed insights into this emergent theme.

Negative case sampling was used to sample cases that could possibly disconfirm the patterns that emerged throughout the analysis. The goal of this strategy was to ensure that the PI was not specifically selecting cases that would confirm the emergent conceptual model. Negative cases included individuals that were considered ‘superstars’ as the need to manage their impression on others might be perceived as less relevant. For example, the idea of the ‘struggling or branded’ resident versus the ‘superstar’ resident emerged from interviews. To explore these themes further, residents who were considered by word of mouth as the ‘strugglers’ or ‘superstars’ of the residency program were recruited via a snowballing sampling strategy. This sampling strategy relied on asking current participants to suggest other individuals that would be interested or appropriate for the study. In some cases, self-identification by participants allowed for the classification of
those who self-perceived themselves as ‘struggling’ or ‘superstars’. It was important to further explore these categories because an initial association emerged that only ‘struggling’ residents would need to manage their impression. To test this association, a broad sampling approach was maintained to continue to sample participants who were not struggling. This led to a refinement of the conceptual model.

All surgical trainees were contacted via email with a letter from the PI outlining the request for their voluntary involvement for the study, the purpose of the study and honoraria for their time for an approximately one hour interview (Appendix C). The observation period was also used as an opportunity to recruit potential surgical trainee participants who were later contacted via email. Trainees were also recruited from the quarterly published newsletter, The Surgical Spotlight, which features the University of Toronto’s new entering class of general surgery trainees.

All trainees who were contacted agreed to participate and the PI scheduled the interviews at a time and place convenient for the trainee. Informed consent was obtained from all the participants at the start of the interview (Appendix D). The PI also verbally reviewed confidentiality issues with the trainee assuring that complete anonymity would be maintained in the study and any identifying information would be removed from the transcripts prior to data analysis and publication. Participants were allowed to withdraw from the interview or remove their interview data at any point during the study. No participants withdrew from the study at any point. Participants were acknowledged with a $75.00 honorarium.
3.5.3 Sample Size

One sampling unit was defined as one 60 to 80 minute interview with a general surgery trainee, in which the trainee reflected on and verbalized their experiences. The target number of interviews was not determined at the beginning of the study. Instead, the sample size was guided by ‘theoretical saturation’, which referred to the point at which no new themes or ideas emerge in the data (Charmaz, 2006).

3.6 Research Team and Committee Members

At the commencement of this thesis, the PI completed an Honors Bachelor of Science degree in Life Sciences at McMaster University and had not completed an MD or surgical residency program. The PI had never been involved in a qualitative project prior to this thesis. The impetus for the study stemmed from the supervising surgeon’s previous qualitative work in surgical judgment and decision making. Through discussions between the PI and graduate supervisor, it was decided that a grounded theory approach was appropriate for the research question as it would allow the current study to link to the supervising professor’s pre-existing research area of a recently described cognitive model of ‘Slowing Down When You Should’ for understanding surgical judgment. The current study contributes to understanding this model further by including sociocultural factors that may influence a surgeon’s ability to ‘slow down’ appropriately. The experiences shared by the participants in this study can be considered as the largely ‘unspoken’ experiences in practice that can affect surgical judgment.
The graduate supervisor was a member of the research team. The PI met with the graduate supervisor on an ongoing basis to code the interview transcripts and discuss the emergent conceptual model. The graduate supervisor was a liver and pancreas surgeon with a Masters of Education and Doctor of Philosophy (PhD) in Health Professions Education, and had a long-standing expertise in qualitative research. The graduate supervisor provided insight into the grounded theory methodology and clinical context relevant to the study. As well, she introduced the PI to the study settings and facilitated recruitment.

The PI also gained insights from the members of the research lab during ongoing lab meetings. The research lab acted as a sounding board for the data collection and analysis. The emergent coding structure was shared more regularly with two members from this lab group. One of these members was a third year general surgery trainee at the institution the study was conducted. This trainee entered his Masters of Education degree during the second year of this study and previously conducted a grounded theory study exploring surgeons’ risk taking behaviours. The surgical trainee developed an interest and became increasingly invested in the discussions during the research process, which led him to ultimately assume the role of ‘key informant.’ The surgical trainee provided the necessary perspective required in understanding the trainees’ decisions within a clinical context. Since the key informant was a member of the resident population that was interviewed, he did not have access to full transcripts. Instead, coded data without identifying information were shared. The trainee undertook another role in the team, as he became an interview participant in the study where he shared very rich, reflective
information about his own experiences with managing his impression during decision making moments. He also participated as a ‘member check’ for interpretations, otherwise referred to as ‘informant feedback’ or ‘respondent validation’ (Gilchrist & Williams, 1999; Yanow & Schwartz-Shea, 2006). A further description of this role is provided under the ‘Member Check’ section in the Methodology.

The second member of the research team who contributed time beyond the lab meetings completed her Honors Bachelor of Science degree in Human Biology with a minor in Psychology. She was involved in a concurrent qualitative study exploring the operating room team dynamics between anaesthetists, nurses, and staff surgeons. The PI shared the final four de-identified transcripts with her to determine the resonance of the emergent coding framework. The PI and BSc student did not have any medical training and were instrumental in the research process as they were able to identify emergent issues that may be normalized by the surgical team members given their immersion and socialization into the surgical culture. The staff or resident surgeon may have observed, filtered, and interpreted certain aspects of the data based on the meaningful patterns they learned and adopted from their training and career (Gilchrist & Williams, 1999). This may have caused them to overlook certain actions, behaviours, explanations, and justifications that merited further reflection and analysis.

Structured and unstructured meetings were also scheduled with three committee members to discuss the emergent conceptual model. The first committee member was a non-surgical member with a Master of Art in Political Science, Master of Education in Health
Profession Education and PhD in Higher Education with expertise in professional identity construction. The second committee member was a non-surgical member with a PhD Sociology with expertise in health and medical sociology. The theoretical perspectives offered by the first two committee members was invaluable to the project because it helped link emergent themes to broader sociocultural phenomena that helped make sense of the participants’ experiences. The third committee member was a senior liver and pancreas surgeon at the institution the study was conducted. As a surgical member and senior surgeon, he provided a perspective in understanding the trainees’ decisions within a clinical context and within the training system.

The diversity of perspectives offered by the group enriched the meaning making process and contributed to the reflexivity process during the data collection and analysis phases. The influences of the different perspectives on the research process will be elaborated further in the Reflexivity section.

3.7 Data analysis overview

A conceptual model was created, which was guided by the first layer of analysis used in a grounded theory methodology. The PI and staff surgeon read the transcripts on a line-by-line basis. The content of the transcripts were analyzed using the first level of analysis of open coding to search for emergent themes (Charmaz, 2000). Qualitative coding was performed which “means categorizing segments of the data with a short name that simultaneously summarizes and accounts for each piece of data” (Charmaz, 2006). The researchers extracted the data from raw interview transcripts by assigning codes to texts.
Codes that reflected similar content were grouped together to create a conceptual model.

An NVivo software (2007, QSR International Pty) was used to manage and cross-reference the data set (Kelle, 2002).

### 3.7.1 Iterative and Constant comparative approach

An iterative and constant comparative approach was adopted throughout, whereby the similarities and differences within and between the individual transcripts were analyzed. This process generated themes, which were developed by further data collection. For example, the concept that a ‘trainee’s reputation influences learning opportunities’ was developed by interviewing participants with reputations as a ‘struggling’ and ‘superstar’ resident who could inform this notion. Thus, the data analysis guided subsequent data collection strategies. The PI created an audit trail of memos, which were notes describing the categories and comparing the conceptual relationships between them (Maxwell, 2005). Memo writing occurred continually throughout the analysis processes.

### 3.7.2 Thematic Analysis: Open Codes and Concepts

The data was openly coded by reading each individual transcript line-by-line and identifying substantive codes within the data (Charmaz, 2006). Each aspect of a participant’s experience was analyzed and initially coded thematically using as many codes as possible. Some “in-vivo” codes such as “branded” were assigned based on terms used by participants themselves (Charmaz, 2006). A key set of questions was asked during the open coding phase – “What is being studied? What category or code is this experience indicative of or what issue does it speak to? What is concerning the
participants?” These questions helped focus on patterns that emerged among the experiences and generated codes that captured the incidents conceptually rather than focusing on the detailed description of an individual case. The open codes were extracted from the data by keeping them detailed enough to provide the context of the discussion. Subsequent transcripts were coded using the initial open codes and additional codes were incorporated as new ideas emerged. This initial coding phase was done openly in order to spark new ideas and thoughts about the data (Charmaz, 2006). The PI and primary supervisor coded the initial five interviews together after which they began reaching an agreement on the majority of the codes. Following this, the PI analyzed each interview transcript independently and the emergent coding framework was discussed between the PI and graduate supervisor. The PI also held several meetings with the key informant and BSc student to discuss the coding framework. These meetings were a useful opportunity to discuss discrepancies and disagreements in way codes were assigned. Following these discussions, the list of open codes were revised and applied to the complete data set. As part of the iterative process, the coding framework was refined throughout the data collection and analysis phases. The individual codes were compared to one another and merged into broader concepts that informed the development of the conceptual model (Appendix F).

The research team discussions provided a wide range of perspectives to be considered at all stages of analysis. Since the data analysis was guided by the principles of the constructivist paradigm, which assumes the existence of multiple social realities, multiple perspectives were included. Although it was not assumed that involving multiple
researchers would lead to attaining a ‘true meaning’, as constructivists do not believe in a single ‘truth’, the multiple lenses added richness to the interpretations. Diverse disciplinary perspectives from surgery, psychology, sociology and health professions education were invaluable to the analysis. It was also recognized that each investigator may study a different research question or carry out an analysis guided by their specific research interests when exploring impression management in trainees.

3.7.3 Sensitizing Concepts

A sensitizing concept is defined as “those background ideas that inform the overall research problem” (Charmaz, 2003). Two sensitizing concepts guided the broader questions asked to participants during interviews. One of the sensitizing concepts that informed the formation of the interview template (Appendix E) included Erving Goffman’s (1959) theory of impression management. The seminal concepts from the theory of impression management included the notions of ‘acting’ in a ‘front stage performance’ for an ‘audience’. For examples, questions about whether participant performed or avoided displaying certain behaviours, when he or she felt the most pressure to ‘act’, and for whom the trainee was acting. The interviewer also explored whether certain aspects of a trainee’s impression was important to them and important to project to the outside world. Although the analysis was inductive, the code ‘impression management’ offered a way to organize the experiences in which trainees felt the need to perform or act (Charmaz, 2003).
Moreover, a second sensitizing concept that informed the formation of the interview template included Leung et al.’s (2012) theoretical framework describing the “avowed”, “unavowed”, and “disavowed” factors that influenced surgical decision making. In particular, “disavowed” factors, which were considered to be in the best interest of the surgeon rather than the patient’s such as concerns about one’s reputation and impression, his or her ego and overconfidence, and hierarchy defined the category of questions asked to participants.

3.7.4 Member checking

Member checking is a “way of finding out whether the data analysis is congruent with the participants’ experiences” (Curtin & Fossey, 2007). Member checking was conducted during both the data collection and analysis stages. One way this technique was used throughout the data analysis process was by seeking feedback from the key informant about their resonance with the emerging conceptual framework (Yanow & Schwartz-Shea, 2006). The PI also used member checking during the last few interviews, once thematic codes were saturated, by asking participants if the analysis resonated with them. Moreover, presenting the analysis to audiences with residents at the Surgical Skills Centre Rounds (2012) in Toronto, Ontario, Association of Surgical Education Annual Meeting (2013) in Orlando, Florida, Canadian Association of General Surgery Annual Meeting (2013) in Ottawa, Ontario, and Research in Medical Education Annual Meeting (2013) in Philadelphia, Pennsylvania, was also considered a form of member checking. In this case, “polished” (Creswell, 2009) themes that emerged during the analysis and interpretations as opposed to raw transcripts were used.
3.8 Reflexivity

I, the PI, am a University of Toronto Master of Science candidate with an Honors Bachelor of Science degree from McMaster University. My first exposure to medical education research was during my BSc degree as a research assistant at the Surgical Skills Centre (SSC) at Mount Sinai Hospital. With an interest in pursuing medicine as a future career, medical education research intrigued me. I developed a strong appreciation for this type of research, mainly recognizing that the intense and creative training of doctors contributes to improving patient care.

At the SSC, I was involved with the “Orthopedic Boot Camp” project, where I assisted in collecting hand motion data used to explore whether implementing a competency-based curriculum could improve orthopedic residents’ technical skills. I also contributed to various literature reviews and presented a colleague’s work on the development and validation of an assessment model for open surgical procedures at an Ontario Simulation Exposition. My experience at the SSC exposed me to quantitative research methodologies and analysis. Although I became well versed in quantitative study designs and implementation through this experience, I wanted to challenge myself during my graduate training and gain experience with different research methodologies. This led me to the area of qualitative research.

Learning ‘how to be a qualitative researcher’ required a major shift in my way of thinking – from statistics and quantifiable data to interpretations and lived experiences. This also led to a transition in terms of the paradigm I was situated in. While I was most
familiar with the positivist paradigm and the belief that there is one ‘truth’, my Master’s work led me to embrace the constructivist paradigm and the understanding of multiple ‘truths’.

Through the research process, I became more self-aware of the way I viewed situations, experiences and facts, and how I gauged their relative importance. Since qualitative research is interpretative and requires assigning meaning to people’s experiences I had to be mindful of how my thoughts and impressions shaped the research process. For example, while analyzing interview transcripts of my participants’ experiences, I had to actively question any assumptions and preconceived notions I held, as well as examine how my own position as a female, researcher, graduate student, etc. shaped my interpretations. As a research assistant at the SSC, I was previously exposed to the orthopedic surgery culture through weekly surgical skills training sessions and observations of orthopedic surgeries. While I held my own perceived assumptions about the orthopedic surgery culture through my interactions with residents and staff surgeons, I separated these assumptions from the way I viewed the culture of general surgery as it was a different context. To do so, I allowed my understanding of the general surgery culture develop based solely on the knowledge I gained from my study observations and interviews. In addition, I had to be reflexive about the values and assumptions my graduate supervisor, who is also a staff surgeon, held about the surgical culture, training, and practice as her values and assumptions had the potential to shape mine. When analyzing transcripts, there were times when the graduate supervisor would view a trainee’s experience from a staff surgeon’s perspective or certain aspects of the surgical
culture as normalized. To challenge my assumptions, it was helpful to gain the input from the non-surgical committee members.

My decision to explore the experiences of residents was guided by my position as a training Master’s student. I found the experiences shared by residents to be interesting because they resonated with some of the struggles I have had with impression management, particularly projecting confidence in school settings where I did not feel confident internally. Due to the similar feelings evoked by the experiences in training institutions, I had to be aware of how identifying with my participant’s experiences could impact my interpretations. In particular, I had to remind myself that the stories and feelings shared by trainees were context dependent. My decision to study the residents’ perceptions and experiences with impression management was also influenced by my interaction with them during my observations. While I was initially going to interview staff surgeons, I found it easier to associate with trainees who were closer to my age, which made me feel less intimidated. Also, after completing some pilot interviews with trainees I felt that exploring how impression management impacted learning was also very important, as it was a source of anxiety and stress for some participants.
Chapter 4
Results

4.1 Overview of Findings

This chapter describes the experiences and perceptions of general surgery trainees with managing their impression. Although the purpose of the study was to explore the influences of impression management on decision making, it became apparent that residents felt they had to portray a dual role as a student who was learning and being evaluated, as well as a surgical trainee involved in patient care delivery. The findings suggested that the discussion surrounding impression management and decision making, aligned with the surgical trainees’ responsibilities to their patients, could not be separated from the ways the participants engaged with impression management as learners. Therefore, the exploration was broadened to include the emergent theme of the influence of impression management on learning.

A conceptual model for understanding the meanings trainees ascribed to their experiences with impression management is presented based on the first level of analysis of a grounded theory methodology. This model highlights the expectations participants perceived they needed to meet, as well as the ways they described their experiences when they were not meeting their expectations. Trainees noted three impression management strategies they used to reconcile the gap between their perceived expectations and experiences. Their primary motivation to engage in these strategies was to avoid being branded as a ‘struggling resident’. The negative consequences that emerged from the
participants’ accounts due to their preoccupation with their impression were effects on evaluations, learning opportunities, decision making, and resident wellness. Evidence of these negative consequences will be found throughout the participants’ accounts.

**Figure 2:** Conceptual model for understanding the strategies, motivations, and negative consequences for impression management by general surgery trainees when they are unable to meet perceived expectations.
4.2 Understanding Decision Making in the General Surgery Specialty

The following descriptions of decision making in the general surgery specialty were based on the perceptions of those interviewed. The participants described the surgical specialty in similar ways. It was commonly acknowledged that questions in the context of decision-making were not often resolved with a simple ‘yes’ or ‘no’ answer or an algorithm. For example, a trainee described that the decision of whether or not to perform a common elective cholecystectomy, a gall bladder operation, on an elderly patient who had gallstones required considering a number of factors such as the age of the patient, the significance of her comorbidities, mortality rate, and perhaps even the patient’s persistence to undergo the surgery despite acknowledging the possible risks.

“It happens on an almost daily basis when you’re uncertain because at the end of the day you’re trying to pick from options that aren’t necessarily perfect, so there’s often times no good answer or no one good answer or you try and pick the least bad possibility kind of thing.”

–P005

Due to the uncertainty inherent within surgical decision making, participants recognized that “experience counts for a lot in surgery” –P009. They suggested that the more opportunities they had to make decisions during their training, the more adept they became at managing those decisions.
4.3 General Surgery Trainees’ Perceived Responsibilities Related to Decision Making

The 15 general surgery trainees described multiple responsibilities within their training in terms of decision making for patient care. According to the participants, the responsibilities for junior (PGY 1 and 2) and senior trainees (PGY 3, 4, 5 and 6) differed based on their level of responsibility on the wards and the operating rooms, as well as their roles within teams. The participants shared that since the responsibilities between junior and senior residents varied, they perceived a pronounced role transition during their training.

4.3.1 Perceived Responsibilities of Junior Trainees (PGY 1 and 2)

The participants noted that the main responsibility for a junior resident was managing the patients on the wards efficiently and accurately, which included completing all the floor and paperwork. They perceived that if this responsibility was fulfilled, it would provide them with more opportunities to visit the operating room and they would be entrusted with more responsibilities while there. Many participants suggested that the amount of decision making opportunities afforded to junior trainees during rounds or on-call was dependent on the allowance they were given by their senior resident or staff.

“In terms of the decision-making... when you go around in the morning and do the rounds, you’re usually not the primary decision-maker unless your senior decides...”
to step back and let you do the rounds, which happens sometimes. And then in the operating room, definitely not really making the decisions, you’re following other people’s directions a lot of the times. And then on call, it depends. I’ve been on call by myself before where I’m [on] call with a staff, so I find that I make a lot more decisions that way than when there’s another senior on call with me.”

–P016

Participant residents felt that more senior trainees or staff usually determined patient management decisions and that their role was simply to execute the plan when instructed. This provided junior trainees with fewer opportunities to practice making independent decisions. One trainee described the limited opportunities to make decisions as a junior resident as follows:

“As a junior, people tell you what to do, you never have to worry about, am I doing the right thing because you don't make really any decisions, you're pretty much like a grunt worker, you do a lot of scut and there's not a lot of independent thought...”

-P018

The participants explained that a junior resident only discussed patients or plans with their staff occasionally because the ‘normal chain of command’ was the ‘junior, senior, then the staff’. Thus, they noted more frequent interactions with the senior resident as opposed to the staff.
4.3.2 Perceived Responsibilities of Senior Trainees (PGY 3, 4, 5 and 6)

The participants described that senior trainees assumed a larger leadership role than junior trainees as they adopted more staff surgeon-like responsibilities including spending more time in the operating room and managing a team of junior residents. They discussed that while a senior resident’s responsibility was still on the ward similar to junior residency, they were responsible for managing the floor and wards from the operating room. The participants described the responsibilities of senior residents as orchestrating the care of the patients on the wards and overseeing the junior residents. Senior residents explained that they delegated responsibilities to junior residents based on the junior’s level of training, as well as their technical and non-technical abilities. They also described that they relayed information about the junior residents’ performance, and patients’ medical status and management plans to their supervising staff. The senior residents noted that they spoke directly with the staff about patient issues more often than with junior residents. Thus, the participants suggested that a greater level of interaction occurred with their staff during the senior years of training.

The participants stated that senior residents were responsible for teaching and reviewing consultations with medical students and junior residents. They also noted an additional responsibility in the operating room as the first assistant or operating surgeon under staff supervision. Senior residents, in their view, were granted more independence in terms of decision making on the wards, but relatively less opportunity to make decisions in the operating room.
4.4 Perceived Expectation and Experiences

The participants outlined a set of perceived expectations they believed needed to be met and negotiated during their training. Both junior and senior residents described these expectations as based on high standards.

“You really need to be on top of everything that you do and be five steps ahead of what they expect for you.”

– P013

Several trainees perceived that they had to meet higher expectations in faster-paced academic hospitals as opposed to community hospitals.

“...Certainly, there is a different environment. You can feel it as soon as you walk into a place, the bigger downtown hospitals, as compared to the outskirts...I think you kind of almost pick up your game a little bit when you step into the downtown hospitals. You’re a little bit more aware of the expectations that they have for you. And then, you just carry out your behaviour to meet that as best you can.”

– P013

These expectations were described as an implicit component of the training curriculum, which the participants suggested they learned through interactions with their resident peers, staff surgeons, and other colleagues throughout their training.
“I think [these expectations come] probably just from being a medical student and seeing what residents did.”

–P011

Trainees learned about their expectations based on the expectations they believed their senior trainee or staff surgeon role models were meeting. The participants also felt some of their expectations were perpetuated by the surgical culture.

“...ultimately the expectation of me, both of myself and of my staff is that eventually I’m going to be like them. I’m training to be an independent surgeon.”

–P010
The most prominent expectations that emerged from discussions with trainees included being ‘all-knowing’, ‘quick’, ‘decisive’ and ‘confident’. The following sections describe how these expectations were perceived to relate to impression management by participants.

4.4.1 ‘All-knowing’

Participants discussed being aware that there was an expectation to be perceived as “all knowing” when it came to patient care:

“...you’re expected to know everything about everybody at all times.” –P005

The participants considered being ‘all-knowing’ as a ‘high expectation’ that needed to be met during various circumstances and within multiple settings. For example, several trainees discussed that while they were in a teaching session or on rounds, they needed to be equipped with all the knowledge to answer any question their seniors posed. Some noted that a lack of knowledge may induce anxiety for them:

“Anytime that you’re asked questions in front of people, that might induce anxiety because you don’t want to feel stupid in front other people, especially in front of staff.”

–P014
If a staff asked a question, the participants shared that they felt it was an expectation to know the answer. The pressure to be ‘all-knowing’ was also discussed in the context of Morbidity and Mortality (M&M) rounds. The participants defined these sessions as a forum where medical and surgical professionals discussed mistakes made during the care of a patient. The perceived objectives of these sessions were described as learning from previous errors and complications and preventing future occurrences of similar mistakes, thereby improving practice. Although residents acknowledged that these rounds could be very educational, many referred to them as ‘shame rounds’. They also acknowledged feeling ‘bullied’ and “thankful if they hadn’t been shamed too much”, which caused some participants to “avoid them at all costs” (P013). One trainees’ reaction to these rounds follows:

“M&Ms...Yeah, it's horrible. It gives me the same visceral reaction, I hate those rounds, hate them. Well, I don't learn well at all in this situation where people just put you down, not even put you down but they drill you in front of everybody...It's sort of like a firing squad...before the rounds here, I found myself looking at the strangest things because I feel like they're going to ask me these random questions that I would feel so stupid if I didn't know. But it doesn't necessarily contribute to, I don't feel like I'm reading about the appropriate things for the right reasons, I think sometimes I'm just trying not to look stupid in front of the group. I certainly don't learn well in those situations, I sit there in fear of being asked a question that I don't know, and then I don't hear what anyone else is talking about.”

—P011
Several residents shared similar reactions to these rounds, which they attributed to their fear of not knowing the answers to questions. They discussed related experiences of being preoccupied with their concern of being ‘fired questions’ rather than effectively participating in an educational discussion.

The expectation of being ‘all knowing’ was also referred to by other participants as a ‘pressure’ to know the answers even in circumstances when they did not. In these situations, they would draw on pieces of knowledge they did have in order to construct some answer to show their staff they were at the very least thinking about possible answers.

4.4.2 ‘Quick’

The trainees also perceived an expectation of being ‘quick’ in making decisions and drawing conclusions, and in completing work such as rounding on patients. They recognized that being quick would allow them to be more efficient, but not necessarily lead to better decisions than if they had spent more time analyzing all the facts available to them.

“...quick decision-making is valued, not because it leads to a better decision, but because it’s necessary to get through the day.”

–P012
Several participants explained that being quick was a matter of efficiency. Within the context of their busy schedules, value was placed on completing all their work and seeing all their patients.

In their discussions, the value of being ‘quick’ was something they learned from observations of their staff surgeons and suggested that being ‘slow’ may lead to a negative reputation.

“It always makes you look better to be quick. Again, it’s like something that gives you a reputation. And I noticed it even upstairs…with the O.R. nurses. They sort of know which surgeon is going to be able to finish their list on time and which surgeon is going to take twice the time that they’re supposed to take to do a procedure. They know at the beginning of the day which room is going to be late. So, you don’t want to be known as the guy who takes four hours to do a procedure. It definitely factors into things.”

–P005

Likewise, other participants explained that completing cases quickly made the staff surgeon appear more positively in front of nurses, which was an expectation they wanted to achieve. Trainees also acknowledged they must exercise mindfulness while being quick, which may be difficult in circumstances where they had to perform and display their abilities to others as discussed by the following participant:
“Well, you’re supposed to be quick, but at the same time you should be mindful of what you’re doing. Which is usually the case, but I think when you get nervous that mindfulness just goes away very easily, for you to show off that you’re quick.”

–P008

Some trainees shared that while they tried to be mindful when operating, they experienced moments when displaying mindfulness and meeting the perceived expectation of being quick were at odds with one another.

4.4.3 ‘Decisive’

Participants described an expectation of being ‘decisive’, particularly in a specialty where they believed decisions were not always ‘black or white’.

“I think most people...come into surgery feeling like they have to be decisive... I think that can be intimidating for people around them but you feel like you have to meet the same expectations.”

–P011

There was a prevailing view that clear plans must be selected when trainees encounter a problem instead of appearing hesitant. They acknowledged that while this may not reflect the optimal plan, they felt a pressure to present a decision.
“I try to be as decisive as possible because I found that…the worst thing would be a [resident] that just can’t make a decision.”

–P005

Many participants suggested that residents whom did not exhibit a certain level of decisiveness were more likely to falter in the training program. One participant explained that this expectation was considered a ‘pressure’ because some surgical decisions, such as inadvertently cutting or removing the wrong structure, were permanent as follows:

“Obviously, you do have to be decisive in many situations in surgery. Once you’ve made a decision, you have to live with it.”

–P009

The participants noted that once a decision was pursued in surgery, it was sometimes difficult to reverse it. As the next section will show, portraying confidence when communicating decisions supported the impression of decisiveness.

4.4.4 ‘Confident’

The final expectation trainees felt they must meet was presenting themselves in a confident way. For example, the participants perceived they must appear confident while presenting patient progress during rounds or answering questions posed by their staff. Some participants suggested that a resident who was tentative may not be received well by others.
“When you see someone who is not really sure, you don’t want to listen to them anymore...that’s probably the biggest problem about not being confident in surgery, is because people don’t take you as seriously if you’re not confident...”

–P007

Several participants discussed that although a trainee may not know what to do in a circumstance, it was possible to portray a certain level of understanding and confidence regarding the issue.

“I think a lot of residents can be good actors... Again, it sounds bad to say but I think in all of us, in any workplace, people will give that impression, confidence equals success, and I think that's...a lot in surgery, too.”

–P015

This participant stated that presenting themselves in a confident way whether or not they felt confident internally was an expectation that needed to be met to be ‘successful’.

Another participant explained that it was difficult to display confidence within residency because different individuals hold different expectations and ways of doing things.

“I think that part of the reason why I present things with lack of confidence is because in residency, there are lots of different people who have different expectations, and everybody does things differently and they think that their way is exactly the right way to do it. I've been in situations where I finally say, I'm going to be confident this time, I'm going to do it, like, I operate the way I did it
the last time with a different surgeon, and then it will backfire. Someone will be like, no, just slow down, they like to take you through it and they would never do it that way because nobody does it that way. It's hard because you think, well, actually they do, so it constantly makes you feel unsure of yourself.”

–P011

This participant suggested that it was difficult to meet the expectations of displaying confidence when there were differing ways to practice surgery. Nonetheless, the participants described that displaying confidence as a trainee was a perceived expectation that should be met.

Thus, being ‘all-knowing’, ‘quick’, ‘decisive’, and ‘confident’ were the expectations that participants felt had influenced their impression management choices.

4.5 Gap between Perceived Expectations and Experiences

Trainees reflected on situations where they sensed they did not meet expectations (Figure 2). They described that these moments resulted from a lack of clinical knowledge, oversight while managing patients, miscommunication between themselves and their seniors, and poor technical or non-technical skills such as judgment and decision making.
The participants explained that when they sensed their abilities fell below what others expected of them, they felt inadequate as though they were letting themselves or their staff down.

“I always want to please people and I want to always do everything right. And so, when you don’t please somebody, which you can’t always do…or if you do something wrong you know it’s disastrous and I automatically always think, oh they hate me or they think I’m dumb, and then you think worse of yourself.”

–P017

In addition to these feelings of inadequacy, participants also described internalizing negative feedback, such as learning they were not meeting expectations, as a sense of failure. One participant described a similar feeling:

“I think the first instinct for a resident when they get negative feedback is to get their back up against the wall and kind of put up a shield and not really believe what they’re being told. I think that’s a huge defense mechanism”

–P019

Other residents also shared similar feelings when they felt they did not meet their perceived expectations:

“You asked what the typical surgeon should be and I guess maybe I didn’t say it, but implicit in that is that you should be invincible. Maybe that’s too strong of a word but you should be not weak, not unsure, not unconfident. The pressure is
that you’re going to be the opposite of all those things. That you should always know, that you should always be confident, that you should always have the answer. And I don’t know where that comes from, but that’s definitely I think the way you feel you should ultimately be. And I think when you aren’t all of those things, or when people point out that you aren’t all of the things, or it’s brought to your attention...then it’s a source of stress.”

When a gap existed between a perceived expectation and their sense of reality the participants described feeling stress and concern. These concerns led the trainees to utilize impression management strategies as discussed in the following section.

### 4.6 Impression Management Strategies

When trainees in this study felt they were not meeting expectations, they described using certain impression management strategies including fabricating stories, remaining silent, and avoiding the need to call for help, in order to reconcile the gap between their experience and perceived expectations (Figure 2). It seemed as though their primary purpose of managing their impression was to appear as if they were meeting their expectations, even in circumstances where they were not.

The sections that follow provide examples of the types of management strategies employed by trainees in the process of trying to meet the perceived expectations of their supervisors.
4.6.1 Fabricating stories

Participants explained that they were asked questions on a daily basis by their seniors regarding their opinions on the management of patients, specific information about patient test results, or more generally, on the status of their work. Some trainees discussed feeling ‘stressed’ or ‘pressured’ if they were not ‘all knowing’ about their patient or were not ‘quick’ enough to finish their work. This ‘stress’ and ‘pressure’ was described as being associated with how they felt about themselves and how others would perceive them. The participants suggested that in some circumstances their associated anxieties “change[d] [their] decision making...sometimes in a bad way” (P011).

Residents confessed to producing inaccurate stories about patients in circumstances where they did not feel they were meeting expectations. They also described having witnessed the same fabrication by their peers. For example, one senior resident discussed situations where their staff asked them specific questions about patient results, which they did not know:

“I'm sure I've done it and I've seen people do it, where you feel like it's so important that you know the answer to something, that you might guess or make it up... If someone says, what's the potassium on that patient, and you...make it up...”

–P011
Another senior resident reflected on his recent experience with a junior resident,

“Thinking back on my last rotation, there was definitely one person that worked really hard, was very outgoing and everything and you could tell that he knew a lot. But when he didn’t know something, he would appear like he knew it and there was big holes in his story…”

–P019

Residents acknowledged that displaying confidence could mask a lack of knowledge. Similarly, residents shared catching their peers being dishonest about certain details:

“Results, things like that. Or that they did a physical exam and in fact, it was incorrect because there's no way they could have missed that if they did it properly, like doing a digital rectal exam, if there's cancer there, you'll know it.”

–P015

By fabricating information, participants felt they were convincing the staff into thinking they were meeting the expectation of being ‘all knowing’.

“It feels like the staff have this expectation that you should know everything about the patient and as residents, we feel like we want to please them all the time and not not know something. So, it’s almost better to say that we know it and then just check later. But I think it is the expectation, that we have to be perfect and on top of things all the time.”

–P013
Other residents shared their ‘temptations’ in making up false information in order to avoid saying ‘I don’t know’. According to their account, dishonesty could falsely reassure staff that did not verify results and this could potentially lead to the mismanagement of patients. Alternatively, participants described that if the staff did check the results and discovered inconsistencies, they felt that staff might consider them an ‘idiot’, which threatened their impression as a resident. Some participants shared that although they were tempted to make up test results in the past, they felt it was more important to admit their shortcomings.

“I think you’d still let them down, you’d still fail to meet their expectations, but it’s better to do that than to make something up. Although certainly there’s the temptation every time, and every time you have to say, no, it’s better to admit.”

–P012

Other participants similarly shared that admitting they ‘don’t know’ may let more than a handful of their staff down, as they assumed very few would appreciate such a response. One participant suggested that trainees may “just [give] an answer because they don’t want to admit that they forget to do something” (P014). However, trainees recognized that being “caught in a lie” (P015) could cause others to lose confidence in them and change the interactions between them. Several participants explained that without trust, their surgical colleagues would be less likely to entrust the individual with further roles and responsibilities.
Another participant discussed misusing information to strengthen the decisions they made regarding a patient’s diagnosis. This participant described one circumstance when they independently diagnosed a patient, which they had to verify with their staff by showing them that the patient’s test values and CT scans were concordant with their diagnosis. The participant explained that when they felt confident in their decision-making but did not meet certain checkpoints to confirm their diagnosis, they had at times pretended they had:

“...I have said that I spoke to the radiology resident on call, after I've looked at [a CT scan] and I've made the call, I'll be like, yeah, the radiology resident also said the same thing, when I hadn't spoken to them. I think it's because you want to sound right because basically you've made a decision and you're presenting evidence that backs up that decision, and so you want to corroborate a lot of it. So if you say, I spoke to this person and they also say it's this, then you feel like it makes the story kind of fit together better. Whether or not it actually does, I don't know, but definitely that was why I said, oh, and I spoke to the radiology resident and they also think it's this because I wanted more strength to what I was saying.”

–P018

This act of fabricating a story to support a decision was suggested to be for the purpose of appearances – to appear more confident and decisive about their decision. The participants described fabricating stories as an impression management tool to corroborate their decisions and establish an impression that they were meeting their perceived expectations.
4.6.2 Remaining Silent

The participants described another impression management strategy of avoiding asking questions, which they thought may help them project an impression of a resident who was meeting their perceived expectations. Not asking questions in an environment meant to be conducive to learning (i.e. during an operative procedure or rounds) was described as implicitly suggesting to the staff that the resident had the expected level of knowledge. Participants attributed their reluctance to ask questions to the fear of ‘looking dumb’ in front of their staff who completed their evaluations.

“It feels very different when the staff is in the room because there’s a performance element as a resident, because the person who’s going to be doing your evaluation is in the room. And, so some of the questions that I might ask if the staff was not there I’ll save and ask later when the staff is away, or try to look up myself later.”

–P012

The notion of not asking questions was discussed by the participants in different contexts. Some residents noted that if the staff surgeon was in the operating room, they might withhold their question until the staff left, asking another resident or a fellow instead. Other trainees described a similar approach while they were on-call alone at night, where they did not ask their staff questions relevant to patient management to avoid appearing as if they were not meeting their perceived expectations of being ‘all-knowing’ and ‘decisive’.
While the trainees noted their intentions of independently seeking an answer to their question later, they acknowledged that this could impair their learning in the moment. For example, a few participants suggested that an unanswered question, which addressed a salient part of an operation, hindered them from fully understanding the surgery.

“…you won’t ask the questions that you feel might make you look stupid. Often, I’ll find that if I don’t quite understand something, I’ll just make a mental note to come back to it later and try to learn about it later, instead of clarifying right on the spot, because you don’t want to admit that you don’t know exactly what is going on. And, then it’s just where your focus is, too, right? If your focus is predominated at making a good impression, then you’re not focusing on, what do I need to learn in this situation?”

–P012

Several participants similarly acknowledged that remaining silent in these circumstances impeded their learning, as they were preoccupied with the impression they were projecting to their staff. However, the participants highlighted that this was not a blanket statement for their interactions with all staff. They recognized that they were more comfortable asking questions in front of staff whom they considered ‘approachable’.

Some participants also suggested that the shifting roles of a resident also contributed to their desire to use this strategy. For example, they discussed that meeting the perceived expectations as a medical student meant completing all their assigned tasks, working hard
and showing enthusiasm. Thus, they believed asking questions was one way of demonstrating their curious and keen nature. However, as a junior resident, participants described that they felt more pressure to already know the answers to their questions as follows:

“...[O]nce you get to being a resident, then people expect you to actually know things...like there’s still lots of other things that contribute to being a good resident I guess. I don’t know. I felt like there’s been more of an expectation that I would now know more I guess. Which is kind of funny because what really is the difference between a medical student and a first year resident? It’s just a few weeks in time and yet now I felt like there was more of an expectation that I would know the answers to certain things. I kind of was more reluctant to ask questions because then I would point out the fact that I don’t know.”

–P016

Some senior residents also suggested that a role transition midway through their residency contributed to their perception that it was less appropriate to ask questions. These participants explained that this was possibly attributed to the idea that senior residents occupied less of a ‘student’ role and more of a ‘teacher’ role towards junior residents, as well as a ‘surgeon’ role.

“I think it's that dichotomy that in your senior years you are really the surgeon, and it's not okay for you to ask certain questions that you should know...You need
Evidently, both junior and senior residents similarly described their desire to withhold questions and remain silent to elicit an impression of meeting the perceived expectation of being ‘all-knowing’.

4.6.3 Avoiding the Need to Call for Help

The participants discussed feeling a gap between meeting perceived expectations of being ‘confident’ and ‘decisive’ and their experience when avoiding the need to call for help. The participants described that when on-call at night, they were instructed to call for help if they felt it was in the best interest of their patient. The participants shared that their decision to call a senior trainee or staff for help in the middle of the night depended on factors including the urgency of the situation, the time of night and the approachability of their supervising staff surgeon. Moreover, a few participants suggested that calling someone for help might be perceived as a sign of weakness by their staff, which they considered influenced their decision to call for help. One senior resident described this as follows:

“…some staff will be like, be a wall, you can call me at any time, but if you call me, it's a sign of weakness...but as a senior you want to show that you're independent, that you can make decisions, that you'll only call them if someone is really sick. So I think at that time I just wanted to be like, I feel like I can manage it, she's not that sick. When, I guess, I knew that she was sick, I just didn't think
that she was sick enough for me to call, and I didn't want to seem like I was weak, not able to handle it.”

–P018

Other participants shared similar circumstances where they perceived that their seniors would interpret a call for help as a sign of weakness and an admission that they were unable to manage the situation.

“...some of these Senior Residents can be dicks, you know? Like, calling me is a sign of weakness... Like, when you’re on-call as a Junior, you’re supposed to take care of things, but if you need help, you call the Senior first. So, calling me is a sign of weakness, you’re an idiot if you call me.”

–P009

Similarly, other participants described feeling that they had to meet the expectation of being ‘confident’ and ‘decisive’ when calling for help, leading to situations where they ruminated over their decisions:

“I know some people are very reluctant to call the staff, and in certain situations I would do this as well...you're worried about calling the staff because you're not 100% sure what's going on yet. So you sort of think, ah god, maybe I can sort this out on my own...you start ordering CT scans to rule out this problem or that
problem and involve other services…Then you realize it has been six hours of this patient not doing well and I haven't told my staff...”

–P011

To meet the expectation of being a ‘confident’ and ‘decisive’ surgical resident, the trainees explained they sometimes spent an unnecessary amount of time reviewing their patient’s charts to validate their decision to call. Other participants noted they did so in case their staff posed a ‘random question’ whose answer they assumed they were ‘expected to know’. A few participants discussed their fear was caused by the possibility of ‘getting pimped’ which was described as a version of the Socratic method where medical trainees are asked serial questions.

“I think with certain staff it was very stressful, you wanted to make sure that you had every piece of information because you could get pimped on whatever, so that was the stressful part. ”

–P015

The participants accounts suggested that they may ruminate over decisions to call for help in order to appear as if they are meeting their perceived expectations as an ‘all-knowing’, ‘decisive’, and ‘confident’ trainee.
4.7 Trainees’ Perceived Motivation for Impression Management: To Avoid Being Branded

According to the participants, one of the well-known adages in the residency program was ‘fake it ‘til you make it’. ‘Faking it’ was perceived by trainees to improve the resident’s impression. The participants described that their underlying motivation for impression management was to build a positive reputation in order to avoid being ‘branded’ with a negative one (Figure 2) as noted by the following trainee:

“I know for a fact, in this program, if they branded you an idiot...you’re done.”

–P009

The participants perceived that their reputations impacted their learning opportunities, evaluations, as well as future fellowship and career prospects. The trainees suggested that since the general surgery community at the studied institution was considered small relative to other specialty programs, their reputations would possibly affect both their current and future rotations within the program.

“...[General surgery] is a small community. I think that absolutely, negative or positive, your reputation does precede you...Absolutely everything follows you from one place to another, and it's crazy.”

–P015
The participants described being concerned about their reputation due to the tight-knit surgical community. These concerns were noted as an added pressure for trainees to always assume their best performance.

One senior resident, who self-identified based on his evaluations as a ‘superstar’ resident, reflected on his experience with impression management when entering the training program as a junior resident:

“...I’m pretty easy going for the most part, from personality perspective, and at the same time I have a great attention to detail. But I think if you come across as very easy going in a surgical program, especially in Toronto, that you might be looked upon as being lazy. One of my staff, an early rotation, told me that, you’re from [Location excluded], for example, people in Toronto might look upon you as being like [a laid back] mentality and that won’t fly here. He said that in Toronto, they’ll eat that up. He’s like, don’t change your personality, but at the same time make people know that you’re on the ball at all times, even if you are on the inside, you have to show people that on the outside...”

–P019

From this experience, the trainee stated that even though he felt confident in his abilities, he had to explicitly show others that he was a capable resident.

Several participants also explained their reputations were constructed early on in their training from the product of their individual competencies and ‘luck’ during cases.
“I think part of it is skill. And some part of it is luck. So if you’re working with a new team and the first couple of patients happen to go well, then you’re golden. But if your first couple of patients do badly and you get some terrible complications, even if they just happens to be a flu complication, you’re like a label.”

–P005

Other residents shared similar concerns that people would form opinions about them at the beginning of their training if they caused a significant complication or they were involved in a patient’s bad outcome. The participants also suggested that negative opinions would be difficult to restore as mentioned by the following trainee:

“...you don’t want to be known as the guy who causes the bleeding or the guy who dings the bile duct or the guy who can’t do the GJ properly. So, definitely you have a reputation that you want to try and avoid. I think once you develop a reputation, that’s very hard to get rid of it.”

–P005

Regardless of the factors contributing to their reputation, the participants discussed that being branded negatively was an aspect that trainees wanted to avoid in all circumstances.
Moreover, the trainees also explained that a ‘bad reputation’ was considered to be more difficult to salvage than a ‘good reputation’ was to ruin. The participants who were labeled as the ‘struggling resident’ found it particularly difficult to rebuild their confidence when they felt that others were ‘gossiping’ about them. To avoid being labeled as an outlier, residents described trying to conform to the ‘core surgical body’ that functioned as the surgical community expected.

“There are certain people in the program that seem to struggle all the way along and I think partially because their reputation precedes them. Then they have to sort of try and dispel these beliefs that others have of them and usually in the amount of time we have in each rotation they sort of don’t manage to do that. I would think that probably it’s not actually that they’re that bad and that they can’t change. I think it’s a little bit that everybody’s low expectations of them gets to them or prevents them from becoming better. You don’t want to be [the black sheep of family kind of thing]. You want try and avoid that somehow.”

–P016

Other residents discussed concerns about being the ‘black sheep’ or doing something that hurt their impression. For example, the participants shared that when they made a mistake, experienced an oversight while managing a patient, or did not respond appropriately to a staff’s question, these particular scenarios would ‘never leave them’. The trainees explained that the accumulation of a few of these scenarios especially early
on would cause their staff to develop a reputation of them quickly, which they wanted to avoid.

4.8 Implications of Being Branded

The residents shared their experiences with managing their impression during training to fulfill their perceived expectations. Engaging in impression management strategies was suggested to potentially lead to negative consequences for the trainees’ evaluations, learning opportunities, decision making, and resident wellness (Figure 2). The following sections outline some of the perceived effects of impression management as described by surgical trainees.

4.8.1 Evaluations and Learning Opportunities

The participants described the impact that being branded negatively had on their evaluations, as well as the learning opportunities that were granted to them. Trainees perceived that their impression influenced the assessments made by their staff surgeons. Many expressed that they were trying to convey an impression of a ‘competent resident’ to their staff who were evaluating them. Participants noted that since they were being evaluated on their performance, they employed impression management strategies discussed earlier. For example, several trainees shared that they withheld questions and concerns about a procedure until the staff left the operating room. Other trainees discussed that they would avoid voluntarily performing tasks in the operative field until they were asked to do so by the staff, which otherwise they may have done if the staff was absent. By engaging in these techniques, residents shared that they felt they would
appear as though they were meeting their perceived expectations, which they believed would result in more positive evaluations.

The participants also shared they believed that their staff’s perception of them influenced the learning opportunities they were granted. The participants suggested that by establishing a positive reputation, they would be afforded greater patient care responsibilities on the wards, as well as more freedom to learn and practice technical skills in the operating room.

“…[O]ur training is largely based on how our staff perceive us…If a staff perceives a resident as good and meeting the expectations and doing well, they’ll teach them more, and they’ll get to do more. So, you could go through residency and your assessments may be okay, but if staff aren’t seeing you as good enough to be further trained, you may miss out on a lot of training. So, you want to appear good to the staff, not only to get a good evaluation but also so that they’ll teach you more…and then you’ll graduate knowing how to do more.”

-P012

As suggested above, the trainees perceived that if the staff considered a resident as meeting expectations, they may offer more learning opportunities that will improve their skills set. A senior resident shared a time when he was choosing whom to allow into an interesting case, he selected an individual who fulfilled a certain impression:

“I’m guilty of this. I had a good case [I thought would be nice for a Junior to see]. I had two Juniors to pick from. I called the one I liked more. One was on-call and I
didn't even call the one on-call, I called someone else. One I feel is a much more surgical person, loves to operate, is hardcore, works hard...not calling you for everything...that's my point...the people who are bad will stay bad…”

– P009

This participant stated that performing a case was less effortful when the better resident was selected – a strategy that others suggested was used when both senior residents and staff surgeons selected trainees to assist in the operating room.

Some participants shared that the possibility of gaining additional learning opportunities based on one’s impression and ability to meet perceived expectations may led trainees to project confidence about a case despite the fact that they had limited or no previous training in the respective area.

“Image is everything again, portraying confidence, we'll let you do more, even if you don't have the skills to do it...If they don't look confident or they say stuff like, oh, I haven't done a lot of cases, they know that you haven't done a lot of... but if you vocalise and say that you haven't, or you look very tentative again, they won't give you stuff to do...I think a lot of residents can be good actors, just in that sense.”

– P015

Some participants shared stories of their peers who had falsely told their staff that they previously observed or participated in a specific operation so they would be allowed to
operate. These participants also suggested that since the supervising surgeon might be so
distracted by performing the actual case it was easier to get away with the fabrication.
However, the participants perceived that if the staff became aware of a resident’s lack of
abilities or poor reputation, the ‘struggling’ resident might miss out on certain learning
opportunities. Instead, the participants suggested that these trainees might be given
tedious, less desirable tasks such as completing discharge summaries for patients or
suctioning in a procedure.

“Maybe [a resident] just made some bad decisions or they don’t really know what
they’re talking about a few times. And then, the staff, you kind of develop that
reputation...they might make you repeat a year. But I don’t think that more of the
same is good for these Residents...what they really should be doing is mentoring
them through a separate stream, giving them extra targeted help... But it’s not,
they get more of the same...and they’re just set up for failure afterwards...they
put them on bad rotations...get pushed off to the side, rather than actually
helped...If you have the opposite, if they think you’re good, then you obviously
have more room to make mistakes...”

–P009

The senior resident in the previous quote stated that they had been in a position where a
staff surgeon did not want to operate with a ‘weaker’ trainee. Other participants discussed
similar situations as well.
“When I was [the Chief Resident] at another hospital...there was one of these Residents who are weaker, whether it’s decision-making...or maybe she just made some bad decisions...I didn’t think she was that bad. But then, staff would say, don’t send her to my room...I said, well, okay. I mean, it depends, if I have no other Residents, you either have no Resident, or you have her, I’m sorry. You still have to treat her like a Resident on the surface.”

–P009

Another participant suggested if the ‘weaker’ trainee did gain access to the operating room, their learning opportunities may be taken away during the procedure.

“I think that when the staff know that they’re getting a resident who’s kind of bad...like if they have a difficult case, they’ll plan to have another staff come in and assist them because they know that this resident can’t assist them effectively...if they have another staff operating with them, that resident has even less opportunity to actually learn how to operate.”

–P016

The participants noted that if the staff surgeon did not trust the resident to assist or independently operate well, they would offer them fewer responsibilities instead of teaching them to do the case. The trainees also noted that very few of their staff would take the challenge to teach struggling residents because it was considered more effortful and less efficient in terms of completing their daily surgery list. Some participants also
perceived that this situation set up a vicious cycle where trainees who need more learning opportunities to improve their skills were not given them, and in turn “got worse” as described by the following:

“It’s like a vicious cycle. That’s why you never want to become one of those people...People get it into their heads and then, instead of helping the situation they make it worse by not giving you opportunities any more. And then, you just become worse and the cycle gets worse. Oh, she’s never in my O.R., why isn’t she in my O.R.? Well, she’s never in your O.R. because someone else is telling her to discharge summaries in the ward...it’s all a vicious cycle. You don’t complain about doing discharge summaries...that you’re only doing suctioning and cutting in the O.R. and that no one is teaching you...You don’t complain that when you ask questions they yell back at you. You’re just trying to survive and conform to this body without being an outlier. Another reputation you could have is...the person who just asks so many questions...A student or Resident is trying to learn and I’ve had Staff complain...she’s so annoying, she asks so many questions. Well, maybe that’s his interpretation of what she’s doing, but maybe it’s because he sucks at teaching and no one’s challenged him before...There’s two sides to every story, right. You’re damned if you do and damned if you don’t.”

–P017

With the completion of the training program, the trainees described that they wanted to take advantage of a certain number of learning opportunities in order to develop their surgical competencies and confidence to operate in the near future as an independent
surgeon. However, they perceived that due to the ‘viscous cycle’ described above, trainees labelled as the ‘struggling resident’ who required more attention and help may not be trained in the same way as residents who were branded as ‘superstar residents’.

4.8.2 Resident Wellness

Several participants suggested that the pressure to manage their impression during training had implications for their wellness. Some trainees described that the anxiety they experienced resulted from being judged based on whether or not they met their perceived expectations. Other participants stated that prior to entering the program, they did not anticipate the pressure of managing their impression would impact them as much as it had. Both self-identified ‘struggling’ and ‘superstar’ residents discussed similar impacts on their wellness.

“I’ve only been in residency three months now, but how much time over the last three months I’ve spent thinking about these social pressures, and worrying about these social pressures, and trying to adapt to, but also preserve, the elements of myself that I want to keep. And, then how much that extra strain wears on you at the end of the day.”

–P012

Other participants similarly voiced that preserving and negotiating their ‘true’ impression, which may conflict with their perceived, expected impression of an ‘all-knowing’, ‘quick’, ‘decisive’, and ‘confident’ trainee could be taxing. Some participants
shared that the anxiety associated with being judged by their staff surgeon sometimes manifested as a tremor for them while operating.

“I don’t normally have a problem with a tremor, but occasionally, if you are feeling like the person that you are working [with] maybe tends to have a short temper and really wants things to be a perfect way...and the person is leaning over you watching you so closely, then for sure you’re going to be more anxious and I think you start thinking about everything you’re doing. It’s like the golf swing where you’re thinking so hard about everything that you’re making mistakes that you wouldn’t normally make. So I, for sure, feel more anxious.”

–P014

Another trainee suggested that anxieties associated with the perception of being judged may interfere with their decision making processes:

“I think if you’re paralyzed by that anxiety, then you’re definitely not going make the right decisions or the most effective decisions.”

–P019

These participants shared that although it was unclear whether or not their staff was judging them, the possibility that they were being closely analyzed and silently criticized was a source of concern that hindered them from performing at their potential in the operating room.
“Yeah, [I] constantly [think about what others think of me]. I always worry about that...I'm not either on the same level or that they see me as just behind in terms of my skills, I think that's everybody's concern...it would be a vicious cycle, so the more that I would feel self-conscious about it, I may have lacked confidence...Then by lacking confidence, I would do less and be more tentative, and then the cycle kind of repeats itself...It was horrible, I would be stressed out, I would be anticipating going into an O.R. and, especially with certain staff, engaging in that fear, that self-perpetuating kind of cycle...and in fact I did not perform well in those O.R.'s that I was more stressed out...”

–P015

This participant suggested that their concerns about how they were perceived by their supervising staff made them self-conscious and induced anxieties that sometimes impaired their performance.

### 4.8.3 Decision Making for Patient Care

The participants suggested that engaging in impression management strategies to demonstrate to their staff that they were meeting their perceived expectation might interfere with their ability to make sound decisions for patients. One trainee described their experience with impression management as follows:

“...it’s just this constant drive to perform. You almost feel like the actual decision-making process and patient care gets lost in this feeling of, I need to be
performing and meeting the expectations... And, there’s the dual identity of being a physician looking after a patient, and a resident responsible to his staff. And, the resident responsible to the staff job tends to far overshadow the doctor being to the patient. At the end of the day I’ll go home, and I’m almost embarrassed to admit this, but a good day is when I feel like I’ve made a good impression on the staff. As opposed to, I did something positive for a patient...”

–P012

This participant described the tension they experienced while they assumed a dual identity in which their perceived role as a trainee who was concerned about managing their impression may conflict with their perceived role as a physician who was concerned about managing their patient. The tension described resonated with other participants in the study as well. One participant shared their experiences where this tension manifested in ways that negatively impacted patient care as follows:

“You’re always being evaluated...I was doing a kidney transplant with a fellow, he was guiding me...then the staff showed up outside the operating room, and I can see the fellow getting completely nervous and telling me “go faster”, when beforehand we were going at a normal, sort of, slow pace...to the point that we ended up putting the kidney upside down.”

–P008

The struggle described between managing one’s impression and managing one’s patient was suggested here as affecting the trainee’s surgical performance. Similarly, several
participants discussed that they had witnessed or been involved in a situation where a trainee’s engagement with impression management practices had the potential to impact patient safety. One participant describes their experience as follows:

“I remember, there was one guy who was like, this guy was otherwise healthy, blah, blah, blah, and I actually said, okay, fine. I even told the staff, this guy is otherwise healthy...the procedure...was something that could have been done or could not have been done...We were in the O.R. already and they told me the story, and it all sounded fine, and I said, okay, fine, let’s just book him, whatever. So, I told the staff, the staff was there, we just booked him. I was going to go down and bring him up to the O.R., and the guy was paralyzed. He had a stroke. He wasn’t otherwise healthy, he was completely fricken paralyzed in half of his body. I was like, did you even examine this patient?”

–P009

In this particular situation, the senior trainee described that they accepted and trusted the junior resident’s opinion because of the confident impression the junior resident projected. The participants suggested that their concern about performing in front of their staff may present consequences for patient care.
Chapter 5
Discussion

5.1 Overview

This chapter relates the study findings to broader issues regarding surgical training and practice in the existing literature. A discussion of both the theoretical and practical implications of the findings follow. The limitations of the study will also be explored.

5.2 Theoretical Implications

5.2.1 A language for raising awareness and understanding

By exploring general surgery residents’ experiences with impression management, this study introduced a language and model for understanding the pressures that are inherent in surgical training. Although the experiences shared were context specific for trainees from one academic institution, following the presentation of the findings at local and international conferences, several surgical residents across training centers in North America shared that the work gave them the words to understand a familiar everyday phenomenon. Also, conversations with participants several weeks or months after their interviews revealed that they were still eager to discuss their experiences further and shared that the language introduced by the study caused them to reflect differently on their practices. Further exploration of these experiences at other educational institutions and within other specialties would lend insight into the transferability of the findings.
The conceptual model that emerged from this study offered a way to understand the real-world experiences of how decisions are reached. It imparted trainees with a language that can help them understand, express, and shape their thoughts and experiences (Burke, 1969; Lingard & Haber, 1999). As discussed in the rhetorical theory, the purposeful use of language can lead to a change in attitude or action (Burke, 1969; Lingard et al., 2003). The language allows trainees to engage in meaningful reflections that will help them make sense of and negotiate the largely unspoken experiences encountered in training. The conceptual model may also raise the likelihood that a resident would be able to recognize the moments when they engage in impression management strategies. If trainees can become aware of engaging in impression management they could develop reflexive skills to allow them to question their motivations and implications for doing so. Making these experiences an explicit part of surgical trainees’ conversations during training can also drive the process of change into creating more mindful trainees. In fact, it has the possibility to shift the teaching from the implicit curriculum, where it is assumed that a resident will passively absorb this knowledge and expectations from observing others (Franzese & Stringer, 2007), to an explicit curriculum in which there is a deliberate effort to discuss the pressure to manage one’s impression. This has the potential to lead to significant improvements for the training curriculum, as well as faculty development so that staff can be more aware of how they might be contributing to the pressure trainees feel to conceal when they are not meeting perceived expectations.
5.2.2 Erving Goffman: Impression Management and Stigma

Erving Goffman’s (1959) work on impression management was used as a sensitizing concept in this study, which helped make sense of the behaviours described by residents. In his early work, Goffman described everyday social behaviours based on his concept of ‘dramaturgy’, the notion that a person is an actor in a theatrical play. During social interactions, the ‘actor’ performs a scene on a stage for their audience. A performance denotes “all the activity of an individual which occurs during a period marked by his continuous presence before a particular set of observers and which has some influence on the observers” (Goffman, 1959). An actor can participate in either a ‘front stage’ or ‘back stage’ performance. When an actor assumes a ‘front stage’ performance, they play a role based on a “set of abstract stereotyped expectations” for their audience by engaging in impression management (Goffman 1959). In contrast, when an actor is in a ‘back stage’ performance, they are not visible to an audience, which allows them to step out of character (Goffman, 1959). In this study, surgical residents were considered as ‘actors’ and the ‘front stage’ performance they played for their staff ‘audience’ was explored.

General surgery trainees described the perceived expectations they were trying to meet during their training. Five specific expectations emerged from their experiences including fulfilling the role of a trainee who was “all-knowing”, “quick”, “decisive”, and “confident”. When trainees were unable to perform these roles adequately in front of their staff audience, they used impression management strategies to act as if they were fulfilling them. The strategies described included fabricating stories, remaining silent, and avoiding the need to call for help. These strategies were used in order to avoid being
branded as the outlier or “black sheep” of the program. These labels were perceived to influence staffs’ evaluation of their trainees, as well as the learning opportunities that were offered to residents.

Participants used the term “branded as struggling” to describe residents who were performing unsatisfactorily in the training program. The residents who were “branded” negatively were described as demonstrating poor technical skills in the operating room, a lack of medical knowledge and/or an inability to make decisions about patient care. The exploration of “stigmatized” individuals by Goffman provides insights into the experiences of residents who deem themselves as outliers in the training program. In the ancient Greek times, the term “stigma” was used to refer to markings that were deliberately applied to an individual’s body in the form of a cut or burn to denote unacceptable moral or behavioural characteristics that deviated from predominant societal standards (Goffman, 1963). Due to the notion that stigmatized individuals were outside the norm, people would avoid associating with them. In today’s society, the term ‘stigma’ is used in its original sense as denoted by the Greeks. However, it is more aligned with the idea of a ‘disgraced’ person as opposed to a bodily marking. The way society categorizes stigmatized people parallels the way trainees are branded as a ‘struggling’ or ‘problem’ resident. Goffman suggested that a person who displays differences compared to the norm could experience the social consequence of rejection and isolation from others.
To avoid an unpleasant reaction from others, Goffman suggested that stigmatized individual may try to manage or mask their stigma. From the impression management strategy described, the strategy of “passing” was most relevant to the study findings. “Passing” refers to when a person manages information to partially or fully “pass” as a normal, allowing them to benefit from the rewards received by normals. A person can use certain control strategies to pass in a group such as “concealment” or “cover”, which involves hiding crucial information that may reveal the stigmata or minimizing the visibility of the stigma. For example, a woman with a short stature may wear high heels to appear taller or a blind person may provide direct eye contact when speaking.

The findings from this study aligned with the aforementioned information control strategies as residents who are branded as struggling (“stigmatized person”) may similarly try to “pass” as well-performing residents (“normal person”). For example, residents concealed their lack of medical knowledge by not asking questions or lack of patient information by making up results. Other ways that residents tried to pass as a trainee performing at the expected level was by avoiding calling for help as this could have revealed that they were struggling to make decisions independently. As Goffman (1963) suggested, “passing” as a normal by using informational control strategies was necessary to avoid threatening one’s impression. Thus, Goffman’s concepts of impression management and stigma developed from examining everyday social behaviours aligned with the behaviours trainees performed during their daily surgical training and practice.
5.2.3 Decision Making and Cognitive Capacity

The results demonstrated that surgical trainees were embedded within a powerful sociocultural context in which the use of impression management strategies had implications for decision making practices. An understanding of the manifestations of impression management may help expand any model of decision making.

The Naturalistic Decision Making (NDM) model was a recent approach that described the cognitive processes involved in making decisions. It focused on how individuals with some level of expertise in a domain made decisions in real world, naturalistic settings (Klein, 1999; Klein, 2008) particularly under circumstances of uncertainty, ambiguous information, and high stakes (Klein, Calderwood & Macgregor, 1989). This model was applied to experienced decision makers in various settings such as aviation, nuclear power plants, military and health care (Klein, 1999). Although the model typically described the cognitive processes involved, it acknowledged that sociocultural aspects contributed to decisions. Through the lens of the NDM in aviation, it was suggested that social factors contributed to decisions made by pilots (Orasanu & Martin, 1998). For example, peer pressure amongst pilots promoted more risky flying behaviours that might endanger others. Also, organizational factors that strived for productivity led pilots to land or take off despite ambiguous conditions in order to meet planned arrival or departure times, respectively (Orasanu & Martin, 1998) as flight delays may lead to passenger disappointment and social disapproval of the pilot (Paletz et al., 2009). This presented many parallels to the naturalistic surgical setting in this study where trainees felt the need to manifest certain attributes such as certainty and decisiveness in front of
others (Bosk, 1979; Cassell, 1991; Cassell, 1998; Goffman, 1959). Although acknowledged in the NDM model, sociocultural factors were far less studied than cognitive processes involved in naturalistic decision making (Klein, 1999; Klein, 2008). In fact, no prior research explored whether sociological processes of managing one’s impression influenced decisions, especially not in the surgical context. Thus, this study contributes to the NDM framework by taking into account that decisions are made within and influenced by sociocultural contexts.

The sociocultural factors that contributed to a trainees’ need to manage their impression may also influence the cognitive processes involved in naturalistic decision making. As our findings illustrated, a trainees’ need to manage their impression in front of their staff as a “quick” surgeon led to surgical mishaps such as placing a patient’s kidney upside down during a transplant operation. Likewise, a trainees’ preoccupation with whether or not they appeared “all-knowing” in front of their staff and peers during Morbidity and Mortality rounds prevented them from using their cognitive resources to listen and learn during these educational rounds. A resident’s anxiety around their impression was also suggested to lead to a tremor during a case or an inability to perform their patient care responsibilities well. As mentioned by a trainee, “I think if you’re paralyzed by that anxiety, then you’re definitely not going to make the right decisions or the most effective decisions” (P019). The overall findings suggested that the sociocultural processes of managing one’s impression to meet the perceived expectations may consume a trainee’s cognitive resources and thus, their attention capacity.
The cognitive capacity model of attention was introduced in the cognitive psychology literature (Kahneman, 1973). This model suggested that individuals have a limited amount of attention resources to invest towards cognitive activities and monitoring their environments. While an individual’s spare capacity can be allocated to complete additional tasks, this will diminish their available cognitive reserve and might lead to poorer performance on a given task. It was also suggested that an individual consumed additional resources while managing stressful and uncertain situations. These attention resources may be expended by an individual’s thoughts, feelings or emotions, thereby limiting cognitive reserves (Kahneman, 1973). The study findings suggest that the pressures and anxieties introduced by sociocultural factors interfered with the cognitive load available for other thoughts, monitoring processes, and execution of tasks (Moulton & Epstein, 2011; Jin et al., 2012). If one’s thoughts and emotions about impression management consumed their cognitive load, they may not gather and process information as well (Moulton & Epstein, 2011; Jin et al., 2012). This had implications for both decision making practices and learning.

With the understanding that sociocultural processes such as impression management may impact surgical decisions, the research findings extended Leung et al.’s (2012) recent framework of avowed, unavowed, and disavowed factors influencing surgical decisions. It was suggested that the largely unspoken “disavowed” factors, which were in the better interest of the surgeon rather than the patient, contributed to surgical decisions. While this study acknowledged that these factors existed, the current research explored the “disavowed” factor of impression management further in the context of surgical training.
The current study also lends greater understanding to how these disavowed factors could lead to patient harm.

5.2.4 Surgical Culture: The Hidden Curriculum, Professional Socialization and Professional Identity Construction

“Not all of what is taught during medical training is captured in course catalogs, class syllabi, lecture, notes and handouts, or the mountains of documents compiled during accreditation reviews. Indeed, a great deal of what is taught – and most of what is learned – in medical school takes place not within formal course offerings but within medicine’s “hidden curriculum.”

– Frederick Hafferty (1998)

The research findings fit into the larger discussions around the “hidden curriculum” which operates in educational settings. The hidden curriculum has been defined as “the set of influences that function at the level of organisational structure and culture including, for example, implicit rules to survive the institution such as customs, rituals, and taken for granted aspects” (Lempp & Seale, 2004). The hidden curriculum defines the tacit ways in which knowledge and behaviours are constructed outside of any formalized educational components such as course materials or scheduled lessons (Hafferty, 1998; Lempp & Seale, 2004). It also illustrates “medical education as a cultural process” (Hafferty, 1998).
The current study revealed that through the workings of the hidden curriculum, trainees learned implicit expectations from others that shaped their behaviours. Participants described picking up behavioural norms, attitudes and values from staff surgeons and more senior trainee role models. They also expressed feeling pressure to appear in the impression of their supervisors. The hidden curriculum may be influencing how trainees learn what is valued in the surgical culture, which shapes their overall decision making and learning practices (Jin et al., 2012). This opens up the question of the culture of surgical education and welcomes further inquire about the kind of expert the current curriculum trains to graduate.

The experiences of surgical residents suggested the need for a shift in the surgical culture. According to the participants, the perceived expectations were perpetuated by the surgical culture. Through the workings of the hidden curriculum, trainees were socialized to adopt values that may negatively impact both resident wellness and patient outcomes. A shift in the surgical culture may instead reflect valuing residents that recognize and proactively respond to their shortcomings by admitting when they are uncertain, indecisive, and unsure of how to manage their patients. This can result in trainees engaging in help-seeking and feedback-seeking practices more openly and consistently.

5.2.5 Training for an Expert

Bereiter and Scardamalia’s (1993) distinction between the ‘experienced non-expert’ and ‘true expert’ challenged us to revisit the expert that is created by the current surgical training. The ‘experienced non-experts’ in a particular domain referred to an individual who may have a considerable amount of experience, but performs at a lower level
relative to the ‘true expert’. During routine cases, they are able to superficially apply standard knowledge and theories to manage problems, but are unable to overcome novel or ambiguous situations that requires more creative solutions. In contrast, the ‘true expert’ engages in effortful practices where they are able to detect the nuances and complexities of situations and integrate them into their understanding of problems. The true expert intentionally participates in thoughtful reflections to engage with their environment. They also suggested that individuals could transition between the two types of expertise due to conditions of burn-out, discouragement, and self-satisfaction. These circumstances may lead to the use of less reflective-practices (Bereiter & Scardamalia, 1993). Based on the research findings, we suggest that further defining the ‘true expert’ as engaging in thoughtful reflections about the influences of their sociocultural environments is necessary. The educational process should train for a ‘true expert’ that recognizes and thoughtfully responds to the pressures to manage their impression in surgery. When considering the complex factors that influence clinical and operative decisions, they must question whether their actions are being shaped by their concerns and anxieties of managing their impression. For example, there is a need to train for individuals who ask questions that facilitate their learning despite their fear of being perceived as ‘stupid’ or unknowledgeable. These residents would push their own boundaries by recognizing their limitations and call for help as a means to grow as practitioners.

Understanding the effects of the surgical culture on decision making may lead to the training of more ‘mindful practitioners’. Mindful practice is a “conscious and intentional
attentiveness to the present situation – the raw sensations, thoughts, and emotions as well as the interpretations, judgments, and heuristics that one applies to a particular situation” (Epstein, Siegel & Silberman, 2008). It has been suggested that engaging in mindful practices can lead to improved personal well-being (Siegel 2007) and professional practice (Epstein, Siegel & Silberman, 2008). For example, an individual can participate in the habit of “attentive observations” where he or she considers details about their external and internal worlds (Moulton & Epstein, 2011). When a trainee considers their external world, they may consider the presence of their staff, the patient and/or the surgical field. When looking into oneself, they may be concerned with how they perceive and respond to their environment and emotions. For example, how does the pressure of meeting the expectation of an all-knowing and decisive trainee get in the way of asking questions or calling for help? Integrating mindful practices into one’s daily activities can lead trainees to have greater awareness of and ability to better modulate their emotions, thoughts and behaviours (Moulton & Epstein, 2011).

5.3 Practical Implications

5.3.1 Surgical Education: Assessment and Remediation Practices

The findings in this study indicated trainees perceived they were being informally assessed on expectations such as being all knowing, decisive, quick, and certain. These expectations were not included in any structured assessment component of the surgical training program. According to participants, meeting tacit expectations shaped the
training received. These findings lead to the question of how surgical educators and trainees perceive formal and informal assessments.

Currently, the Residency Training Program at the University of Toronto requires the completion of a set of mandatory and elective rotations. The formal evaluations include an annual Canadian Association of General Surgery In-Training Exam, which is a Canada-wide exam that ranks all residents according to their postgraduate year (PGY) level. Other exams specific to PGY level include the Objective Structured Assessment of Technical Skills, a technical skills exam taken by all PGY-1 residents, Principles of Surgery written exam for PGY-2 residents, Fundamentals of Laparoscopic Skills technical and written exam, and yearly practice oral exams for PGY-2 and higher residents. Other less formal evaluations include In-Training Evaluation Reports completed midway through a rotation in which trainees are evaluated based on proficiency in the following CanMEDS roles: Medical Expert, Communicator, Collaborator, Manager, Health Advocate, Scholar and Professional. According to one resident, “these almost never happen” (P014). Similar evaluations occur at the end of a rotation where feedback is given to residents in a discussion form: “…usually it's more just like you're doing well, keep reading around your cases etc. and they don't give us any real feedback on our technical or non-technical skills” (P014). Finally, less formal evaluations take place in the operating room.

Evidently, the tacit expectations discussed by trainees are not included in any formal evaluations. Rather they are more aligned with the norms, values, and behaviours that
trainees learn through the socialization process to achieve a desired professional identity. Some trainees relied on demonstrating these overarching expectations because the formal expectations outlined by the surgical program based on their level were elusive. For example, when a trainee was asked a question by their staff in the operating room, it was unclear whether they were suppose to know the answer or whether it was outside the scope of their expertise making it appropriate not to know. Thus, it may be necessary to offer more specific expectations for incidents encountered on a daily basis such as when to call for help. In addition, program directors should also consider that there may be variability between staff expectations. While it was suggested that some staff were comfortable with trainees calling for help in the middle of the night whenever they were indecisive, others did not want to receive a call unless it was absolutely necessary. Residents also suggested that they would be comfortable saying that do not know the answer to a question depending on their staff: “Oh yeah, less than a handful [appreciate “I don’t know” answers]. I think most of them will still make you feel badly for not knowing it, if you say I don’t know” (P012). This suggests that perhaps differences in staff expectations for their trainees needs to be considered and more consistency amongst supervising surgeons regarding expectations is necessary.

Moreover, labeling ‘struggling or problem residents’ highlighted the importance of understanding the use and effectiveness of remediation practices. The literature on remediation of residents seeks to identify the nature of their individualized problems and interventions used, and outlines suggestions for better remediation practices. Previous studies identified the nature of surgical resident’s problems by retrospectively reviewing
documents pertaining to their performance in their training institution (Bergen et al., 2000; Reamy & Harman, 2006; Resnick et al., 2006; Williams et al., 2009). Several broad problem areas were identified: academic performance problems; clinical or cognitive performance problems (e.g. judgment, decision-making, synthesis of information); professional behaviour problems (e.g. interpersonal issues, communication); attitudinal problems (e.g. lack of self-confidence, preparedness, participation, interest and dependability, and overconfidence and dishonesty); and personal problems (family, health, stress) (Bergen et al., 2000; Reamy & Harman, 2006; Williams et al., 2009; Wu et al., 2010). Other studies categorized the nature of the problems according to the six Accreditation Council for Graduate Medical Education competencies: patient care; medical knowledge; practice based learning and improvement; system based practice; professionalism; and interpersonal skills and communication (Yaghoubian et al., 2012). Based on their retrospective review of documents for remediated general surgery residents, Williams et al. (2009) suggested that residents often struggled with a combination of the aforementioned issues. Although it is important to identify these broader problem areas, the current study suggested that the culture of the training program could influence the performance of struggling residents. For example, a trainee’s technical performance suffered while their staff was present because they were concerned with how their staff perceived them. Thus, a comprehensive understanding of residents’ problems should include cultural aspects, which may suggest that his or her difficulty is either an outcome of and/or exacerbated by the pressures to perform in front of others.
The current study suggested that residents were branded early on in their training and those who were branded negatively encountered fewer learning opportunities. These findings suggest that it is important to identify resident difficulties early and accurately and provide them with more rather than fewer learning opportunities to develop their skills throughout their training. This recommendation aligns with other studies that suggested if struggling residents are not targeted early, it is more difficult to challenge their behaviour since it has been implicitly accepted for a long time without being questioned (Bergen et al., 2000; Paice, 2009). Previous studies illustrated that most performance problems were identified early on in the resident’s training during either PGY1 or PGY2 (Williams et al., 2009; Reamy & Harman, 2006; Resnick et al., 2006). However, it was often found that despite identifying resident problems early, they continued to show unresolved, chronic problems at the end of their training (Williams et al., 2009; Resnick et al., 2006). The interventions used were ineffective because they were not directly related to the individualized needs of the resident. Some strategies included additional observations, mentoring, encouragement, technical skills training, stress management, repeating part of a program, or changing rotations (Bergen et al., 2000; Torbeck & Canal, 2009; Williams et al., 2009). In certain cases, a trainee who displayed low academic performance was told to “read more” or they were paired with a faculty member who assigned weekly readings and quizzes. Both strategies had only temporary effectiveness. Other residents were simply told to “fix” clinical performance and professional behaviour problems independently (Williams et al., 2009). The current study findings aligned with previous work as residents felt they were given inadequate and unspecific guidance. One resident suggested, “We often tell residents to just work
harder or have more attention to detail, but not tell them concrete instances where they can improve” (P019).

The study by Wu et al. (2010) contrasted the difference between an effective evaluation system and a proactive remediation program. An effective evaluation system is one in which struggling residents are identified accurately and as early as possible. On the other hand, a proactive remediation program would both accurately identify a struggling resident early on and promptly address their difficulties by specifically highlighting their issues, strategies, resources, and future goals. Wu et al. (2010) proposed a comprehensive evaluation and remediation program in which residents are evaluated and receive timely, specific feedback for their performance. This remediation program involves addressing the resident’s and faculty’s perception of the issue, the role of personal factors (i.e. anxieties, family problems, etc.), the impact of the resident’s issue on other residents, faculty members and patient care, as well as the impact on the resident’s personal and professional growth. If a problem in the resident’s performance is identified through this approach, an intervention can be taken immediately. Regardless of the difficulty faced by the resident, it is necessary for remediation practices to occur both proactively and early on the training, which this current study suggested does not occur. For example, the participants of the current study suggested that rather than engaging with individuals who are struggling with a technical skill, they were not given the opportunity to attend cases to improve. The trainees perceived that some staff took over prematurely in the operating room instead of teaching and guiding them appropriately. While residents did acknowledge that patient safety took precedence over resident
education, they believed that other factors such as completing cases on time or lack of patience for teaching contributed to the lack of guidance and learning in the operating room.

5.3.2 Patient Safety

Recent public concerns over medical error resulted in patient safety initiatives to take priority on healthcare policy agendas (Ziv et al., 2000; Darzi & Mackay, 2001). To ensure patients receive quality of care, the training process must teach the skills, knowledge, attitudes and values that are necessary to make competent practitioners (Ziv et al., 2000).

Despite the efforts of surgical educators and licensing bodies to prevent surgical errors (Darzi & Mackay, 2001), this study suggested that the culture surrounding patient safety is not fully developed in surgical training and patient safety curricula is lacking. Participants described the tension they experienced while managing their impression in front of their staff and managing their responsibility to provide quality patient care. Many instances of residents facing this conflict were found in the data, which suggested that engaging with impression management may lead to maladaptive consequences for patient care. This finding was supported by previous literature that suggested medical students were more concerned about maintaining their credibility in front of their educators than their patients (Becker et al., 1961; Haas & Shaffir, 1987).
The experiences described in this study present an opportunity to reduce risks for patients through improved training practices. One suggestion includes having medical educators teach trainees by example about the management and disclosure of uncertainty and errors when they occur to promote a safety culture. The trainees described many instances when they were afraid of showing vulnerability through openness with their staff. This in itself perpetuates a culture of silence in medicine that can be overcome by instead promoting a culture where openness and honesty is valued.

5.4 Limitations

One of the perceived limitations of the study includes that the findings are not necessarily generalizable in the traditional sense to different training institutions and specialties. While this may be considered a limitation, it is more so an inherent characteristic of qualitative work. Qualitative research seeks to provide an in-depth exploration of peoples’ experience that may or may not reflect the experiences of individuals who are situated in different contexts. While the social and cultural context of participants in this study did inform their experiences, the method of member checking described earlier suggest that other surgical residents at different training institutions identified with the findings.

Another possible limitation was that some residents were perhaps not as candid about the experiences shared during their interviews. It is possible that these residents were managing their impression for the interviewer or they were uncomfortable sharing experiences where they participated in professional misconduct with the possibility of
causing patient harm. While probing questions were used to develop a better understanding of their experiences, the principle investigator respected participants’ decisions of how much information they chose to disclose.

Finally, further study exploring a second layer of analysis with the existing data would involve performing a higher level of abstraction of the data to build a theoretical framework of impression management that would contribute to the development of the “Slowing Down” framework.
Chapter 6
Conclusions

This study deepened our understanding about the influence of impression management on surgical trainees’ judgment and decision making. The perceived expectations residents felt they needed to meet in their training were described, as well as the impression management strategies used in circumstances where trainees were not meeting these expectations. Engaging in these strategies revealed implications for residents’ evaluations, learning opportunities, decision making practices, and wellness. These findings furthered the understanding of the sociocultural context that contributes to the multifaceted and complex nature of decision making. It also provided a language that allows for more explicit discussions about the impact of the surgical culture on trainee behaviours. Translation would include formal instruction of these concepts into the training curriculum, encouraging trainees to better recognize, reflect on and cope with the pressures to perform in front others.
Chapter 7
Future Directions

This study opens up many avenues for further exploration. One of the important considerations for this research is that the findings are context-dependent for the group of general surgery trainees at the urban, academic institution studied. This specific context had a unique culture that informed the participant’s experiences. The motivations and implications for impression management for trainees in other specialties and institutions may vary based on cultural differences. Therefore, explorations using similar methodologies as described in this study can be conducted across other specialties and training centers. These investigations may reveal contexts in which trainees do not experience the same degree of pressure to engage with impression management strategies. Understanding the workings of those cultures can help program directors, surgical educations and trainees learn about the type of shift in culture that is needed to encourage resident learning and wellness, and patient safety.

Another future direction may involve exploring the expectations staff surgeons believe their trainees should meet and the way these expectations are conveyed in daily practice. Since impression management is a relational process that involves a two-way interaction, it is important to also study the perspective of the staff surgeons because the trainees in this study suggested they are managing their impression for this audience. This may reveal discordance between the surgeons’ perceived expectation for their trainees versus those described by participants in this study.
The study would test the emergent conceptual model by taking an observational approach supplemented by brief on-site interviews with both trainees and staff surgeons consistent with social interactionism where Goffman was situated, which could highlight the social exchanges that heighten the need for the surgical trainee to engage in impression management practices. These observations would also provide an additional opportunity to explore the pressures general surgery trainees feel to perform and their influence on decision making as they occur in the natural setting in day-to-day interactions.

Another future study would involve a second layer of analysis with the existing data. This would involve performing a higher level of abstraction of the data to build a theoretical framework that would contribute to the development of the “Slowing Down” framework.
References


Appendix A: University of Toronto Ethics Approval

UNIVERSITY OF
TORONTO

OFFICE OF THE VICE PRESIDENT, RESEARCH

PROTOCOL REFERENCE # 27437

February 22, 2012

Dr. Carol-Anne Moulton
DEPT OF SURGERY
FACULTY OF MEDICINE

Ms. Priyanka Patel
DEPT OF SURGERY
FACULTY OF MEDICINE

Dear Dr. Moulton and Ms. Priyanka Patel,

Re: Administrative Approval of your research protocol entitled, “Pressures to ‘measure up’ in surgical culture: its effects on intra-operative judgment”

We are writing to advise you that the Office of Research Ethics (ORE) has granted administrative approval to the above-named research protocol. The level of approval is based on the following role(s) of the University of Toronto (University), as you have identified with your submission and administered under the terms and conditions of the affiliation agreement between the University and the associated TAHSN hospital:

- Graduate Student research - hospital-based only
- Storage or analysis of De-identified Personal Information (data)

This approval does not substitute for ethics approval, which has been obtained from your hospital Research Ethics Board (REB). Please note that you do not need to submit Annual Renewals, Study Completion Reports or Amendments to the ORE unless the involvement of the University changes so that ethics review is required. Please contact the ORE to determine whether a particular change to the University's involvement requires ethics review.

Best wishes for the successful completion of your research.

Yours sincerely,

Daniel Gyewu
REB Manager

OFFICE OF RESEARCH ETHICS
McMurrough Building, 12 Queen's Park Crescent West, 2nd Floor, Toronto, ON M5S 1S8 Canada
Tel: +1 416 946-3270 • Fax: +1 416 946-5760 • ethics.review@utoronto.ca • http://www.research.utoronto.ca/for-researchers/administration/ethics
Appendix B: University Health Network Approval

Date: September 3rd, 2013
To: Dr. Carol-Anne Moulton
   Rm 10EN-212A., 10th Floor, Eaton, Toronto General Hospital, 200 Elizabeth St.
   Toronto, Ontario
   Canada
   M5G 2C4

Re: 10-0539-AE
   Pressures to ‘Measure Up’ in Surgical Culture and the Effects on Intra-Operative Judgment

REB Review Type: Expedited
REB Initial Approval Date: September 10th, 2010
REB Annual Approval Date: September 10th, 2013
REB Expiry Date: September 10th, 2014

The UHN Research Ethics Board operates in compliance with the Tri-Council Policy Statement; ICH Guideline for Good Clinical Practice E6(R1); Ontario Personal Health Information Protection Act (2004); Part C Division 5 of the Food and Drug Regulations; Part 4 of the Natural Health Products Regulations and the Medical Devices Regulations of Health Canada. The approval and the views of the REB have been documented in writing.

Furthermore, members of the Research Ethics Board who are named as investigators in research studies do not participate in discussions related to, nor vote on such studies when they are presented to the REB.

Best wishes on the successful completion of your project.

Sincerely,

Christopher Zehr, MSc
Research Ethics Coordinator

For: Alan Barolet, MD PhD FRCP
Co-Chair, University Health Network Research Ethics Board
Appendix C: Participant Email Recruitment Script

Dear Dr. X,

My name is Priyanka Patel and I am currently completing my Master of Science degree at the University of Toronto under the supervisor of Dr. Carol-anne Moulton. This email is to invite you to participate in a study investigating surgical residents' perceptions and experiences of social pressures within the surgical community. If you agree to participate, please contact me by email to schedule a 60-minute interview at your convenience that will be conducted by myself, the principle investigator of the study. In this interview, you will be asked to consider your experiences with the pressures to perform in front of others that may influence your decision making practices. The purpose of this study is to explore the sociological influences on surgical judgment and decision making, which might help us better understand, articulate and reflect on surgical practices.

Thank you for your time,
Priyanka Patel
MSc Candidate, Institute of Medical Science
University of Toronto
Appendix D: Informed Consent Form

Surgical Trainee Information and Consent Form for a Research Study
Pressures to ‘measure up’ in surgical culture: it’s effects on surgical judgment
A Grounded Theory Qualitative Study

Principal Investigator: Priyanka Patel, BSc
Co-Investigators: Carol-anne Moulton MD, FRACS(Aust), MEd, PhD, Lucas Murnaghan MD, MEd, FRCS(C), Maria Athina Martimianakis MA, MEd, PhD, Simon Kitto PhD

You are being asked to take part in a research study. Before agreeing to participate in this study, it is important that you read and understand the following explanation of the proposed study procedures. The following information describes the purpose, requirement, and benefits associated with this study. It also describes our right to refuse to participate or withdraw from the study at any time. In order to decide whether you wish to participate in this research study, you should understand enough about its risks and benefits and be able to make an informed decision. Make sure all questions have been answered to your satisfaction before signing this document.

Background
Current approaches to studying and preventing medical and surgical error are focused on quality assurance and quality initiatives at the systems level, with less attention to individual psychosocial factors. In exploring the individual, the transitional process of ‘slowing down when you should’ has been described as a hallmark of expert surgical judgment. It is the authors’ view that social factors influence this transition in practice. The social pressures on surgeons to ‘perform’ the ideal-type surgical personality and its link to surgical judgment and decision making are the focus of this study. In this study, semi-structured interviews will be conducted to explore the social factors that influence the surgeon’s ability to make decisions in daily practice.

Methods
This is a qualitative research study where the principle investigator will conduct interviews with surgical trainees working within [urban, academic hospital]. All sessions will be audio taped and the data will then be transcribed. Using qualitative methods, the data will be analyzed for themes.

What is Required of You as a Participant in this Study?
One interview of approximately 60 minute will be requested from you. This session will be audio taped. The principle investigator will conduct the session. A brief introduction will provide a background on social pressures on the surgeon to ‘act’ in certain ways. The session will then explore your experience with this phenomenon.
Data
Publication will take place in the form of a manuscript and a presentation at an international meeting. You will be offered a summary of the results for your own interest.

Potential Benefit
Participants through this process may become more familiar with the impact of social pressures on surgeon judgment and reaction to uncertainty. A better awareness of social dynamics may lead to better management in the operating room.

Potential Harm
Beyond the period of time required to complete the survey, there may be socio-psychological risks associated with your participation in this study. Questions will have to do with your experience within the operating room, wards and rounds. It is important that you know that you do not have to answer any question you do not wish to answer, and that you can stop at any time.

Confidentiality
All information obtained during this study will be held in strict confidence. Audiotapes will be marked with the session’s coded numbers. All data linking surgeon’s identifying information will be stored in a locked cupboard (including the audiotapes and transcriptions). As data is entered and analyzed there will be no identifying features on the data. Quotations from the audiotapes will never reveal the identity of the surgeon. Data and transcriptions will be kept for a period of 5 years following publication of the results. Representatives of the University Health Network Research Ethics Board may look at the study records and at your personal health information to check that the information collected for the study is correct and to make sure the study followed proper laws and guidelines.

Participation
Your participation in this study is voluntary. You can choose not to participate or you may withdraw at any time without affecting your employment.

Compensation
There will be a compensation of $75 for your time in this study.

Questions
If you have any questions about the study, please call Priyanka Patel at: 289-218-6363
If you have any questions about your rights as a research participant or have concerns about this study call the University Health Network Research Ethics Board (REB) at 416-946-4438. The REB is a group of people who oversee the ethical conduct of research studies. These people are not part of the study team. Everything that you discuss will be kept confidential
Consent
This study has been explained to me and any questions I had have been answered. I know that I may leave the study at any time. I agree to take part in this study.

Print Study Participant’s Name  Signature  Date
(You will be given a signed copy of this consent form)
Appendix E: Semi-structured Interview Guide

Feel free to talk about issues you have thought about before or how it impacts either your behaviour. Examples! I would like to remind you that this interview is completely confidential, all names and identifying details will be removed from the transcript, and you will be referred to as a number from this point on. Please let me know if you would like to withdraw from the interview or study at any point.

**Introductory Questions**

1. What year of your residency are you in?
2. Where do you have responsibilities?
3. Where do you make decisions?

**Acting**

4. Is there a way you feel you are suppose to act?
5. When do you find yourself feeling the most pressure to act? (in the OR, QA rounds, wards?)
6. Who do you find yourself acting with the most? (Colleagues, trainees, fellows?)
7. When you are with other residents or staff, do you find yourself acting differently? Is the appearance of being competent different?
8. What types of behaviours do you avoid/perform?
9. Are there behaviours you that didn’t like surgeons did but find yourself doing after being immersed into the surgical environment? (how do you get socialized?)

**Impression and Reputation**

10. What is the ideal surgeon? Are there any characteristics of the ideal surgeon that you think people should or shouldn’t emulate?
11. Do you feel like there are certain aspects of your impression that are important to you and important to project to the outside world?
12. Do you think about what others are thinking of you? When? How does this affect you? What does this do to the expectations you have of yourself? Can you tell me a time when this has had an influence on the decisions you’ve made? Has it impacted your learning? Have you withheld questions?
13. Does reputation, ego, managing your impression fit into the QA meetings?
14. Where do you worry about making a fool of yourself? How do you avoid it? Do you avoid it?
15. How do you feel about your reputation? Where do you get it from/how do you develop it? Why does it stick so quickly? Can you get rid of it? Does it affect your decision-making?
16. What are the consequences of not fitting in?
17. How do you find out who is good and bad around you?
Uncertainty

18. Can you think of a time when you made a mistake? Bad outcome? What were some of the pressures you were feeling? Were you worried about what people were thinking?
19. Can you describe an incident when you felt uncertain when making a decision – whether in the OR, clinic, rounds? How did you feel? What did you do? Does it get in the way of your decisions at all? Do you call for help?
20. What’s going on in your mind when you see a resident (novice) show uncertainty? Is it different when the staff (expert) shows uncertainty?
21. How does it affect the expectation of yourself? Expectation others have of you?

Hierarchy

22. Have you been on call at night and you are debating calling for help?
23. Has there been a time when you have taken advice from someone or withheld giving advice from someone higher on the ladder just because of his or her position? Why? Was this to maintain their ego or was it for yourself? (ex. maintaining face, assuming he or she is correct)
24. How do the dynamics of the operating room change when you have a staff surgeon in the room and when he or she is absent? Do you find yourself doing anything differently?
25. How is your decision-making as a resident linked to hierarchy?

Calling for help

26. When do you call for help? What are you worried about when you call for help?
27. Are there certain people you would call over other? Juniors vs. seniors vs. staff? What’s the difference? Why?

Pressures

28. Do you feel like there is a pressure to be certain?
29. Other people have mentioned a pressure to be perfect. Do you think this is true? What should you be? What do you think you need to be?
30. Do you think the pressure to perform for juniors, seniors vs. staff are different? How? Why?
31. Where do these pressures come from?
32. What does it mean to be confident?

Final questions

33. Would you like to share any other related aspects that are important we haven’t discussed?
Helpful probes

- When you say [X], what do you mean?
- Can you describe that to me in more detail?
- Can you think of an example?
- Why not?
## Appendix F: Coding Framework

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<tr>
<th>Category</th>
<th>Codes</th>
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<td>Impression management</td>
<td>Building impression</td>
</tr>
<tr>
<td></td>
<td>Impression management</td>
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<tr>
<td></td>
<td>Managing your team or staff’s impression</td>
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<tr>
<td></td>
<td>Reputation</td>
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<td></td>
<td>Shelving it for later</td>
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<tr>
<td></td>
<td>Socialization</td>
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<tr>
<td>Identity</td>
<td>Confidence</td>
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<td></td>
<td>Ego</td>
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<td></td>
<td>Gender</td>
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<tr>
<td>Ideal resident</td>
<td>Ideal surgeon</td>
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<tr>
<td>Independence</td>
<td>Student identity</td>
</tr>
<tr>
<td>Surgeon identity</td>
<td>Struggling resident</td>
</tr>
<tr>
<td>Stereotype</td>
<td>Superstar resident</td>
</tr>
</tbody>
</table>

**Context**
- Community vs. academic hospital
- Operating room dynamics
- Surgical culture
- Quality assurance rounds

**Patients**
- Emotionally invested in patient
- Ultimate patient accountability or focused blame
- VIP patient

**Expectations**
- Expectations
- Experience
- Staff expectation of trainee
- Staff perception of trainee
- Trainee expectation of staff

**Miscellaneous**
- Blame
- Deviant regulation
- Differentiating surgeons
- Disavowed
- Gossip/grapevine
- Junior perspective
- Passing judgment
- Protecting seniors
- Rapport-relationship
- Resident perception of staff during uncertainty
- Trust