Psychological Debriefing of Workplace Trauma: 
A Case Study of the Toronto Transit Commission (TTC)

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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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2010

Abstract

Mental stress resulting from a traumatic event in the workplace has a noteworthy impact on employees. Psychological debriefing is offered to TTC employees as a means of immediate trauma support, however, the usefulness of the intervention is unknown. This thesis explores the debriefing intervention using a mixed methods approach. TTC employees who have experienced a traumatic event were recruited. Post Traumatic Stress Disorder (PTSD) symptom development and time lost from work were compared between debriefed and not debriefed employees. In addition, purposively selected employees were qualitatively interviewed. The quantitative analysis showed no significant differences in PTSD symptomatology or lost time from work between the groups. Despite these results, however, employees who were debriefed had an overall positive perception of the intervention. Further exploration in this area of study would be beneficial to not only the TTC, but to all workplaces at high risk of exposure to traumatic events.
Acknowledgments

I would like to express my sincere thanks and appreciation to my supervisor, Dr. Paul Links, for his insight, guidance and support over the past two years. I would like to thank the members of my program advisory committee, Dr. Carol Strike, and Dr. Cheryl Regehr for generously sharing their time, expertise, and words of encouragement. Thanks also to my thesis examination committee for their time and interest in my project.

In addition, my gratitude goes out to the many TTC employees and trauma counsellors who volunteered to participate in my project and share their stories with me.

A special thanks to Rahel Eynan, research coordinator extraordinaire, who I have turned to for assistance on many occasions and who has become a close friend. Thanks to Debbie Ezard and my friends at the Suicide Studies Unit for their support and for making my graduate experience enjoyable.

I would also like to thank my family and friends for their unwavering support and understanding, especially in the very busy last few months of thesis preparation.

Finally, I must acknowledge that this research would not have been possible without financial assistance from the Ontario Workplace Safety and Insurance Board (WSIB) in the form of a research grant, the University of Toronto Graduate Studies’ Stephen Godfrey Fellowship, the Institute of Medical Science at the University of Toronto’s Entrance Fellowship, the Ontario Graduate Scholarship (OGS), and the in-kind contributions made by the TTC. I express my gratitude to all these agencies.
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Chapter 1: Introduction

Mental stress resulting from a traumatic event in the workplace has a noteworthy impact on Toronto Transit Commission (TTC) employees. Based on information provided by the Workplace Safety and Insurance Board of Ontario (WSIB), the TTC has one of the greatest burdens of traumatic psychological claims of any employer in Ontario. Occupational Injury data from the TTC reports 633 incidents in the workplace resulting in mental stress, of which 160 resulted in time lost from work in 2007 alone. Injuries resulting in mental stress have increased 51% since 2002. Under the heading “TTC drivers in crisis,” the Toronto Star published a front-page article highlighting the psychological toll on TTC employees due to the high frequency and intensity of traumatic events experienced in the workplace (The Toronto Star, 2008). These traumatic events include physical assaults, threats from verbal to weapon related, witnessing/driving vehicles involved in suicides or fatal accidents, collecting body parts and cleaning the scene post incident, witnessing/being subject to street crime and observing vehicle collisions involving serious bodily injury. Individuals who experience one or more traumatic event(s) at the TTC may go on to suffer with Post Traumatic Stress Disorder (PTSD). The prevalence of PTSD has been found to be high in workers who are at risk of exposure to traumatic events and it therefore comes as no surprise that PTSD is the second leading cause of lost-time at the TTC. From 2000 to 2005, nearly 200 TTC bus, streetcar and subway operators were found to suffer from the disorder (The Toronto Star, 2008).

As a result, the Acute Psychological Trauma (APT) study aiming to better understand trauma in the workplace and develop and evaluate a “best practice intervention” at the TTC was
developed. It is a collaborative effort between the Suicide Studies Unit at St. Michael’s Hospital, the Centre for Addiction and Mental Health (CAMH), and the TTC. The study is a 3-year, 3-phase study funded by the WSIB. The Treatment as Usual (TAU) phase examined the current practice at the TTC following a traumatic event, investigating the facilitators and barriers for traumatized TTC employees to seek treatment and return to work. In the second stage, the Best Practice Intervention (BPI) will be developed involving education and training, screening and surveillance, selective specialty referral and return to work coordination. The final phase is the Evaluation Phase where the TAU and BPI groups will be compared and the intervention evaluated.

When a traumatic incident occurs at the TTC, the transit control station is informed and a supervisor is sent out to the scene of the incident. As a form of immediate trauma support, like many other high-risk workplaces, the TTC supervisor may provide the option of immediate psychological debriefing depending on the severity of the event. The intervention offered at the TTC is said to be loosely based on the Critical Incident Stress Debriefing (CISD) model (Mitchell, 1983), and is offered to employees immediately following a traumatic event with the intent of preventing further harm. If on-site debriefing is not offered, the supervisor must provide the employee with the Employee Family Assistance Program (EFAP) counselling phone number to call if the employee chooses. Research findings on the usefulness of psychological debriefing to date, however, have produced mixed results. Given that offering psychological debriefing to all employees affected by a traumatic event requires substantial time, money and personnel, it is in the best interest of the organization to determine whether debriefing is beneficial or at least not detrimental to the well-being and health of its employees. My thesis was conducted during the first phase of the APT study and focused specifically on the psychological debriefing
intervention, how it was practiced at the TTC and whether it played a role in recovery from a traumatic event. I evaluated the effectiveness of immediate psychological debriefing, clarified the types of support offered to traumatized employees and provided recommendations for the development of the Best Practice Intervention phase of the APT study.

**Research Questions**

Does psychological debriefing after a traumatic event play a role in the development of PTSD and/or total time lost from work? How does the employee’s perception of debriefing impact the recovery process?

**Objectives and Hypothesis**

In my thesis, I looked at the current practice and culture of psychological debriefing after a traumatic event at the TTC using a parallel mixed-methods approach. My objectives were to 1) examine the differences between those who received debriefing and those who did not in terms of PTSD symptom development and speed of recovery through quantitative data collection, and to 2) describe the employee’s perceptions of the usefulness of psychological debriefing after a traumatic event using qualitative data obtained through one-on-one interviews.

Whether or not psychological debriefing was offered was left to the discretion of the supervisor and acceptance of the intervention was on a voluntary basis. PTSD data was collected using the Modified PTSD Symptom Scale (MPSS) at 1 month, 3 months and 6 months after the traumatic incident and time lost from work was reported by the employee. A subgroup of
employees was selected for in-depth qualitative interviews to understand the perceived usefulness of debriefing and other factors that helped or hindered the recovery process.

My hypothesis is that employees who receive psychological debriefing after a traumatic event at the TTC will experience lowered PTSD symptomatology and less days lost from work as a result of the trauma when compared to employees who are not debriefed.

**Researcher Bias**

Researchers, especially qualitative researchers, are encouraged to conduct studies with an open-mind and with as few pre-conceived notions as possible (Johnson, 2003). It is important, therefore, to acknowledge my biases upfront so that readers are aware of them when considering the results of my study (Ahern, 1999).

Prior to the start of my thesis, I was unaware of the prevalence of traumatic events in the TTC, nor the significant impact of these traumatic events on the mental health of the employees. My only experience with TTC employees up until then was as a frequent passenger of the bus and subway systems. As a member of the general public I had pre-conceived notions about the difficulty and stress associated with being a TTC employee and would never have related trauma or PTSD with transit workers. Initially, I was only aware of the perspective of the customer and looked forward to gaining insight into the perspective of the TTC worker.

In terms of PTSD, I had previously never been exposed to anyone with the disorder, assuming it was something only military personnel experienced. I did not know how someone with the disorder would present or what impact psychological debriefing had on PTSD
symptoms. I had no reason to make assumptions, one way or the other, on the usefulness of psychological debriefing or on employee perceptions of the trauma counsellors themselves.

In the end, despite my experiences, I made every attempt to set aside any biases I may have had in order to ensure a sound and thorough research study.

Outline of Thesis

The above research questions and hypothesis are addressed in the following chapters. Chapter 2 presents a review of the literature on trauma, post-traumatic stress disorder (PTSD), and psychological debriefing. Chapter 3 then describes the mixed research methodology used involving both quantitative and qualitative data collection and analysis. Chapter 4 presents the quantitative findings comparing debriefed and not debriefed individuals in terms of PTSD and lost time from work. Chapter 5 is a narrative of the qualitative thematic analysis conducted from participant interviews. Finally, Chapter 6 provides a discussion and interpretation of the findings and possible future avenues of study.
Chapter 2: Literature Review

Chapter Two is a review of the literature with respect to trauma in the workplace. The chapter provides a description of Post Traumatic Stress Disorder (PTSD) including its prevalence in various high risk occupations. Also, the Critical Incident Stress Debriefing (CISD) model is outlined and studies both supporting and criticising the intervention are presented.

**Traumatic Incidents**

Approximately 60% to 90% of Americans have experienced at least one traumatic event in their lifetimes (Breslau et al., 1998; Kessler, 2000). Traumatic events are single, continuous, or repetitive events that can result in psychological distress and inhibit one’s ability to cope with the resulting feelings (Wittchen et al., 2009). There are a wide range of incidents that qualify as being traumatic from witnessing or experiencing death, injury, sexual/physical abuse, to natural disasters and other catastrophes, such as school shootings and military service during the war (Vitzthum et al., 2009).

**Post-Traumatic Stress**

Although the majority of traumatized individuals recover, a significant minority (approximately 8%) go on to suffer with Post Traumatic Stress Disorder (PTSD) that can disturb all aspects of their lives and increase the risk for depression and suicide (NICE, 2005; Kessler, 1995). It was also noted by Kessler et al. (1995) that the lifetime prevalence of PTSD was higher among women (10.4%) than men (5%). A person with PTSD must have experienced a traumatic event
involving, “actual or threatened death or injury to themselves or others” where they experience feelings of fear, helplessness or horror (DSM-IV, 2000). In addition, the diagnostic criteria outlines three symptom clusters that must persist for at least a month after the traumatic event, including re-experiencing of the event (intrusions), reducing exposure to people or things that might bring on intrusive thoughts (avoidance), and hyper vigilance or increased startle response (hyper arousal) (DSM-IV, 2000). Historically, PTSD has been called railway spine, stress syndrome, shell shock, combat or battle fatigue, traumatic war neurosis, or post-traumatic stress syndrome (PTSS) (Lowe, Henningsen & Herzog, 2006). The modern understanding of PTSD is largely due to the experiences of soldiers and military veterans. When military populations are examined, there is evidence that 31% of Vietnam veterans had combat-related PTSD at some point, with half (15%) of these continuing to meet full diagnostic criteria some 20 years later (Kulka et al, 1991). Since then many studies have linked exposure to combat and military violence to the development of PTSD (Orner et al., 1993; Green et al., 1990; Fontana & Rosenheck, 1994; Litz et al., 1997).

More recently, however, it has been found that occupations outside of the military may also involve significant exposure to traumatic events leading to PTSD. In particular, the work of police officers (Huizink et al., 2006), paramedics (Rodgers LM, 1998; Sterud, Ekeberg, & Hem et al., 2006; Alexander & Klein, 2001), and firefighters (Huizink et al., 2006; van der Ploeg & Kleber, 2003; Regehr, Hill & Glancy, 2000) has been linked to a high rate of exposure to critical incidents. The literature clearly demonstrates that PTSD is a significant issue among this group of emergency service personnel. For instance, Robinson, Sigman and Wilson (1997) reported a significant relationship between duty-related stressors and PTSD symptoms in police officers, where 13% of the sample met diagnostic criteria for PTSD following critical incidents including
abuse, accidents, and violent confrontations. Reported rates of PTSD are slightly higher in firefighters with 17.3% of Canadian firefighters (Corneil et al., 1999) and 18.2% of German firefighters (Wagner, Heinrichs & Ehlert, 1998) diagnosed with the disorder. Likewise, 12% of emergency department staff met criteria for the disorder (Laposa et al., 2003) and 22% of 617 emergency ambulance personnel were diagnosed with PTSD in a study conducted in the United Kingdom (Bennett et al., 2004). Overall, it has been demonstrated that psychological trauma, specifically PTSD, is a significant issue within these occupations.

It is not known exactly why some people develop PTSD after trauma and some do not, however, two large systematic reviews (Brewin et al., 2000; Ozer et al., 2003) have found relatively weak associations of PTSD with a host of pre-, peri-, and post-traumatic factors. The first set of possible influences include person-specific factors like biological determinants (True et al., 1993; Yehuda, 1999), lifetime trauma (McFarlane, 1988b; Mollica et al., 1998), previous mental illness (McFarlane, 1988a; Skodol et al., 1996), and personality variables (Regehr, Hemsworth, & Hill, 2001). Peri-traumatic factors, such as the nature of the event and the magnitude of one’s exposure, are also thought to play a role in the response elicited after a traumatic incident (Devilly, Gist & Cotton, 2006). Finally, post-trauma variables, most significantly the level and quality of perceived social support, have been shown to influence an individual’s response to a traumatic incident (Norris, Kaniasty, & Thompson, 1997). This is particularly true of the support received from one’s superiors in the workplace (Regehr et al., 2000; Buunk & Peeters, 1994). One way employers can show their employees support is by offering psychological treatment options to address these predictive factors and combat the development of PTSD. A model that is often used as a basis for immediate trauma support in high risk workplaces is Critical Incident Stress Management (CISM) (Everly & Mitchell, 1999).
Psychological Debriefings

CISM is a crisis intervention package developed specifically for emergency service personnel including pre-crisis education, assessment, defusing, critical incident stress debriefing (CISD) and follow-up for ongoing psychological support (Everly & Mitchell, 1999). This framework was drawn from crisis intervention theories, and work done by Lindemann (1944) based on support offered to victims of the Coconut Grove nightclub fire in Boston, Massachusetts.

Over the years, however, the psychological trauma literature has focused largely on one component of CISM, namely Critical Incident Stress Debriefing (CISD). CISD is a 7-step group intervention tool used to manage stress due to a traumatic event (Mitchell & Everly, 1996). The first step is an introduction phase where team members are introduced, the purpose of the meeting is explained and the format the debriefing will take is laid out. The fact phase then allows the participants to describe the traumatic event from their perspective. This is followed by the thought phase where participants are asked to remember their thoughts during the incident. This also begins the transition from thoughts to emotional reactions. In the reaction phase each member identifies the most personally traumatic aspect of the event and his/her emotional reactions. Individuals are then asked to describe any affective, behavioural, cognitive or physical reactions they faced during the event or afterwards. The teaching phase involves the entire team as common symptoms of stress and stress management strategies are shared, bringing the group away from the emotional content and preparing for the last phase of the debriefing. The final step is the re-entry phase where any remaining issues are clarified, questions answered and a summary of the discussion and recommendations is given, providing closure on the debriefing and attempting to end on a positive note (Everly & Mitchell, 1999; Mitchell & Everly, 1996). This structured group process gave emergency workers, who are trained to be resilient and
traditionally not allowed to express distress, permission to discuss their thoughts and feelings following a traumatic event (Mitchell & Everly, 1993; Snelgrove, 1999). A similar 7-step debriefing model known as psychological debriefing (PD) has also been described in the literature (Dyregrov, 1989; Raphael, 1986). Dyregrov (1989) maintains that it is in essence the same as CISD with a slightly greater emphasis on the group process. Due to their similarities, the terms CISD and PD are often used interchangeably in the research literature.

The main goals of debriefing are to ease the immediate impact of the traumatic event on workers and to accelerate the recovery process by relieving stress at an early stage (Mitchell, Sakraida, & Kameg, 2003). Participants are given the opportunity to (1) verbalize their distress; (2) understand stress reactions and avoid the formation of false interpretations of the experience; and (3) return to routine functioning (Mitchell, 1983). There are also many reported secondary gains, including developing a sense of control, normalizing the individual’s feelings, education, stress management, and the prevention/mitigation of PTSD and or other psychopathological consequences of traumatic experiences (Everly & Mitchell, 1999; Mitchell & Everly, 1996). It is this final claim that psychological debriefing, specifically CISD, has the ability to prevent PTSD that has prompted a multitude of case studies, surveys and randomized controlled trials devoted to assessing the validity of the author’s claims.

Currently, many high risk organizations such as the military, police, firefighters and paramedics, offer some variant of psychological debriefing to employees as a means of first line trauma support; however, there are conflicting findings on the effectiveness of immediate debriefing in these populations. Proponents of the intervention maintain that group debriefings are beneficial (Busuttil et al., 1995; McFarlane, 1988a; Robinson & Mitchell, 1993; Shalev,
1994), while critics argue that debriefing is not helpful (Deahl et al., 1994; Mayou, Ehlers, & Hobbs, 2000; McFarlane, 1988b; Stephens, 1997) and some have even found that it has the potential to cause further harm (McNally, 2004, Bisson et al., 1997; Hobbs et al., 1996).

Consistent support for psychological debriefing is seen early in the literature. A meta-analysis conducted in 1999 demonstrated that debriefing resulted in a significantly positive effect size (Cohen’s $d=0.86$, $p<0.001$) when CISD is implemented with a restrictive manual-driven protocol (Everly & Boyle, 1999). The limitations of this review are that it only uses studies of group debriefings and randomization is not an inclusion criterion, bringing into question the quality of the five studies reviewed. In clinical practice, individual debriefing is used more than group debriefings (van Emmerik et al., 2002) and as such the findings of this meta-analysis cannot be applied to individual debriefings. To address the lack of rigor in the debriefing literature, a randomized control trial (RCT) was conducted on preventing psychological trauma in soldiers which showed that soldiers who received CISD had lower scores on assessed PTSD symptoms upon returning home from duty than a group of soldiers who had not received CISD (Deahl et al., 2000). From these results, it would seem that overall psychological debriefing is an intervention with positive outcomes.

Evidence to the contrary, however, is substantial and growing. A Cochrane meta-analysis of the psychological debriefing literature conducted in 2000 showed no benefit of debriefing and in some instances potential harm (Wessley, Bisson, & Rose, 2000). There were eight studies included in this review studying individual single-session psychological debriefing following a variety of traumas. All eight were randomized studies with clearly defined intervention (debriefed) and control (not debriefed) groups. The following is a brief summary of the
individual studies and their findings. The Bisson et al. (1997) study of burn trauma victims, considered the highest quality of accepted studies in the review, followed the CISD model closely. In this study, a significantly larger portion of debriefed individuals (26%) were diagnosed with PTSD than those not debriefed (9%) suggesting that debriefing is not particularly helpful. A second study in the review looking at victims of violent crime (Brewin, Andrews, & Rose, 1999) assessed PTSD symptoms at 6 and 11 months after the traumatic experience and found no significant differences in outcomes between the groups. A third study was one conducted by Conlon (1998) investigating individuals involved in road traffic accidents. The debriefing approach used seemed similar to CISD and lasted about 30 minutes. Although at the 100 day follow-up, 4 not debriefed individuals developed PTSD compared to 2 debriefed individuals, the results were not significant and debriefing once again was not found to be beneficial. The fourth study in the review examined women who have miscarried (Lee, 1996) and also found no significant differences in outcome measures between debriefed and not debriefed individuals. The debriefed group in this study was given an intervention based on the Mitchell and Dyregrov models about 2 weeks after the miscarriage. A second study of road traffic incident victims was conducted by Hobbs et al. in 2000. Although most outcome measures were not significantly different between the groups, the debriefed group in this study showed trends towards increased PTSD symptomatology and were less likely to speak to family and friends about their experiences. Adshead and Steven’s (1997) exploration of trauma was the next study in the review. The authors included individuals that had suffered a dog bite, an assault, or a road traffic accident. There were no significant differences in PTSD outcomes between the groups, however, the study itself excluded those who became unusually distressed during the debriefing and 1 out of 3 participants were lost to follow up, calling into question the study’s findings. The
seventh study looked at 70 male road trauma victims who received an immediate debriefing session only, a full intervention with emotional, practical and social support for up to 10 hours, or no intervention at all. The authors found that the full intervention was best in this case, followed by the partial intervention (Bordow & Porritt, 1979). Finally, the last study examined relatives of individuals seriously injured or ill and admitted to the hospital. The debriefings were 20 minutes in length and verbal samples were taken before and after the debriefings. In the end, debriefed individuals showed decreased anxiety levels compared to the control group, however PTSD was not addressed in this analysis (Bunn & Clarke, 1979). As described, not all studies in this review employed the CISD method and unlike the earlier Everly & Boyle meta-analyses, it is not a review of group debriefings but of randomized controlled trials of individual debriefing sessions. Although both meta-analyses claim to review psychological debriefing, as a result of differing inclusion criteria, there is no one study common to both meta-analyses and their findings therefore are not comparable.

In addition, a recent review studying the use of multiple early psychological interventions following a traumatic event also found no significant differences between those who received early interventions and those who did not in the prevention of PTSD (Roberts et al., 2009). Once again in these studies, like the 2000 Cochrane review, a strict CISD protocol is not followed.

The literature described thus far seems to suggest that the use of non-CISD interventions may be a reason for the recent lack of support for psychological debriefing in the literature. However, a meta-analytic study conducted in 2002 by Van Emmerik et al. suggests otherwise. This study compared individuals who received no intervention, the CISD intervention, and non-CISD interventions after trauma, and found that the no intervention cohort fared the best in terms
of psychological recovery after trauma and that there was no significant difference found between
the groups who received the CISD or non-CISD interventions (van Emmerik et al., 2002).
Another rebuttal to the claim that CISD is not an effective intervention is that it is often used
inappropriately and in situations outside of its intended scope. The van Emmerik review, among
others, include studies that use CISD in individual debriefing, however it was originally
developed as a group intervention and it is argued that as such, studies that incorrectly use CISD
on an individual basis should not be used to disprove the value of the intervention (Mitchell,
Sakraida, & Kameg, 2003).

Looking at occupation-specific trauma studies, Stephens (1997) and Carlier et al., (1998)
found no significant differences between debriefed and not debriefed police officers regarding the
diagnosis of PTSD after a traumatic incident. Likewise, debriefed emergency workers after an
earthquake in Austrailia did not exhibit any statistically significant benefits from the intervention
(Kennardy et al., 1996). On the other hand, when examining emergency medical workers after a
mass shooting, those who attended a CISD demonstrated stronger recovery from depression and
anxiety symptoms than those who declined the intervention (Jenkins, 1996). There are also a
number of uncontrolled studies and case reports that have explored debriefing in particular
occupational settings. Among these is Macnab et al.’s (1999) investigation of group debriefings
after an air ambulance disaster where no significant difference was found in ‘days of sick leave’
before and after the incident. A second study of immediate debriefing was conducted with
psychiatric staff who had been assaulted (Flannery et al., 1991). In this case, the author suggested
that debriefings be made mandatory in psychiatric settings as 69% of participants reported
regaining a sense of control after the intervention. Finally, Robinson & Mitchell (1993)
examined debriefing in emergency service, welfare and hospital personnel in Australia, where the
intervention was thought to be beneficial based on improvement on participants’ self-reported trauma impact scales.

When attempting to assess the reasons for this polarization in opinions in the literature, it is important to note that studies differ significantly in design and methodology, types of trauma included, sample characteristics, debriefing model used, timing of the intervention, and reported outcome measures, making a succinct explanation of the findings virtually impossible. Also, more often than not, psychological debriefing is used outside of its intended scope, i.e. not in group situations and as a stand-alone process, resulting in less than rigorous findings.

Despite these opinions, however, psychological debriefing is still considered the “standard of care” and is an expected intervention following exposure to trauma (Devilly et al., 2006). One of the reasons psychological debriefing may be valued, regardless of its uncertain therapeutic value, is that debriefed individuals have an overall positive perception of the intervention. In a study conducted on firefighters in Norway two weeks after a hotel fire, it was found that there was no difference in symptomatology between firefighters who received debriefing and those who did not, but most reported that the debriefing itself helped and that it increased their self-confidence (Hytten & Hasle, 1989). Similarly, 88% of nurses who attended debriefing (Burns & Harm, 1993) and 90% of 288 emergency workers that were debriefed rated the experience as valuable or helpful (Robinson & Mitchell, 1993).

The Toronto Transit Commission (TTC) is one workplace organization that uses immediate on-site psychological debriefing after a traumatic event in the workplace. There have been very few studies conducted in the literature that address post-traumatic stress in transit workers who are at high risk of exposure to violent assaults, verbal threats, death and/or injury.
My thesis aims to fill this knowledge gap by gaining a better understanding of the role psychological debriefing plays after a traumatic event in the real-world setting of the TTC. Also, previous studies have limited the outcome measures studied to depression, PTSD, or quality of life at a given time point. My thesis, however, followed employees after a trauma over an extended period of time (six months) and in addition to PTSD symptoms, also measured the amount of time lost from work as a result of the traumatic incident. Finally, although emergency service personnel perceive debriefing to be an overall valuable intervention, one of the aims of this study is to extend this investigation to local transit system employees and to understand any perceived usefulness of debriefing from the employees’ perspective.

Summary

Psychological trauma is an important area of study. Although many who experience trauma will recover, a minority will go on to experience negative stress reactions and develop Post Traumatic Stress Disorder (PTSD). PTSD is an anxiety disorder first recognized in military veterans and soldiers, but has since become prevalent in other high risk occupations such as the police, firefighters, paramedics, and other emergency service personnel. It is not clear why some develop the disorder and others do not, but researchers agree that a number of variables play a role. Critical Incident Stress Debriefing (CISD), a component of the Critical Incident Stress Management (CISM) package, is a 7-step group intervention offered in many high risk workplaces in order to ease the immediate impact of the traumatic event and encourage prompt recovery. It has also been said that CISD can mitigate PTSD symptom development; a claim that has caused controversy and prompted much research. Proponents of the intervention state that
when CISD is used in its intended group situation, it is found to be effective. The studies conducted by these individuals, however, are not randomized. On the other hand, critics of the intervention used randomized controlled trials to show that there is no difference in PTSD symptoms between debriefed and not debriefed individuals, however, these studies use CISD in an individual debriefing situation for which it was never intended. In addition, the studies used by both parties vary in the types of trauma included, model of debriefing used, timing of the intervention, and outcome measures reported, to name a few, further complicating the issue. The one thing both groups can agree on is that there is a generally positive perception of psychological debriefing and many recipients of the intervention rate it to be personally beneficial regardless of PTSD symptomatology. My thesis aims to contribute to the literature by investigating trauma, PTSD and debriefing in local transit workers known to be at high risk of exposure to traumatic events. Aside from PTSD, other outcomes measured include lost time from work and perceived usefulness of the intervention.
Chapter 3: Methodology

In this chapter, the quantitative and qualitative data collection and analysis processes are explained. Furthermore, a description of the ethical considerations made when developing the study design and the measures taken to ensure scientific rigor and trustworthiness are included in this chapter.

Mixed Methods

My thesis investigated psychological debriefing in the workplace after a traumatic event. A concurrent mixed methods approach was used to conduct a case study of the effects of psychological debriefing on traumatized employees within the TTC. The relationship between debriefing and PTSD development and lost time from work was explored using quantitative survey data and a framework describing the perceived usefulness of psychological debriefing and other supports was developed under the grounded theory methodology through the collection and analysis of qualitative interview data. Mixed methods research is formally defined as “the class of research where the researcher mixes or combines quantitative and qualitative research techniques, methods, approaches, concepts or language in a single study” (Johnson & Onwuegbuzie, 2004). In accordance with the fundamental principles of mixed research (Johnson & Turner, 2003), the data was collected using multiple strategies in such a way that resulted in “complementary strengths and nonoverlapping weaknesses” (Johnson & Onwuegbuzie, 2004).
Quantitative

Within the quantitative paradigm, I used a longitudinal survey design to collect data on the participants. The survey design was chosen as it allowed inferences to be made about a population based on a sample with minimal cost and rapid data collection turn around (Babbie, 1990). The outcomes of interest were whether an employee developed PTSD symptoms and the amount of lost time from work experienced.

Recruitment:

To be eligible for the study, the employee had to have experienced a traumatic event that was reported to the Occupational Health and Claims Management Section of the Human Resources Department at the TTC. Eligible traumatic events included physical assaults (any act of violent contact between two individuals with the intent to cause harm), verbal and weapon related threats (any hostile gesture, act, or utterance made with the intent to intimidate or harm), operating a vehicle involved in a serious or fatal incident (i.e. vehicle/pedestrian contact), collecting body parts or cleaning or clearing accident scenes (i.e. subway suicides), witnessing street crime or crime against a third party (i.e. robbery, assault of patron), observing vehicle collisions or incidents involving serious injuries, and/or other workplace accidents involving serious injuries. The sample included individuals who completed the TTC Occupational Injury and Disease Report with lost time related to psychological trauma. In addition, Occupational Health and Claims Management identified other employees who presented with a subsequent secondary diagnosis of psychological injury. Excluded from the study were individuals who sustained severe physical injury and individuals who reported trauma caused by workplace
conflicts or disputes between co-workers, supervisors, or other employees. At the time of reporting, if a participant met eligibility criteria, Occupational Health staff gained initial verbal consent from employees to be approached by the APT study coordinator. These individuals were referred to the study coordinator who explained the study, asked them whether they would like to participate, and obtained signed informed consent (Appendix E). Sampling for the quantitative portion was based on voluntary recruitment on an ongoing basis for a 1 year period or until at least 61 participants volunteered as per the statistical power requirement calculated by the team statistician. Randomization to debriefed and not debriefed groups was not possible in accordance to the TTC policy of offering trauma support to all employees involved in a trauma. Also, in this phase we were not altering but only observing current practices.

Data Collection:

Quantitative interviews were used to collect demographic information (Appendix B) and data concerning the employee’s wellbeing. The primary measure of interest was the modified PTSD Symptom Scale (MPSS) which was administered at about 1 month, 3 months and 6 months after the traumatic experience (Appendix A). The reason for the baseline measure being at one month as opposed to immediately after the traumatic stressor was because PTSD diagnostic criteria states that symptoms must persist for more than a month (DSM-IV, 2000). The MPSS is a 17-item self-report questionnaire designed to assess the frequency and severity of PTSD symptoms using a 4-point scale for frequency and a 5-point scale for severity. The MPSS has been validated in both treatment and community settings and has demonstrated good concurrent validity with the Structured Clinical Interview for the DSM-III-R PTSD module (Falsetti et al.,
1993; Stein et al., 1997). The full MPSS scale has demonstrated good overall internal consistency with “alphas of 0.96 for the treatment sample and 0.97 for the community sample” (Falsetti et al., 1993). Data related to total time lost from work for each individual was available through TTC Occupational Health records as well as from logs kept by participants recording days off work.

Analysis:

The data were analyzed using SPSS statistical software and descriptive statistics were generated. Initially, only parametric statistical tests were used, however as a normal distribution could not always be assumed, non-parametric tests were also employed. Some employees received psychological debriefing while others did not; therefore, the independent variable of debriefing was dichotomous (yes/no). Based on the MPSS data, the dependent outcome of developing PTSD was treated as both dichotomous (met cut-off score/did not meet cut-off) and continuous (severity and frequency total raw score). The debriefing variable was compared to the continuous PTSD outcome variable for each point in time of data collection using one-way analysis of variance (ANOVA). One-way ANOVA was appropriate as it was used to test for differences in the mean of two or more independent groups, in this case, debriefed and not debriefed participants. However, PTSD was also compared between the groups using non-parametric Generalized Estimating Equations (GEE). GEE was developed to produce more efficient and unbiased regression estimates for use in analyzing longitudinal or repeated measures research designs and was flexible enough to use in analyzing PTSD response variables that were not normally distributed (Liang & Zeger, 1986). The second outcome, lost time from work, was reported in days as a continuous variable. A standard independent t-test was used to see whether
differences in the means of time lost from work existed between the debriefed and non-debriefed groups, however, due to the discrepancy in the numbers of participants in both groups and the abnormal data distribution, the Mann-Whitney rank sum test was thought to be more rigorous (Mann & Whitney, 1947). The Mann-Whitney test involved assessing whether two independent samples of observations came from the same distribution, in other words, whether the number of days lost from work by debriefed individuals significantly differed from days lost by participants not debriefed.

**Qualitative**

Within the qualitative paradigm my thesis used thematic analysis, as described by Braun and Clarke (2006), to identify key themes, analyze patterns, and generate a well-organized narrative and interpretation of the data. Thematic analysis is a flexible and useful research tool that is often used but rarely acknowledged (Boyatzis, 1998; Roulston, 2001). I chose to use thematic analysis not only because it is a good method to summarize the data set and generate insights (Braun & Clarke, 2006) but also because it is easy to learn and affords much flexibility; ideal for novice qualitative researchers. My objective was to develop a better understanding of the phenomenon of psychological debriefing and how it is perceived at the TTC by identifying, analyzing and reporting patterns within the data set. The data, in this case, came from qualitative interviews conducted with TTC employees on the topic of psychological debriefing and other supports encountered after being exposed to trauma within the work setting.
Recruitment:

Participants for the qualitative interviews were purposively and consecutively selected from those participants recruited for the quantitative component of the study. A purposeful sample, in this study, is a conscious selection of participants specifically chosen for their richness of information and suitability for in-depth study (Patton, 2002). A sample of 12 employees (with varying degrees of time lost from work after the event) was selected and invited to participate in structured interviews. Of these 12 employees, some received debriefing, while others did not.

Data Collection:

Qualitative structured interviews, comprised of open-ended questions, were used to interview employees for approximately 1.5 hours. A research interview as it is used in the study is defined as an “interview whose purpose is to obtain descriptions of the life world of the interviewee with respect to interpreting the meaning of the described phenomena” (Kvale, 1994). The use of face-to-face interviews to collect data was appropriate in this case as it allowed for the exploration of individual differences between participant’s experiences and their psychological outcomes. Semi-structured interviews were used to maintain consistency among the four individuals conducting the interviews and to ensure all topics of interest were addressed. The interview guide (Appendix C) was initially developed to explore the research questions outlined in the APT study. A question was added specifically addressing the employee’s perceived usefulness of debriefing for the purposes of my thesis. The question reads, “Did you meet with the trauma counsellor immediately after the event? Did you find this helpful? Why or why not?” Although data was collected on all barriers and facilitators to seeking help and recovery, data
surrounding debriefing was the primary outcome analyzed. The idea of saturation in qualitative research is not as simple as a quantitative calculation. Within the qualitative paradigm, the researcher moves back and forth from data collection to the analysis of data, refining questions and categories, until the point of theory saturation (Strauss & Corbin, 1998; Kelsey, 2003).

**Analysis:**

All interviews were taped, transcribed verbatim by a professional, verified for accuracy and managed manually using Microsoft Word and Excel software programs. Data collected during the interviews was initially reviewed for ideas relating specifically to psychological debriefing and on-site trauma counsellors. It became clear, however, that other supports outside of counsellors, like supervisors, the employee family assistance program (EFAP), and peers, had to be considered as their roles were often addressed when discussing the usefulness of debriefing. Reoccurring and relevant patterns in the interviews were identified and key concepts were labelled (coded) in a systematic fashion and data relevant to each code was collected from within the entire data set (Braun & Clarke, 2006). Similar codes were then grouped and themes were defined and named. Each theme was refined and interpreted with relation to the research question. A thematic map was used to organize the various themes, which also helped in composing a clear narrative of the findings with quotes chosen to best illustrate each concept (Braun & Clarke, 2006). As interviewing and coding were underway, I also wrote memos as a “record of analysis, thoughts, interpretations, questions, and directions for further data collection” (Strauss & Corbin, 1998, p.110). Written memos and diagrams were important documentation of the analytic process.
Qualitative – Part 2

The development of a second, smaller arm of the qualitative study was a result of two issues:

First, to be eligible for the APT study, an employee must have taken time off from work after a traumatic incident. However, our preliminary findings suggested that a significant number of employees that received psychological debriefing did not take time off from work and therefore were not being captured in my study. To account for this, a subgroup of five employees who did not take time off from work was recruited. Second, as the study progressed, I was uncertain of exactly what was offered in terms of psychological debriefing/trauma counselling at the TTC. Although the research team met briefly with the EAP trauma counsellors and manager as a group, much of what happens during an on-site debriefing remained unclear. Also, learning what the counsellors perceived to be helpful for employees to return to work would increase my perspective and contribute to the overall goal of the study.

Recruitment for Part 2

Employee Group:

Participants for the qualitative interviews were recruited on a voluntary basis. A sample of 5 employees, who had experienced a traumatic event and not taken time off from work, were invited to participate in semi-structured interviews. Kirsten Watson (former-Human Resources representative at the TTC) approached employees who met these eligibility criteria using a script
outlining the voluntary nature of the study, the purpose of the interview, and that all information collected will remain confidential. If verbal consent was received, employees’ names and contact information were referred to me. I then contacted the employee, explained the study, asked the employees to participate, and obtained signed informed consent.

Counsellor Group:

In addition, two counsellors who regularly provided on-site trauma counselling at the TTC were invited to participate in individual qualitative interviews. These individuals had experience working with TTC employees after traumatic events and as such acted as key informants. Once again, Kirsten Watson at the TTC initiated contact with the counsellors and upon receiving verbal consent; I contacted the counsellors and obtained signed informed consent.

Data Collection for Part 2

Employee Interview:

Demographic information (Appendix B) was obtained and participants were interviewed using the interview guide (Appendix C) in place for the qualitative component of the APT study, including a question specifically addressing the employee’s perceived usefulness of debriefing for the purposes of my thesis. In addition, the modified PTSD symptom scale (MPSS) (Appendix A) was administered at the time of the interview to determine whether individuals were symptomatic.
Counsellor Interview:

The counsellor interview questions (Appendix D) were developed based on the advice of the master’s thesis project advisory committee in accordance with the study objectives. The questions addressed the counsellor’s experiences, the model/procedures followed during a debriefing session, the objectives of the session, the difficulties in fulfilling these objectives, what the counsellors perceived to be most helpful for employees, and what happens in terms of follow-up with employees. Questions were also based on issues and topics that were brought up in earlier informal conversations with the counsellors and EFAP supervisors.

Analysis for Part 2

All interviews were taped, transcribed verbatim by a professional, verified for accuracy and managed manually using Microsoft Word and Excel software programs. Once again, thematic analysis was used to analyze the data. Reoccurring and relevant patterns in the interviews were identified and key concepts were labelled (coded) in a systematic fashion and data relevant to each code was collected from within the entire data set (Braun & Clarke, 2006). Similar codes were then grouped and themes were defined and named. Each theme was refined and interpreted with relation to the research question. Employee data from parts 1 and 2 were analyzed and presented together.
Research Setting

At first, all the questionnaires were to be collected and the interviews conducted in the Suicide Studies Unit at St. Michael’s Hospital. Interviews took place in a private room so as to maintain participant confidentiality. As the study progressed, however, employees who were off work preferred interviews to be conducted in their homes and employees who worked split-shifts (long break in the middle of the day) preferred to be interviewed at their respective TTC divisions during their break. These participants were accommodated in the interest of increasing recruitment numbers and once again measures were taken to ensure a quiet and confidential area was used when discussing personal information.

Ethical Considerations

All research conducted with human participants has ethical concerns. My thesis deals with interviewing participants regarding psychological trauma they have experienced, therefore sensitivity of researchers and information privacy are at the forefront of these considerations. All surveys, tapes, and data were stored securely and all identifiers removed. Research data remain confidential and access is limited to the research team at St. Michael’s Hospital and CAMH. After being fully informed by the research coordinator of their responsibilities and their ability to withdraw at any time without penalty, consent forms to participate in the study and disclose personal information to the researchers were signed by all participants. This study was first submitted for ethics review to the St. Michael’s Hospital Research Ethics Board (REB) as an addendum to the APT study, and upon approval was submitted to the University of Toronto Ethics Review office were it underwent an administrative review (Ethics Review, 2008).
Remuneration

Participants were compensated the equivalent of four hours straight pay (not overtime) at baseline, 3 months and 6 months. All employees were made aware of the payment agreement prior to signing the consent form. The counsellors who acted as key informants were reimbursed $75 each for one hour of their time.

Trustworthiness

A number of strategies were used to ensure a rigorous and trustworthy study. First, as mentioned above, confidentiality was maintained by securing all documents and tapes and conducting interviews in private rooms. The study protocol was approved by both the St. Michael’s Hospital and the University of Toronto research ethics boards. Secondly, data collection and analysis was conducted meticulously and all data was double checked. Also, memos were written after each qualitative interview that assisted in the analytical and diagramming processes (Erlandson et al., 1993). Thirdly, regularly scheduled meetings were arranged to discuss findings and gain feedback on the progress of my thesis from experts in the field. I took part in weekly meetings with my supervisor, bi-weekly implementation committee meetings with members of the TTC, and met with my program advisory committee about once every four months. These discussions ensured an on-going external verification of the research process (Creswell, 1998). Fourth, prolonged engagement in the study (6 months) allowed me to increase the scope of my research and reduce distortions in the data analysis (Erlandson et al., 1993). Finally, the direct use of quotations from
the qualitative transcripts helped verify that the data supported the themes developed and reported (Rubin & Rubin, 1995).

Summary

My thesis investigated psychological debriefing in the workplace after a traumatic event using a mixed methods approach. Employees were referred to the study through the TTC’s Occupational Health and Claims Management department, but participation was voluntary. All employees experienced a traumatic event and took time off from work as a result. Not all employees were offered debriefing, and among those offered, not all accepted.

The relationship between debriefing and PTSD was explored using the Modified PTSD Symptom Scale (MPSS) to collect information about the severity and frequency of PTSD symptoms at 1 month, 3 months and 6 months. The average PTSD scores as well as the percentage of employees meeting cut-off for the disorder were compared between the debriefed and not debriefed groups using one-way ANOVA and Generalized Estimating Equations (GEE).

The second outcome, lost time from work, was collected from the employee and a standard t-test as well as the more rigorous Mann-Whitney rank sum test was used to see if the number of days lost from work by debriefed individuals significantly differed from days lost by participants not debriefed. A select sub-group of participants were then asked to take part in one-on-one semi-structured interviews to discuss the traumatic event in more detail, including whether debriefing was perceived to be helpful and what other factors helped or hindered the employee’s road to recovery. Thematic analysis was used to code and interpret these interviews.
As a result of the inclusion criteria, debriefed individuals who did not take time off from work were not being included, therefore an additional subgroup of five employees with no lost time were recruited and interviewed. Also, two counsellors who provide on-site trauma counselling were interviewed to gain a better understanding of the debriefing process.

Finally, privacy and confidentiality were maintained throughout the study and meticulous data collection and analysis were conducted to ensure scientific rigour and trustworthiness.
Chapter 4: Quantitative Results

The quantitative portion of the study focuses on elucidating the effects of debriefing on post-traumatic stress disorder symptom development and lost time from work using both parametric and non-parametric statistical tests.

Recruitment

There were 103 participants referred to the quantitative portion of the APT study, out of which, 46 were recruited resulting in a 44.7% recruitment rate (Figure 4-1). Among those not

![Figure 4-1: Quantitative recruitment flowchart](image-url)
recruited into the study, 12 outright refused to participate when contacted by the research coordinator. After receiving information about the study, 14 employees informed the coordinator that they would call back if they were interested and 3 made appointments. The coordinator was unable to contact 18 of the referred employees and 4 made initial contact but were lost to follow-up. Of the 46 employees recruited, 31 completed the quantitative measures at baseline, 3 months, and 6 months after the traumatic incident within the first year of the study (cut-off date June 1st, 2009). In the analysis, the 31 are grouped into employees who were debriefed (9) and not debriefed (22) immediately after the event.

**Sample Characteristics**

There were a total of 25 males (80.6%) and 6 females (19.4%) that completed the study ranging in age from 23 to 56 years with a mean age of 43.4 years. Education levels varied as 96.8% (30) of participants indicated having graduated from high school and 51.6% (16) reported college or university as the highest level of education attained. Of the 31 participants, 20 (64.5%) stated they were married or common law, 4 (12.9%) were separated or divorced, and 9 (29.0%) were single. In terms of psychiatric history, 10 participants (32.3%) reported having been diagnosed with depression in the past, 2 (6.45%) with substance abuse, and 3 (9.68%) with other psychiatric disorders. Finally, the sample’s average number of years of service at the TTC prior to their most recent traumatic event was 8.6 years, with participants ranging from 5 months of experience to 27.5 years at the TTC.

Table 4-1 presents the demographic information of both the debriefed and not debriefed participants. In terms of specific occupations within the TTC, the majority of participants were
bus operators, followed by subway and streetcar operators. At baseline, the debriefed group was slightly older and slightly more educated than the group that was not debriefed. The debriefed individuals were also more likely to have experienced a subway suicide or witness a shooting, while the not debriefed group was more likely to be spat at or experience a physical assault. Using Fisher’s Exact test, it was found that the groups only differed significantly ($p = 0.015$) in the incident severity category when comparing the prevalence of suicides, shootings and other incidents to spitting, collisions, and verbal/physical assaults.

**Table 4-1: Participant Demographics**

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>Debriefed</th>
<th>Not Debriefed</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gender (male)</td>
<td>78% (7)</td>
<td>82% (18)</td>
</tr>
<tr>
<td>Age (mean)</td>
<td>44.6</td>
<td>38.3</td>
</tr>
<tr>
<td>Education</td>
<td></td>
<td></td>
</tr>
<tr>
<td>High school</td>
<td>100% (9)</td>
<td>96% (21)</td>
</tr>
<tr>
<td>College/Uni.</td>
<td>67% (6)</td>
<td>46% (10)</td>
</tr>
<tr>
<td>Occupation</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bus Operator</td>
<td>56% (5)</td>
<td>73% (16)</td>
</tr>
<tr>
<td>Subway Oper.</td>
<td>33% (3)</td>
<td>0</td>
</tr>
<tr>
<td>Streetcar Oper.</td>
<td>11% (1)</td>
<td>9% (2)</td>
</tr>
<tr>
<td>Subway Guard</td>
<td>0</td>
<td>9% (2)</td>
</tr>
<tr>
<td>Collector</td>
<td>0</td>
<td>9% (2)</td>
</tr>
<tr>
<td>Incident Type</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Spitting</td>
<td>11% (1)</td>
<td>27% (6)</td>
</tr>
<tr>
<td>Verbal Assault</td>
<td>22% (2)</td>
<td>23% (5)</td>
</tr>
<tr>
<td>Physical Ass.</td>
<td>0</td>
<td>27% (6)</td>
</tr>
<tr>
<td>Suicide</td>
<td>33% (3)</td>
<td>9% (2)</td>
</tr>
<tr>
<td>Shooting</td>
<td>11% (1)</td>
<td>4.5% (1)</td>
</tr>
<tr>
<td>Collision</td>
<td>0</td>
<td>4.5% (1)</td>
</tr>
<tr>
<td>Other</td>
<td>22% (2)</td>
<td>4.5% (1)</td>
</tr>
</tbody>
</table>
In addition, due to the voluntary nature of debriefing, not all employees were offered the intervention and among those who were, not all employees accepted, resulting in a much lower number of debriefed individuals than not debriefed participants.

Post Traumatic Stress Disorder

Using the Modified PTSD symptom scale (MPSS), a score was generated for each participant at the three time points. While analyzing the data, the scores were considered both as continuous and dichotomized variables (met cut-off or did not meet cut-off) with an established community cut-off score of 46 (Falsetti et al., 1996).

<table>
<thead>
<tr>
<th></th>
<th>Debriefed</th>
<th>Not Debriefed</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Mean PTSD score</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1 month</td>
<td>53.4</td>
<td>43.3</td>
<td>46.3</td>
</tr>
<tr>
<td>3 months</td>
<td>40.4</td>
<td>31.7</td>
<td>34.3</td>
</tr>
<tr>
<td>6 months</td>
<td>35.2</td>
<td>23.0</td>
<td>26.6</td>
</tr>
<tr>
<td><strong>Median PTSD score</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1 month</td>
<td>57</td>
<td>53</td>
<td>55</td>
</tr>
<tr>
<td>3 months</td>
<td>41</td>
<td>17</td>
<td>24</td>
</tr>
<tr>
<td>6 months</td>
<td>36</td>
<td>8</td>
<td>19</td>
</tr>
<tr>
<td><strong>Met PTSD cutoff (%)</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1 month</td>
<td>56% (5)</td>
<td>55% (12)</td>
<td>55% (17)</td>
</tr>
<tr>
<td>3 months</td>
<td>44% (4)</td>
<td>27% (6)</td>
<td>32% (10)</td>
</tr>
<tr>
<td>6 months</td>
<td>33% (3)</td>
<td>18% (4)</td>
<td>23% (7)</td>
</tr>
</tbody>
</table>
Table 4-2 presents the mean and median PTSD scores, as well as the percentage of participants who met cut-off on the MPSS. It appears that PTSD symptoms decreased in frequency and severity over time for both groups. The mean and median scores, however, were consistently higher in the debriefed group than the not debriefed group. Also, looking at the percentage of participants meeting cut-off for PTSD, once again the numbers indicated a higher prevalence of PTSD symptoms within the debriefed population. A graphical representation of Table 4-2 is presented below (Figure 4-2, 4-3).

**Figure 4-2: Mean Post Traumatic Stress Disorder Scores on the MPSS**

```
<table>
<thead>
<tr>
<th>Time</th>
<th>Mean Score on MPSS</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 month</td>
<td></td>
</tr>
<tr>
<td>3 months</td>
<td></td>
</tr>
<tr>
<td>6 months</td>
<td></td>
</tr>
</tbody>
</table>
```

Legend:
- ◻️ Debriefed
- □ Not Debriefed
The mean PTSD scores were used to perform a one-way ANOVA to establish whether the differences seen between the groups were significant. Although there was a difference in mean scores, the difference was not statistically significant at 1 month, 3 months, or 6 months ($p_1 = 0.397$, $p_3 = 0.478$, $p_6 = 0.262$).

Given that there were only 31 participants and the data distribution did not follow the normal curve, non-parametric tests were also used to compare the groups. The Generalized Estimating Equations (GEE) test was conducted as an estimation of the odds rather than the mean, treating PTSD as a dichotomous variable (met cut-off/did not meet cut-off). The GEE produced an odds ratio of 1.6:1, suggesting that debriefed employees were 1.6 times more likely
to meet cut-off for PTSD on the MPSS. The confidence interval for the odds ratio was not statistically significant (p=0.489, CI=0.422-6.065).

In addition, although PTSD symptoms were assessed using the MPSS, 10 of the employees also met DSM-IV diagnostic criteria for the disorder as outlined in the SCID-I quantitative interview. Nine of these employees were a subgroup of the 17 employees that met cut-off on the MPSS at 1 month, re-enforcing the screening tool’s ability to capture individuals with PTSD. The one employee not captured by the scale, had a score that missed the cut-off by two points. On the other hand, because the scale is very inclusive, 8 of the participants who met cut-off at 1 month on the MPSS did not meet diagnostic criteria on the SCID-I.

**Lost Time from Work**

The second comparison between the debriefed and not debriefed groups was made in terms of how much time the participant was absent from work immediately after and as a result of the traumatic incident.

<table>
<thead>
<tr>
<th>Lost Time (days)</th>
<th>Debriefed</th>
<th>Not Debriefed</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mean Lost Time</td>
<td>42.8</td>
<td>67.1</td>
<td>60.1</td>
</tr>
<tr>
<td>Median Lost Time</td>
<td>34</td>
<td>26</td>
<td>30</td>
</tr>
</tbody>
</table>

*Table 4-3: Mean and Median Lost Time from Work*
Table 4-3 presents the summary mean and median data in days. The mean lost time for the debriefed group was about 43 days (SD = 56) while employees that were not debriefed took an average of 67 days (SD = 72) off from work. When comparing the median values, however, participants who were debriefed seem to take more time off (34 days) than those who were not (26 days). The range for both groups was 0-180 days, with the not debriefed group having a larger number of outliers, resulting in opposing mean and median values. Figure 4-3 presents the mean and median values of lost time in graphical form.

**Figure 4-4: Mean and Median Lost Time from Work**

The average number of days for both groups was compared using an independent samples t-test. The difference between the groups was not statistically significant with a p-value of 0.326.
Taking into consideration the abnormal distribution of the data as well as the presence of outliers, the non-parametric Mann-Whitney rank-sum test was deemed to be the most robust in this case. Using the median number of days lost, it was found that the distributions of the two groups did not differ significantly (Mann-Whitney $U = 82$, $p = 0.48$), and therefore there was no significant difference between the groups in terms of days lost from work.

**Post-Hoc Analysis**

There were 7 outliers representing employees who took more than 149 days off from work each (removing this group resulted in 75 days being the greatest number of days lost by a single employee). Six of the 7 of these outliers met cut-off on the MPSS and all 7 met diagnostic criteria for PTSD on the SCID-I.

Also, in total, 10 employees met diagnostic criteria for PTSD on the SCID-I. Out of these 10 employees, as mentioned before, 7 took more than 149 days off from work. Out of these 7, only one was debriefed. The remaining 3 employees diagnosed with PTSD did not take long periods of time off from work and were all debriefed.

**Summary**

Within one year of the study, 103 employees were referred, 46 were recruited and 31 completed their 6 month follow-up. In the analysis, the 31 participants were grouped into employees who
were debriefed (9) and not debriefed (22). The groups were not similar at baseline in terms of education, type of trauma experienced, and/or occupation at the TTC.

Using the MPSS, both continuous and dichotomous PTSD scores were collected. The mean and median PTSD scores decreased with time for both groups; however, the scores were consistently higher in the debriefed group than the not debriefed group. A one-way ANOVA found no significant difference between the groups at 1 month, 3 months, or 6 months and this finding was confirmed using the non-parametric GEE.

When comparing the mean lost time between groups, the not debriefed group seemed to take more time off from work than the debriefed group, however, when comparing median scores, the situation was reversed. Nevertheless, the differences were not found to be statistically significant according to the standard t-test and the more robust Mann-Whitney rank sum test.

Post-hoc analysis suggest that there may be a relationship between lost time and debriefing in individuals meeting diagnostic criteria for PTSD on the SCID-I.
Chapter 5: Qualitative Results

The qualitative analysis was conducted using the principles of grounded theory methodology to better understand the employee’s perspective of debriefing, the trauma counsellors, and other supports after a traumatic event at the TTC.

Sample Characteristics

There were 17 employee interviews conducted. Table 5-1 presents the debriefing and lost time characteristics of this sample. Two counsellors who provide on-site counselling to TTC employees immediately after a trauma in the workplace were also interviewed and their views presented at the end of the chapter.

<table>
<thead>
<tr>
<th></th>
<th>Debriefed</th>
<th>Not Debriefed</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lost Time</td>
<td>4</td>
<td>8</td>
<td>12</td>
</tr>
<tr>
<td>No Lost Time</td>
<td>3</td>
<td>2</td>
<td>5</td>
</tr>
<tr>
<td>Total</td>
<td>7</td>
<td>10</td>
<td>17</td>
</tr>
</tbody>
</table>

Support Network

When interviewing participants an instrument of 11 questions was used (Appendix D). Among these, the question of most interest was whether the use of an on-site debriefing counsellor was helpful or not. In the process of interviewing, in addition to the on-site debriefing, employees
also recalled their experiences with the counsellors at the Employee Family Assistance Program (EFAP), their supervisors, family and peers. These groups all play a significant role in helping participants after a traumatic event and it has become clear that whether employees recover and return to work does not solely rest in the hands of the on-site trauma counsellors. According to the information provided by the participants, I have outlined a framework of support that exists for employees at the TTC (Figure 4-1), and will discuss the employees’ perceptions of these supports, including where expectations were met and where they were not.

**Figure 5-1: Trauma Support System as Indicated by Participants at the TTC**
In the above diagram, the traumatized worker is in the centre surrounded by five different groups. The Roman numeral group numbers will be referred to when discussing employee perceptions. The direction of the arrows indicates how support is accessed. For instance, employees who want to speak to an on-site counsellor must speak to their supervisor who will contact the counsellor. There is no direct way for the employee to contact an on-site counsellor indicating the importance of the supervisor’s role when discussing debriefing. The EFAP can be contacted directly via a phone number that is given to the employee by the supervisor; however EFAP counsellors do not initiate contact with the employee. Peer support is informal and occurs if an employee reaches out to a peer or vice versa; there is no official peer support program at the TTC where employees with similar experiences can be accessed for help.

I. On-site Counselling

Of the debriefed employees, most found the intervention to be helpful because it allowed employees to voice their immediate reactions to the traumatic event in a safe and caring environment and/or gain some understanding of what to expect in terms of symptoms they may experience.

a. Safe avenue to vent

A key component of the counselling session is the opportunity to articulate what has happened. One participant, in particular, appreciated being able to release her frustration over the event before returning home to her family:
“Well, it provided me with an avenue to vent without having to go home and take it out on the people that were at home, right? You know, and my son was home and I just, I didn’t want to go home and not have had said anything to anybody and then it was still all there” (ID.8a).

The counsellors were described as caring and understanding and as one participant explained: “She was very useful, she showed you assurance and…she allowed you to speak…and it was very comforting…” (ID.2b). The debriefing session was considered a place for employees to discuss what had happened to them and feel comforted and cared for.

b. Informative

Not only did the on-site counselling sessions provide employees with a place to voice their concerns, but they were also very informative. They allowed employees to gain an understanding of what to expect and how to handle some of the symptoms they might experience. One employee spoke for many in saying:

“It was good. I fairly got it all out for the most part um in terms of what went on, what I should do afterwards, you know, what I shouldn’t do afterwards, you know, what I can expect in terms of you know physical [symptoms], like maybe feeling more tired than usual, having a headache all that stuff so it was, it was also informational so that helped” (ID.8a).

A focus on the practical was evident in many interviews, and employees often indicated that the strategies the counsellors provided them with were a helpful part of the debriefing sessions. As one employee reported:
“…she gave me good hints. She was like ‘okay don’t go home and have alcohol because that’s going to depress you or dehydrate you’ or something and ‘when you go home, talk to someone’…that practical good stuff, not [just] a pat on the head. I mean I need a little bit of that but I need the practical stuff’ (ID.35a).

Another employee expressed appreciation over being provided with a list of possible physical symptoms. He thought the on-site debriefing was helpful in:

“just getting the information [from] a health perspective. What to expect in terms of, you know it’s okay to be…shaky. She was right [that] I was numb to what was really going on. I was very snappy. I did have trouble falling asleep. Ah my diet went to heck really. Um that side of it, sort of what to expect physically” (ID.14a).

The same employee, however, expressed a desire to receive the same kind of guidance regarding his mental well-being, although admitting that this is more difficult than addressing the physical symptoms as: “you don’t know how [each] person is going to react” (ID.14a). Regardless, he feels: “it would be nice if there was another face” (ID.14a), not just physical, to trauma management at the TTC.

c. Immediate concerns addressed

In general, employees found the debriefing sessions to be helpful in addressing their immediate concerns and aiding them in making it through the rest of the day. Employee 23a said: “They were fairly helpful. They um they pointed out things to me that I didn’t think about that
would get me through that evening” (ID.23a). The employee continued to discuss the counsellor’s role in addressing his immediate concern of informing his family:

“Like I mean my main concern, how do I go home and tell my family that I’ve been spat on, and the thing is I’m the one that should be…worrying about my family… they shouldn’t be worrying about me. Right, so that was the big thing that was eating me up and speaking to the counsellor there kind of got me through that evening” (ID.23a).

A common thread throughout all the interviews was a greater focus on the immediate alleviation of stress rather than on long-term symptomatology, health, and return to work.

In addition to providing useful coping strategies, the employees also spoke about debriefing as being calming and relaxing. One employee said: “It was good. It was good. She actually helped me calm down…she let me know some ways that I could deal with the stress, not so much get rid of it, just deal with it right because the stress is always there” (ID.5b). Overall, easing the immediate stress by providing coping strategies seemed to be a common outcome of the on-site debriefing sessions. Employee 5b summed up his experience by saying:

“She just asked me to recall the incident and you know, am I feeling suicidal and you know, questions like that and then ah she just mentioned like you know, breathe…ah it was kind of a blur that whole night but she, she did relax me a little bit” (ID.5b).

A few employees described debriefing as being not particularly helpful or unhelpful. Although admittedly helpful with calming the immediate nerves, debriefing was not a cure, as discussed by Employee ID.22a:
“Well she really didn’t do anything for me other than maybe calm me down a little bit, relieve a bit of the stress I had. Other than that, no, I don’t think she did very much for me no, other than to hold my hand and yes, yes, yes, no (laughing) we understand” (ID.22a).

In this instance, the employee was not satisfied with the debriefing session as it did not provide any long-term solutions.

d. **Comparison to family and friends**

When commenting on the employee-counsellor relationship, some employees indicated having a very good connection with counsellors, especially those with whom they have interacted with in the past. One employee who had experienced many incidents in his role as a bus operator described his counsellor as a friend: “She is my friend because I met her um in 2005 and we had a very good relationship, yeah very, very good relationship…you know she’s, she’s just amazing” (ID.3b). This particular employee found these debriefing sessions to be very helpful and compared the counsellor’s manner in handling the situation to that of his mother, “…when she comes from her level and she deals with the situation in the way my mother would’ve and um that was good…and that helps, yes it helps a lot” (ID.3b). These employees were pleased with the attention and care they received and seemed to share a certain comfort level with the counsellors. Another employee added: “She was good [but] I mean it’s not like [it was] patronizing…it was a quick, normal conversation. You know I’m not a child…” (ID.35). A non-judgmental, non-condescending attitude on the part of the counsellors may play a role in the employees’ overall positive perception of debriefing.
II. **EFAP Counselling**

Of the 10 employees not debriefed, 6 made appointments and spoke to an EFAP counsellor after the traumatic event. The reactions of these employees to the counsellors were similar to debriefed individuals, describing them as “helpful”, “easy to talk to” and “caring”. One employee, however, was not satisfied with his phone conversation and felt disappointed.

**a. Easy to talk to and informative**

Verbalizing the incident was described by those who sought help through EFAP as being somewhat helpful in reducing the immediate impact of the traumatic event. Employee 3a said, “It was okay. You know they, they let you talk right? They let you talk, they listen and it was okay. It brought me down a little bit because I was pretty, I was, I was very upset, I’d had enough” (ID.3a). Another employee recalled the changes he underwent after experiencing a traumatic event and suggested that his conversations with EFAP counsellors have been helpful in overcoming these symptoms, “I used to get a bit of sleepless nights and my eating habits changed a bit but it’s all back to normal now” (ID.26a). Also, having someone to talk to allowed employees to identify the reason behind their stress like this subway operator:

“I suppose what came out of [the session] was finding out what bothered me most about [the incident]. Not so much how to deal with it but what bothered me most is the fact of hurting people because I found I was describing it as ‘I hit somebody’ and it was pointed out to me that, ‘okay but it wasn’t your fault’. ‘So he ran into you, why do you say you hit him?’ It made me sit and say, ‘well because I feel that I had a part to play and I don’t
like the idea of hurting somebody’. So we reran over that and reran over that…at least I understand what part of it is the problem” (ID.6a).

Gaining a better understanding of what happened and being encouraged to release any sort of guilt associated with the incident was deemed helpful, even if not much was provided by way of coping strategies.

**b. Expectations Not Always Met**

One of the employees had a particularly bad experience with the EFAP counsellor when he called the hotline to speak to a counsellor about what he should be feeling or what to expect after his incident at work. The person on the other line agreed to speak to him, however, the employee was not happy with the service he received saying:

“She was telling me things that I already knew and there was nothing there to help dissuade any anxiety I might have been feeling at the time. There was nothing there to um change my thinking…It was all very bland, ah very uninformative and it would’ve been better if I didn’t call. It would, it would’ve been the same if I hadn’t called them because like I said I didn’t learn anything new. I didn’t get the comfort that I was looking for…” (ID.4b).

This particular individual had very strong opinions about the counsellor and summed up the experience with: “I didn’t feel like I was talking to a professional counsellor” (ID.4b). Another employee was not as disappointed with the EFAP session but agreed that although the session was a good place to talk, it was not a cure and admitted: “nobody is able to give me those magic
words” (ID.6a). This sentiment was consistent with employees who were debriefed. He goes on to describe his experience and his expectations of the EFAP counsellor:

“I understand that you can talk about it and what you feel and all this fun things but I guess the aggravating part is for the person whose experiencing it, you want it dealt with now. When I see you now by the end of this visit, when I’m walking out that door I expect or hope that it’ll be done. It’ll be whatever normal looks like for me” (ID.6a).

Unfortunately, the expectations of these employees were not met and as a result their perceptions of the EFAP were unfavourable.

**No on-site debriefing or EFAP counselling**

There were some employees who did not receive on-site debriefing or EFAP counselling. Their reasons include not being offered debriefing, having previously bad experiences with counsellors, or the employee did not feel the trauma was serious enough to merit intervention.

**a. Not offered, helpful in the past**

Two employees, who were not offered on-site debriefing for their most recent events, spoke very highly of the debriefing sessions they had had in the past. Employee 1b had only praise for the counsellors:

“I found them very easy to speak to. They, they came across as caring…she was very professional...yet personable and reassuring and wasn’t rushing me to say anything…any
of the experiences I’ve had with counsellors none of them have ever given me the impression that they take it lightly, which is good” (ID.1b).

Employee 13a also shared a positive debriefing experience mirroring that of many other employees:

“It was good. She was a, she was a really nice lady… when we went there and spoke to the trauma counsellor she gave me this list of, I don’t know, anger, acceptance and like what do you go through, the procedure, she explained it to me. She said she was going to call me the next day, see how I’m doing and she said like, ‘if you go home, if you’re driving, do not drive, ask TTC to take you home.’ Guess what, nobody was there so I drove home” (ID.13a).

In this description, it is clear that the trauma counsellor was very helpful and even offered to follow-up with the employee. It is also evident in the last line that the employee was not pleased with the organization and how someone was not available to drive him home in his time of need.

b. Did not need it, family and friends enough

Another employee felt that she did not need the counsellors, and that speaking to her family and friends and taking some time away from work were enough to deal with the event:

“I never met with anyone…I dealt with it fairly myself…I talked with my friends, I talked with family but um I didn’t have, even the first night I had no problems sleeping or anything…I took a couple of weeks off driving the bus just to not be you know just to kind of calm the nerves down and that but I’ve had no emotional side effects…” (ID.20a).
Through self-assessment, the employee determined she was not in need of a counsellor and used her family and friends as her sole means of support.

c.  **Declined debriefing, previously bad experience**

Not all debriefing sessions were successful. One particular bus operator revealed a previously stressful event where the debriefing session was not helpful. She described the counsellor as “irritating” and the counsellor’s use of phrases like, “stuff happens” to be patronizing. She thought the counsellor was not sympathetic and that she minimized her concerns. This time around, she chose not to speak to a counsellor because:

“I just felt that that one lady, the first time that I was assaulted, kind of set the tone for how I felt about these people and I don’t want you to come out and tell me oh you know ‘so sorry but these things do happen and we have to face it, it can happen’ (mimicking voice), no it doesn’t just happen, it doesn’t just happen. I mean I don’t see people walking down the street and somebody walking up to them and punching them in the face. I don’t see people going up to a cashier at Wal-Mart and punching her in the face. It doesn’t ‘just happen’” (ID.17a).

Employee 17a further explained that the session was so unpleasant that she walked out midway. This description is interesting because it is in direct opposition of much of what was previously said about the counsellors in terms of empathy, sensitivity, and addressing the employees’ concerns. This may be due to inconsistencies within trauma counsellors or may be related to an ill-matched employee-counsellor pairing.
**Follow-up**

While discussing their experiences with on-site trauma counsellors, as well as EFAP counsellors, a few employees mentioned that their counsellors followed up with them after their initial meeting. Most counsellors contacted employees over the phone a couple of days after the incident. Some calls were welcomed, for instance employee 13a recalled how, “...so the next day the trauma lady called me and she said ‘did you sleep’ and I’m like ‘not yet’. She’s like ‘okay it’s going to take [awhile]’. I said, ‘can I pop some pills to go to sleep’ and she’s like ‘no, no’ [and she also said] ‘you might not feel like eating’...whatever she said to me actually happened to me” (ID.13a). The employee appreciated the phone call and recommendations provided by the counsellor. On the other hand, a second employee who was contacted by a counsellor as a follow up did not feel it was necessary. “She called my house and left a number [but] I didn’t [call back]. After it happened, like I didn’t want to hear about it anymore. I said I already crossed that hurdle...” (ID.2b). In this case, the employee preferred to keep the past in the past and felt he could move forward without further assistance from a counsellor.

**Supervisors**

When discussing psychological debriefing and trauma support, the role of supervisors was often discussed by the employees. Although some employees found the supervisors to be present and committed, for the most part they were not labelled as particularly helpful.
Debriefing Referral Procedure

Below is a brief description of the referral guidelines used by supervisors and the history behind them gathered from an informal conversation with TTC trauma management personnel. A supervisor training program, initiated at the TTC in 2005, aimed to increase supervisors’ awareness of psychological trauma, its negative effects, and how to make effective referrals. There were no guidelines prior to this, and as a result, on-site counselling was often requested for minor disputes like employee-supervisor conflicts. The emphasis of the program was to put the onus on the supervisor to assess the need for immediate trauma support. The program reduced the number of immediate trauma requests and increased the number of scheduled EFAP appointments.

Trauma was divided into three levels corresponding to three modes of action. For a level 1 priority event like a suicide attempt, death or serious injury, physical assault, or serious threat of assault, the supervisor was told to request an on-site trauma counsellor, subject to the employee’s consent. In the case of a level 2 priority event, like witnessing or being involved in an accident or assault that results in minor injuries, it was the supervisor’s decision whether to request a trauma counsellor or provide the employee with an EFAP card. Finally, level 3 priority events include verbal assault from a customer or a conflict between employee and supervisor. Here, supervisors are instructed to provide employees with an EFAP card to schedule an appointment to speak with a counsellor.

Despite the above described guidelines, an issue that was brought up by many employees was the apparent inconsistency between supervisors in when and to whom they offer on-site debriefing and their motives behind it. One employee stated it well when saying:
“there’s a little bit of inconsistency, not much, it all depends on who’s on the console right, so you could get any number of supervisors that are there and some are more sensitive than others and it all depends on what kind of relationship you have with that particular supervisor. There’s a whole bunch of dynamics that are involved in that so you know if it’s somebody you don’t necessarily get along with or you’ve had a conflict in the past um or they don’t handle stress as well as the next supervisor, it might be an oversight or it might just be that they don’t like you and they don’t even care to ask you” (ID.8a).

These inconsistencies are apparent within the qualitative employee interviews. The following paragraphs explain what debriefed employees and not debriefed employees found helpful or unhelpful about the supervisors after a traumatic event.

**Debriefed Employees**

**a. Unhelpful**

One employee, after experiencing several recent traumatic incidents was greeted by the supervisor at the scene of her most recent verbal assault. She stated: “the supervisor that showed up was kind of a dick” (ID.8a). For instance, as she was recalling the event, the supervisor was unable to write everything down and said, “okay you know what, slow down a bit, I’m not a secretary” (ID.8a). That, for this employee, was the beginning of a bad relationship.

A related issue that employees discussed throughout the interviews was the large amount of paperwork that they must fill out after an incident. Employee 8a recalled a conversation with an unhelpful clerk where he continuously re-directed the employee to other people and was
unable, or unwilling, to answer any questions. The exasperated employee “almost got to the point where it’s like you know what I just, I’ll forgo the pay, this is not worth it” (ID.8a). The clerk in this instance was not helpful.

Every traumatic event is different. As mentioned before, how quickly the supervisor arrives on scene and whether or not he offers on-site debriefing depends on many factors. The next two cases demonstrate this inconsistency. When a subway suicide took place, the police, EMS, TTC special constables and supervisors arrived on the scene within minutes. One employee described his most recent experience where there were “too many supervisors, four of them” (ID.35), compared to his last incident where there were only two. On the other hand, when dealing with an assault on a bus operator: “the supervisor at the time, she never even sent the police to the scene” (ID.2b). The employee went on to explain: “she left me on the bus for 45 minutes” (ID.2b) before anyone from the TTC showed up. This employee was “panicked” and said she was “going out of [her] mind.” In this instance, it was the public on the bus that called the police and stayed with her in case the assailants returned. In the former case, a subway suicide is considered a priority 1 situation where supervisors arrive on scene, the police and paramedics are called in, and debriefing is offered to the train operator. The procedure is fairly scripted and there is little deviation. In the second scenario, a bus operator assault can take many forms and it is up to the discretion of the individual supervisor to rank the incident’s severity/priority and respond accordingly. In this case, there is no one right or wrong way to respond.
b. Helpful

Some employees found the supervisors to be supportive and helpful. One subway operator mentions speaking with multiple supervisors after his incident and described them as “responsive” and “encouraging” (ID.3b). A second employee broke down after a traumatic incident on a bus and called into the division and told them she could not continue driving. The supervisor at the division, “came in and spoke with me and you know ah he [was] actually pretty good because he calmed me down a bit and you know reassured me that you know that it happens…then he actually drove me back to the division” (ID.5b). In this case, the supervisor was able to calm and reassure the employee and offer his support.

Not Debriefed Employees

a. Unhelpful

Within the group of employees that were not debriefed, there is a wide distribution of opinions on how helpful or unhelpful the supervisors are perceived to be. One of the things that was mentioned a few times was the lack of compassion shown by the supervisor. The employees are often quoted as saying: “he has to or he’ll get in trouble” (ID.8a, ID.3a) when it comes to the supervisors responsibility to offer EFAP or debriefing assistance or that he verified “whether or not it’s my fault and all the other you know technical things…” (ID.6a), but does not address the trauma or the emotions involved. Often, there is a disconnect between what an employee wants or expects (understanding and compassion) and what is offered (procedure and protocol). A
particular incident where the supervisor was deemed “unhelpful” was in the case of an employee with multiple incidents in a short-time span. Upon returning to the division from the hospital, one supervisor greeted the employee with, “Oh my God, not again…you have bad luck, you’re jinxed” (ID.17a). In addition to the multiple traumas, the lack of sensitivity on the part of the supervisor was not helpful. Putting aside this particular incident, employee ID.17a found TTC supervisors on the whole to be: “neither helpful or an inconvenience in any way” (ID.17a).

b. Helpful

In the group that was not debriefed, there were also many instances where supervisors were looked on as being helpful. The supervisors have been described as “supportive” (ID.1b), and overall “pretty good” (ID.1b). The employees revealed that in severe incidents many supervisors are quick to respond. For instance, when a gun was involved “the chief supervisor showed up too” (ID.26a). One of the biggest supports that the employees were provided with is the option to speak to a counsellor on-site or over the phone through the EFAP. The second most quoted positive remark is regarding driving the employee back to the division so the individual does not have to drive in a traumatized state. One employee was impressed with his supervisor who seemed to be the oddity as he sat the employee down and asked: “are you alright? Is everything fine?” (ID.20a), then offered him on-site counselling, stayed with him through the police statements, asked if he could continue, drove him back to the division, and encouraged him to take some time off from work.
III. Peer Support

Peer support was identified as being helpful and suggestions for a formal peer support program were voiced by the employees. Although one employee found the counsellor to be helpful, he also felt that “it would be nice if maybe, if possible, a person who has been through it before” (ID.14a) was on scene or available to talk to. This subway operator specified that it doesn’t necessarily have to be: “someone you’re familiar with but someone who knows the feeling of going into a station and all of a sudden there’s someone in front of you” (ID.14a). Overall, he claimed to speak for his fellow employees who have experienced traumatic events when saying, “that’s one thing like a lot of guys have said, ‘it’s nice to have somebody who has, who’s been through it’” (ID.14a).

No Lost Time

Among the employees interviewed, five did not take time off work. One of the employees justified his decision to return to work immediately by saying: “Like everyone was saying book off stress and stuff but I felt to myself if I had to stay home the next day they would’ve had a harder time getting me back on the wheel” (ID.2b). A similar ‘let’s just move on’ attitude is seen in other employees who opted to put the incident behind them by immediately returning to work. The second most common reason given for not taking time off is a resilient personality. One employee described himself as a “calm, cool, peaceful guy” (ID.4b), who claimed that one of the reasons he did not take time off from work is because, “I don’t get mad very easily, nothing bothers me” (ID.4b).


**Employee Family Assistance Program (EFAP) On-site Counsellors**

Two counsellors who act as on-site counsellors at the TTC were interviewed to get a better understanding of what is offered to employees in the name of psychological debriefing, as well as to illicit the counsellors perspectives on trauma counselling at the TTC. As there were only two participants in this portion of the qualitative analysis, no direct quotes are used in the interest of maintaining confidentiality. Also, procedural information gathered from earlier informal conversations with EFAP management and counsellors are included.

Both counsellors had different backgrounds with various degrees, certificates, and diplomas, however, it was stated that all counsellors had to complete a prescribed trauma counselling program as per the EFAP guidelines. When discussing the on-site debriefing sessions, one counsellor considered what she offered to be less debriefing and more defusing of the immediate situation. The second counsellor, on the other hand, claimed to adhere to the Mitchell debriefing model (CISM) under which she was trained. Both counsellors also acknowledged that all 4 on-site counsellors had varied backgrounds and approaches to debriefing.

The main objectives of the session seem to be immediate defusing of the trauma, calming the employee down, getting them home safely. In addition to this, one counsellor maintained the importance of providing employees with information on possible mental, emotional, and physical reactions they may experience and possible coping strategies/resources. It was also mentioned by both counsellors that they always offered to follow-up with the employee.

Typical on-site counselling sessions are initiated by the TTC and the counsellor is expected to be at the scene of the incident within 90 minutes. Although counsellors sometimes
arrive on-site earlier than the prescribed 90 minutes, they must wait until the TTC operational debriefing and police investigation is completed before meeting with the employee. Debriefing sessions are usually individual, however in the case of a subway suicide the train operator and guard may be debriefed together. There have been a few occasions when larger debriefing sessions have been conducted (i.e. horrific incident, death of an employee), however these are not common.

The counsellors both stated that all sessions they have conducted began with introductory statements about themselves, their relationship with the TTC, and the parameters of the session. Employees were then encouraged to enter right into the facts of the situation, which the counsellors felt was the best way to open the lines of communication and often naturally led into the discussion of reactions. Sessions were closed by ensuring that everything the employee has wanted to discuss has been addressed and by providing suggestions and recommendations to deal with these concerns.

When discussing the effectiveness of the sessions, the counsellors revealed that their measures of success are subjective, for instance, whether or not the employee opens up or seems less anxious at the end of the session. They do not know how debriefing directly affects PTSD or how much time an employee takes off from work. Common issues raised by the employees during the discussion include the amount of paperwork involved after experiencing a trauma, the unsympathetic supervisors/management, how to get home, what to do when they are at home, how to tell their family, and the importance of peer support. It was also noted by one counsellor that when given the opportunity to talk, employees often spoke of additional stressors in their lives at the moment and/or previous incidents that may still be weighing on the employee.
The counsellors both acknowledged that the supervisor has a lot of responsibility when a traumatic event happens as they are one of the first people to see the employee and the one who decides whether to offer on-site counselling. For instance, the counsellors revealed that they do not debrief many maintenance staff, special constables or supervisors who are involved in a trauma but sometimes are called in for disputes between employees and management in which case they cannot do much.

It was also interesting to note that although on-site counsellors are trained trauma counsellors, when calling the EFAP hotline, employees will not necessarily speak to someone who specializes in trauma.

Summary

There were 17 employee interviews conducted; 7 debriefed and 10 not debriefed. During the interviews, the employees described their experiences with not only the on-site trauma counsellors, but also the EFAP counsellors, their supervisors, family and peers.

On-site trauma counselling was perceived to be helpful because it provided employees with a safe and caring avenue to vent with an emphasis on addressing immediate concerns and providing practical and useful coping strategies. The EFAP counsellors, for the most part, were also seen in a positive light as they too were easy to talk to. Only one employee found the EFAP to be particularly unhelpful. Some of the employees did not receive on-site debriefing or EFAP counselling. Employees in this category spoke of previous experiences with debriefing, good and
bad, and also spoke about declining on-site counselling because the trauma did not feel serious enough to merit intervention.

The supervisors’ role in the immediate crisis situation was constantly brought up. The main issue is the apparent inconsistency from one supervisor to another. The majority of debriefed employees found the supervisors to be unhelpful. In the not debriefed group, however, there was a much wider range of opinions. Some felt the supervisor was insensitive or did not care, while others describe an individual who reassured the employee, offered on-site trauma counselling, stayed until the paperwork was done and then offered the employee a ride home.

Peer support is identified as being helpful and suggestions for a formal peer support program were voiced by the employees. Also, a sub-set of employees interviewed did not take time off from work. The two most common reasons given were an overall resilient personality, and the realization that the longer one is off, the more difficult it is to return to work.

Finally, a summary of two interviews conducted with on-site trauma counsellors provided further insight into the debriefing process. The counsellors’ main objective was to calm the employee and address any immediate concerns; followed by their secondary aim to provide useful stress management and coping strategies. The importance of the supervisors’ role in immediate crisis intervention at the TTC was also mentioned.
Chapter 6: Discussion and Conclusion

The results of the study show the debriefing experience to be perceived as mostly helpful, although there is a lack of statistically significant findings. This chapter discusses the implications of the quantitative and qualitative findings, including the effect of debriefing on PTSD and lost time from work, possible reasons for continuing the use of debriefing, the meaning of the term “psychological debriefing” at the TTC, as well as the role of the counsellors, supervisors, and peers after a traumatic event in the workplace. In addition, strengths and limitations of the study are addressed, concluding with a discussion on possible future research initiatives and directions.

Discussion and Interpretation of Findings

Sample

The sample used in the study was a mixed group of transit employees exposed to varying degrees of trauma. The mean age and gender distributions of the participants were consistent with that of the larger TTC employee population and covered various occupations and incident types. Unfortunately, although the sample seemed representative of the TTC demographic, delays in start up and slow recruitment resulted in a small sample size. According to previously conducted sample power calculations, 61 participants were needed to obtain statistically significant results, however only 31 participants completed the study in the time provided for a master’s thesis resulting in lowered statistical power.
Debriefing and Post Traumatic Stress Disorder

Post Traumatic Stress Disorder symptoms were assessed for all participants using the Modified PTSD Symptom Scale (MPSS) at 1 month, 3 months and 6 months after the traumatic incident. Mean and median scores, as well as the percentage of employees meeting cut-off on the MPSS were analyzed using both parametric and non-parametric statistical tests. There were no significant differences found between the groups in terms of mean PTSD scores or percentage of employees meeting cut-off on the MPSS. This finding is consistent with previously conducted reviews and studies on single-session individual debriefing (Rose et al., 2002; Litz et al, 2002; Plant, 2000). There was, however, a consistently higher percentage of symptoms at all three time points and a slower reduction of symptoms over time in the debriefed group than the not debriefed group. We know that the magnitude of exposure to trauma plays a role in the trauma response elicited (Devilly, Gist, & Cotton, 2006) and that the debriefed group had a higher number of severe incidents at baseline. Therefore, the higher frequency and severity of PTSD symptoms found in the debriefed group may have been due to the increased severity of incidents initially reported by this group and not a direct cause of the debriefing intervention itself. Kennardy et al. (1996) mirrors these findings in a study where incident type and severity are not comparable across the groups.

Debriefing and Lost Time from Work

Lost time or return to work is not an outcome often studied in the debriefing literature; the focus usually being on pathological outcomes or perceived support. In this study, the number of days
absent from work as a result of a traumatic incident was recorded for a 6 month period. There were no significant differences in average/median days lost from work between employees who were debriefed compared to those who were not debriefed. In the post-hoc analysis there were, however, 7 outliers representing employees who took more than 149 days off from work each (removing this group resulted in 75 days being the greatest number of days lost by a single employee). Six of the 7 of these outliers met cut-off on the MPSS and all 7 met diagnostic criteria for PTSD on the SCID-I. This finding suggests that despite management’s perceptions that employees take more time off from work than needed, those who book off for long periods of time (> 75 days) are in fact experiencing significant pathology and are not delaying return to work without cause.

Also, it is interesting to note that debriefing may have a connection with lost time when focusing on the 10 employees meeting PTSD diagnostic criteria on the SCID-I, rather than the MPSS data for 1 month, 3 months or 6 months. Out of these 10 employees, as mentioned before, 7 took more than 149 days off from work. Out of these 7, only one was debriefed. The remaining 3 employees diagnosed with PTSD did not take long periods of time off from work and were all debriefed. This finding suggests that debriefing may have a relationship with reduced lost time from work in employees who develop a diagnosis of PTSD. Small sample sizes, however, do not allow us to confirm or disconfirm this hypothesis.

Moreover, when recruiting individuals into the study, only employees who took time off from work after a trauma were included. The majority of these individuals were not debriefed. By investigating further, it was discovered that this was not a coincidence, but rather many employees who were debriefed did not take time off from work. To further explore this issue, an
additional group of 5 employees who did not take time off from work were recruited and interviewed. This further provides weight to the theory that debriefed individuals may not take as much time off from work as employees who did not receive debriefing, however further study would be needed to draw any conclusions.

Positive Perception of Debriefing

In this study, little evidence suggests that debriefing is effective in lowering PTSD symptoms or reducing the amount of time lost from work, which causes one to question why so many organizations still continue to employ the practice. Even without proven therapeutic or economical value, information gathered from the employee interviews suggest that overall debriefing is perceived to be helpful and meets many needs, two of which are described here. Firstly, as pointed out by Raphael et al. (1995), there is the need of the employee to articulate the traumatic event, validate their reactions as normal, and thereby gain control. It can be seen in the employee interviews that although there was no significant symptom reduction in the debriefed group, when the associated anxiety and emotional reactions were dealt with professionally, it left the employee feeling better. The employee was able to better process the event and immediate reactions, and also knew what to expect and how to cope. These findings are supported in the occupational literature where firefighters (Regehr & Hill, 2000), nurses (Burns & Harm, 1993) and emergency workers (Robinson & Mitchell, 1993) all rated debriefing to be personally beneficial after a traumatic incident despite a lack of significant symptom reduction.
The second need that is met by debriefing sessions is the need for management to display concern and to aid their employees, even if it is only symbolical. The organizational culture and the relationship between employee and employer are vital in the aftermath of a traumatic event in the workplace. Social support within the work organization, particularly from supervisors, is a mediating factor of traumatic stress reactions (Regehr et al., 2000; Buunk & Peeters, 1994). It is apparent that the relationship between management and employees at the TTC is unsteady and inconsistent. One of the few supports that are currently offered to employees after a traumatic event is the assistance of an on-site debriefing counsellor or access to the EFAP counselling hotline. Therefore, removing either because there is no evidence of symptom reduction or for budgetary reasons would only further the gap between management and union workers and increase their displeasure with the organization. This may translate to an increase in days lost from work or make it more difficult for employees to return to their previous jobs. At the TTC, it would seem that the need of the employee to be heard and the expectation of the employer to listen are at least partially met using trauma counselling and it would be recommended to continue its use, even if in a modified form.

The term “Psychological Debriefing”

During the beginning stages of the study, it was not clear what the psychological debriefing intervention consisted of at the TTC. The employees and supervisors referred to it as trauma counselling, on-site counselling, or EFAP, while the counsellors used the words critical incident stress debriefing, defusing, and counselling interchangeably.
In the key informant interviews, the counsellors state that they are all trauma trained in the Critical Incident Stress Management (CISM) or Mitchell model. It is described as the foundation of their sessions although admittedly adherence varies from counsellor to counsellor. In light of the information gathered from the employee and counsellor interviews, it seems the psychological debriefing sessions offered at the TTC may be better described as defusing.

Originally, CISD was proposed as a 7-step group debriefing protocol lasting 2-3 hours on average per session (Mitchell & Everly, 1993). The steps were labeled Introduction, Fact, Thought, Reaction, Symptom, Teaching, and Re-entry. During the qualitative interviews, employees discussed being introduced to the counsellor, sharing the facts of the events and discussing possible reactions. This opportunity to provide verbal release in a safe, structured environment was considered the most helpful quality of the sessions. Some employees also recalled coping strategies they had received and a few spoke to their counsellors about returning to the work force. There are some similarities between the steps prescribed in Mitchell’s debriefing model and those experienced by the employees at the TTC. There were, however, some differences. Unlike CISD, on-site trauma counselling at the TTC is estimated to last anywhere between 30 minutes to an hour and for the most part does not follow a group education model. Also, not all the steps prescribed in the Mitchell model are consistently addressed depending on the employees’ individual needs and given time constraints.

As a result, it seems that defusing is the better term to describe what is offered to employees after a traumatic event at the TTC. Mitchell and Everly (1993) describe the process of defusing as a shortened version of CISD implemented immediately or shortly after a traumatic event. It is also similar to the TTC’s on-site counselling as its more flexible, less formal and lasts
about an hour long. Defusing’s three step process also seems to complement the TTC’s current practice with an Introduction step, followed by an Exploration stage where the trauma and any unusual reactions are discussed, ending with the Information phase where the employees are taught trauma concepts and stress management techniques. These steps highlight the elements most predominately discussed in the employee interviews: being able to vent and receiving information about symptoms and coping strategies. Finally, defusing sessions are offered to employees within hours of the trauma, whereas debriefing usually occurs at least 24 hours after the event.

If the TTC is in fact utilizing a method more closely resembling defusing, it may not be appropriate to measure the success of the on-site counselling sessions at the TTC based on PTSD symptom reduction. Defusing does not aim to provide an in-depth or long-term solution to trauma but instead focuses on the immediate alleviation of stress and recovery to normal functioning. As such, maybe an alternative outcome should be assessed when measuring effectiveness of the intervention in the future. Outcome measures that may fit more closely with the goals of the intervention include return to work, sick leave, improved morale, job functioning, and family functioning. Tuckey (2007) also states that broader assessment of outcomes may help detect unintended effects of the intervention.

Other Supports

There are multiple groups that play a role in supporting an employee after a trauma, not only the on-site trauma counsellors. Even if the trauma counsellors are able to calm the employee or
provide useful tips, it seems that without the help of other key groups like the EFAP, supervisors, and peers, the employees cannot fully recover and/or return to work.

The study found that although a minority of traumatized employees received debriefing, a surprising number of those who were not debriefed contacted the EFAP to speak to a counsellor over the phone or make an appointment to meet in person. The majority of counseled employees relayed positive experiences, however a couple did not feel it was worth their time. These negative perceptions maybe due to the fact that EFAP counsellors do not necessarily specialize in trauma like the on-site counsellors and their qualifications were never made clear.

As mentioned earlier, management, especially supervisors, is another group that impacts the employee after a trauma at the TTC. In the workplace, both the employer and the employee have a great deal to gain from effective prevention and early intervention after a traumatic event. Few organizations have developed trauma management plans to deal with the acute and long-term traumatic effects on the health and morale of employees. The TTC, for its part, attempts to address acute effects by not only offering debriefing, but by also ensuring that supervisors are informed and present on the scene of any trauma. During the employee interviews, the inconsistency among supervisors in the method in which they handle a traumatic incident was noted by many and it was suggested that a better protocol be developed and followed. Some supervisors were supportive and understanding, while others made inappropriate comments in sensitive situations and were unable, or unwilling, to help employees with the post-trauma paperwork. It is interesting to note that studies conducted in the police force suggest that these sorts of organizational stressors are often more distressing then the traumatic event itself (Brown & Campbell, 1990; Burke, 1993; Buunk & Peeters, 1994; Coman & Evans, 1991; Hart, Wearing,
& Headley, 1995). Employees and counsellors agree that supervisors have a large responsibility in a trauma situation being one of the first to arrive on scene and the one who decides whether an employee is offered on-site debriefing. The supervisor’s primary responsibility, however, of keeping operations running smoothly often overshadows the employee’s need for a supportive and understanding colleague. Developing a better employee-supervisor relationship and clarifying the organizations role may help in the recovery and return to work process after a trauma.

Lastly, one of the pillars of CISD that is not being utilized by the TTC is the peer-group support model found to be valuable in addressing distressing issues (Carkhuff & Truax, 1965). Peer support was mentioned in the employee interviews as something that would be helpful in returning to work. It was also suggested that an official peer support program be implemented at the TTC so employees have the option of discussing their experiences with someone who has had similar traumatic experiences.

**Strengths and Limitations**

The primary strength of this study is its contribution to the debriefing and transit literature. It is the first study to explore the psychological debriefing intervention within the TTC environment. The study attempts to define what is offered to employees in terms of psychological debriefing which may have implications for how its effectiveness is measured in the future. Also, the study found that debriefing did not result in a significant reduction in PTSD symptoms demonstrating
its ability to corroborate the results of debriefing studies conducted in other trauma situations 
(Deahl et al, 2000; Rose et al., 2000).

Overall, psychological outcomes have been the focus of debriefing efficacy studies to 
date. This study, however, also addresses lost time and return to work with relation to immediate 
debriefing. Given the finding that debriefing does not have a significant impact on whether an 
individual develops PTSD, this study experiments with an alternative outcome measure that may 
prove to be more appropriate.

In general, little has been written in the literature with respect to violence against 
transportation employees and the effect on the employee’s wellbeing. It was found in an 
investigation of the London Underground that assault was the most significant risk to staff safety 
(Cooney & Cochrane, 1995). A strength of this is study is that it includes employees who were 
not only involved in suicides or collisions, but also those who were verbally or physically 
assaulted or threatened. It is important to include assaults when investigating trauma in transit 
workers especially when employees are in constant contact with the public.

Addressing the research design, the mixed method approach of using both quantitative 
and qualitative data allowed for the limitations of one approach to be compensated for by the 
strengths of the other (Johnson & Onwuegbuzie, 2004). Information collected on PTSD and lost 
time were treated as continuous and dichotomous data allowing for more freedom with the data 
analysis and the ability to test relationships even with a small sample size and an abnormal 
distribution of the data. On the other hand, the qualitative interviews provided an in-depth study 
into individual stories and employee perceptions of not only debriefing and trauma counsellors, 
but also other supports that play a role in recovery and return to work. In addition, unlike many
other workplace trauma studies, this is a longitudinal study where employees were recruited immediately after the event and followed for a six month period, facilitating a better understanding of symptom development and time lost from work.

The final strength is the analytical generalizability of the study. Although the quantitative results are not statistically generalizable, the qualitative results can be deemed analytically generalizable. According to Kvale (1996), “analytical generalization involves a reasoned judgement about the extent to which the findings from one study can be used as a guide to what might occur in another situation [and is] based on an analysis of the similarities between the two situations”. In other words, the results of the study may be applicable to cases outside of the TTC depending on the degree of similarity between the groups and/or settings as determined by the reader.

An obvious drawback of the study is the small sample size. As it is often the case when conducting research in the “real world”, delays in recruitment of employees and data collection resulted in a lower than expected number of participants recruited in the time allocated for a master’s thesis. With only half of the originally planned number of participants completing the study within one year, there was not enough power to draw statistically significant conclusions.

Also, in this study absenteeism is assumed to be a good measure of health. One must note, however, that the amount of time lost from work may be influenced by other personal and social factors that have not been accounted for in this investigation. For instance, it has been suggested that woman take more time off from work due to illness than men (Virtanen, Kivimaki, & Elovanio et al., 2005). Furthermore, many studies have found that when faced with potential unemployment or in recessionary periods, employees are less likely to take time off from work
due to illness (Colledge, 1982; Beale, 1988; Virtanen, 1994; Virtanen, Kivimaki, & Elovinio et al., 2005). This second finding means that employees often work while ill (presenteeism) which may lead to long-term adverse health effects that are not captured in this study. Future lost time study designs and analysis should take some of these factors into consideration.

As with many trauma related studies in the past, random allocation to a debriefed or not debriefed group was not feasible as the immediate needs of trauma victims took precedence over research interests. It is TTC policy to offer debriefing as the supervisors sees fit or as requested by the employee thereby making it impossible to randomly allocate individuals. Also, even if random allocation occurred, it would not be possible to prevent cross-contamination of the groups. Therefore, the debriefed and not debriefed groups were not comparable at baseline with differences in incident severity, occupation type, age and education, making interpretation of research findings difficult.

There were also several biases in the methodology of the study including a selection bias on the part of the supervisors who decided which employees were offered debriefing. Selection bias goes hand in hand with a lack of random allocation into groups and once again may affect the interpretation of the results. Also, as with any study using a voluntary recruitment process, a self-selection bias must be considered as it is possible that employees who agreed to participate in the study are different than those who did not agree resulting in a non-representative sample. The sample was also biased by the ineligibility of those who experienced a trauma but did not take time off from work. Given this criterion, there were many debriefed employees who were not recruited into the larger APT study and in turn not included in my study. To account for this
issue, a sub-group of five employees who lost time from work were recruited outside of the larger study and qualitative interviews were conducted.

Specifically, within the qualitative interviews, there was the potential for two types of reporting bias. Firstly, when asked to remember a traumatic situation after-the-fact, the answer is not only informed by the truth but also by the participant’s memory. A participant might not feel the same way they did at the time of the event resulting in a recall bias when conveying their story. A second type of reporting bias is a response bias where participants intentionally respond incorrectly to a question if the correct answer is less desirable. This type of social desirability bias is especially the case when conducting face to face interviews, however, the value of developing a good relationship with the employee and gathering an in-depth narrative of their experiences was considered a justifiable trade-off.

Finally, the time constraint within which this master’s thesis was conducted was a significant, yet unavoidable, limitation and further research into psychological debriefing and alternative forms of trauma support at the TTC are encouraged.

**Conclusions and Implications for Future Research**

Post Traumatic Stress Disorder (PTSD) symptomatology and lost time from work were not significantly different in debriefed individuals versus those not debriefed. Overall, however, employees perceived debriefing to provide a function of value. The exact nature of this function or extent of its value is yet to be measured. Given the small sample size of my thesis, a second quantitative analysis of the data once the larger APT study is complete will allow for a better
understanding of the impact of debriefing on PTSD and lost time from work. Also, although it is always a challenge to randomize individuals who have experienced a trauma, a randomized controlled trial using debriefing in its intended form and context can account for many of the shortcomings previously addressed.

In addition to improved methodology, there is currently a need to address the inability to define the term “psychological debriefing” as it is often used in modified forms in different contexts within various populations. Given this fact, no matter how many studies are published on the topic, it will remain difficult to determine the effectiveness of the intervention. A more valuable endeavour may be to separate the different components of the traditional Mitchell CISD model and test each variable for its effect on the reduction of PTSD or lost time from work. If each stage of the intervention is tested independently, it will form a controlled environment where the steps found to produce positive effects can be identified and adapted. A dismantling study was conducted by Sijbrandij (2006) where CISD with either the emotional ventilation or psycho-education phases omitted was compared to a non-intervention control. Neither debriefing group proved effective, however, those with low hyperarousal showed a mild benefit from the educational debriefing. A similar study within the TTC, taking into account symptom presentations immediately after the event, could provide further insight.

Finally, it was found that debriefing is only one aspect of an integrated trauma support network at the TTC, where supervisors and management also play an important role in early intervention. Further investigation into the complete support network available to employees after a traumatic event, including alternatives to debriefing, would be helpful in developing a well-
rounded and successful trauma management program. This type of exploration would not only be valuable for the TTC, but also for other workplaces at high risk of exposure to traumatic events.
References


Appendix A:

Modified Post Traumatic Stress Disorder Symptom Scale (MPSS)
Modified PTSD Symptom Scale

The purpose of this scale is to measure the frequency and severity of symptoms in the past two weeks. Using the scale listed below, please indicate the frequency of symptoms to the left of each item. Then indicate the severity beside each item by circling the letter that fits you best.

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FREQUENCY

1. Have you had recurrent or intrusive distressing thoughts or recollections about the event(s)?

2. Have you been having recurrent bad dreams or nightmares about the event(s)?

3. Have you had the experience of suddenly reliving the event(s), flashbacks of it, acting or feeling as if it were re-occurring?

4. Have you been intensely emotionally upset when reminded of the event(s) (includes anniversary reactions)?

5. Have you persistently been making efforts to avoid thoughts or feelings associated with the event(s) we’ve talked about?

6. Have you persistently been making efforts to avoid activities, situations, or places that remind you of the event(s)?

7. Are there any important aspects about the event(s) that you still cannot recall?

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<td>Not at all</td>
<td>Not at all distressing</td>
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<tr>
<td>Once per week or less/</td>
<td>A little bit distressing</td>
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<td>a little bit/once in a while</td>
<td>Moderately distressing</td>
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<td>2 to 4 times per week/</td>
<td>Quite a bit distressing</td>
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<td>somewhat/half the time</td>
<td>Extremely distressing</td>
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<td>5 or more times per week/</td>
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<td>8. Have you markedly lost interest in free time activities since the event(s)?</td>
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<td>9. Have you felt detached or cut off from others around you since the event(s)?</td>
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<td>10. Have you felt that your ability to experience emotions is less (e.g., unable to have loving feelings, do you feel numb, can't cry when sad, etc.)?</td>
<td>A B C D E</td>
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<td>11. Have you felt that any future plans or hopes have changed because of the event(s) (e.g., no career, marriage, children, or long life)?</td>
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<td>12. Have you been having persistent difficulty falling or staying asleep?</td>
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<td>13. Have you been continuously irritable or having outbursts of anger?</td>
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<td>14. Have you been having persistent difficulty concentrating?</td>
<td>A B C D E</td>
</tr>
<tr>
<td>15. Are you overly alert (e.g., check to see who is around you, etc) since the event(s)?</td>
<td>A B C D E</td>
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<tr>
<td>16. Have you been jumpy, more easily startled, since the event(s)?</td>
<td>A B C D E</td>
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<tr>
<td>17. Have you been having intense PHYSICAL reactions (e.g., sweaty, heart palpitations) when reminded of the event(s)?</td>
<td>A B C D E</td>
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Appendix B:

Demographic Information Questionnaire
APT STUDY PARTICIPANT DEMOGRAPHICS

DATE: ___________  ID NUMBER ______

1. In what year were you born? YEAR ______

2. Currently, are you:
   □ Married or living common-law
   □ Separated or divorced
   □ Widowed
   □ Single, never married

3. What is the highest level of education you have completed?
   □ some elementary
   □ elementary
   □ some high school
   □ high school
   □ some college/university
   □ college/university
   □ graduate school

4. What is your job at the TTC
   □ Train operator
   □ Bus or streetcar operator
   □ Special constable
   □ Collector
   □ Supervisor: Chief, Mobile, Route, Subway
   □ Trainer
   □ Maintenance worker or janitor worker
   □ Other, specify

5. Is your job:
   □ Fulltime?
   □ Part-time?

6. How many years have you worked at this job? ______

7. How many years have you worked at the TTC? ______

8. How would you describe your racial/ethnic background?
   □ Aboriginal
9. In what country were you born?

10. If not Canada, what year did you come to Canada? __________

11. In the past year, have you gone to a ________ about the event that happened at work:
   a. A family doctor?
      □ yes  # of times __________
      □ no
   b. Occupational health?
      □ yes  # of times __________
      □ no
   c. Employee assistance program
      □ yes  # of times __________
      □ no
   d. A psychologist?
      □ yes  # of times __________
      □ no
   e. A psychiatrist?
      □ yes  # of times __________
      □ no
   f. A counsellor, therapist or social worker?
      □ yes  # of times __________
      □ no
   g. A religious advisor like a minister, priest, spiritual leader?
      □ yes  # of times __________
      □ no
   h. Other __________
      □ yes  # of times __________
      □ no
Appendix C:

Employee Interview Guide
As you know, we are studying what happens to employees who have experienced a traumatic event in the workplace. We are interested to learn about what helps or hinders someone from returning to their job.

1. I would like to start by asking you briefly describe the event you experienced.

2. How did you feel about the event after it happened?

NOTE: ALWAYS ASK QUESTION #3

3. Did you meet with the trauma counsellor immediately after the event? Did you find this helpful? Why or why not?

4. What do you think you needed, if anything, to help you deal this event?

5. What or who was helpful for you after the event? Why?

6. Was anything or anyone unhelpful? Why?

7. (If not already discussed) Did you see anyone else like a doctor, psychologist, counsellor or someone else?
   a. What led you to this person(s)
   b. What types of assistance did you receive?
   c. For how long?
   d. Was it helpful? Why or why not?

8. How long was it before you went back to work?
   a. Did anyone or anything help you get back to work?
   b. Did anyone or anything make it difficult to go back to work?
   c. (If not already discussed), how did the TTC help you or make it difficult to get back to work?
   d. Is there something that could be changed to make the return to work easier?

9. How do you think the event affected you (…what about now)?
   a. At work
   b. At home
   c. Other

10. Do you think you got what you needed to help you?
    Probes: who, when, how often, where
    Would you do anything different? What and why?

11. What do you think, if anything could be done to help prepare you for these types of events?
Appendix D:

Counsellor Interview Guide
The purpose of this interview is to gain a better understanding of trauma counselling as it exists in the TTC, from the perspective of the counsellors.

1. I would like to begin by asking you to briefly describe your training and experience as an EFAP trauma counsellor.

2. Can you walk me through what happens from the time you are called to when your counselling session ends?

3. There are a number of different definitions for trauma counselling/debriefing. To help me better understand exactly what is offered at the TTC, can you describe the model you use when counselling?

4. When counselling/debriefing a TTC employee, what are the main objectives of a counselling session? How are the objectives decided upon?

5. How is the success of the counselling session measured?

6. In your experience, what are the key issues that TTC employees want to discuss?

7. In your experience, what do you perceive to be most helpful about debriefing to a TTC employee?

8. After the on-site counselling session, what happens in terms of follow-up with the employee?

9. In your experience, are trauma counselling services being offered to all TTC employees? Are some employees more likely to be referred to counselling than others? Why?

10. How do you think traumatic events effect the employees
    a. At work?
    b. At home?

11. Given that the event affects employees in many aspects of their lives, is there a need to involve family members or the employee’s support system when counselling after a traumatic event? What role do you see the family playing?

12. Are there any constraints in the way the program is shaped right now that makes it difficult for you to fulfill the objectives of a trauma counselling session?

13. Is there anything else you think we would find helpful to know?
Appendix E:

Consent Form
St. Michael's Hospital
Consent to Participate in a Research Study

Title of Research Study

Psychological Debriefing of Workplace Trauma: A Case Study of the Toronto Transit Commission

Principal Investigator (Thesis Supervisor)

Dr. Paul S. Links,
Arthur Sommer Rotenberg Chair in Suicide Studies, St. Michael’s Hospital
Telephone number (416)864-6060 Ext. 2689 (9:00AM to 5 PM)

Co-Investigator (Master’s Student)

Jesmin Antony,
Suicide Studies Unit, St. Michael's Hospital
Telephone number: (416) 864-6060 ext. 6774 (9:00AM to 5 PM)

This study is a Master’s thesis project conducted by Jesmin Antony under the supervision of Dr. Paul S. Links at St. Michael’s Hospital.

Study Sponsor

This study has been funded by the Workplace Safety and Insurance Board and in kind sponsorship of the Toronto Transit Commission (TTC).

Before agreeing to participate in this research study, it is important that you read and understand this research consent form. This form provides all the information we think you will need to know in order to decide whether you wish to participate in the study. If you have any questions after you read this form, please ask the researcher any questions that you may have. You should not sign the form until you are sure that you understand everything on this form. You may also wish to discuss your participation in this study with your family doctor, a family member, or close friend. It is important that you are completely truthful with the researcher about your thoughts, feelings and behaviours to prevent any unnecessary harms to you should you decide to participate in this study.

Purpose of the Research

Researchers at St. Michael’s Hospital are conducting a research study to investigate the impact of experiencing or witnessing a traumatic event in the workplace. In particular, we will be studying the impact of trauma exposure among TTC workers with the hope of uncovering the various ways
in which traumatic events such as suicide, attempted suicide and physical or verbal assaults are defined and experienced by TTC employees.

The purpose of this study is to determine the factors and processes related to seeking treatment and returning to work after experiencing a traumatizing work related incident. In addition, this study looks at what barriers and/or facilitators are related to seeking treatment and returning to work following the incident. It will help us understand if exposure to a traumatic event influences the kind of help employees seek, and what factors are helpful or unhelpful for employees returning to work after suffering significant mental stress from an acute trauma. Specifically, we are interested in the role of psychological debriefing or counselling after a traumatic event at the TTC. What we learn from this study will help us improve prevention and treatment approaches for workers exposed to traumatic events in the workplace. Results from this study will help us develop and evaluate a “best practices intervention” (BPI) for workers affected by a traumatic event.

Ten (10) TTC employees will be invited to participate in the study. These employees have experienced a traumatic event in the workplace, received immediate on-site trauma counselling from an EAP counsellor and have not taken time off from work since experiencing/witnessing the traumatic event.

**Description of the Research**

You are being invited to participate in a research project investigating your experience of a traumatic event in the workplace. It is important to the study that you are able to talk about your experience and perspective in your own words.

If you agree to participate in this study, you will meet the researcher for a face to face interview and complete two questionnaires. The interview will take about 1 hour and will be conducted at a convenient location of your choice (i.e. your residence, St. Michael’s Hospital) and time (during work hours or off hours).

During the interview, the researcher will ask you to describe your experience, how you coped after the traumatic event, why you chose to speak to a trauma counsellor, and what was helpful (or not helpful) to you in seeking help and returning to work. The researcher may ask some probing questions to assist you in remembering the event or to gain a better understanding or clarity around your point of view. You are free to discuss only what you choose to talk about. The researcher will also ask you some demographic questions (i.e. your age and marital status) and inquire about the health care services you used following the event.

The interview will be tape-recorded to ensure everything you tell us is heard. A transcriptionist, external to the project, will listen to the tape and type out the interview. The tapes will be hand-delivered to the transcriptionist and the final transcripts will be sent to the study investigators only.
The demographics questionnaire will take 5 minutes to complete and will ask questions about your age, martial status, education, and mental health services used.

The Modified Post Traumatic Stress Disorder Symptom Scale (MPSS) will be administered to assess whether you are symptomatic. The MPSS is a 17-item self-report questionnaire designed to assess the frequency and severity of PTSD symptoms.

The factors and processes identified from the one on one interviews and questionnaires may be used to develop a return to work treatment program, or best practice intervention, for workers affected by a traumatic event.

Your participation in this study is voluntary. If you do not wish to participate, your employment with TTC or the benefits you receive as a TTC employee will not be affected. Nor will it affect any health care services you are currently receiving or any future health care from St. Michael’s Hospital.

**Potential Harms (Injury, Discomfort or inconvenience)**

There are no known harms associated with participation in this study. However, you will be asked some questions that might make you feel somewhat uncomfortable. If you do feel uncomfortable, you may refuse to answer any question, or terminate your participation in this study at any point in time, without any adverse consequences to your employment, or benefits you receive at the Toronto Transit Commission or services you receive at St. Michael’s Hospital.

It is possible that some of the questions you are asked in the questionnaires or interviews may cause you to feel upset. If you are uncomfortable with any of the questions and want to stop at any time during the interview, you can let the interviewer know. If you feel upset during the interviews, the interviewer can direct you to seek care or refer you to a health care professional who can provide support.

**Potential Benefits**

You will not benefit directly from this study. However, results from this study may improve prevention and treatment approaches for workers exposed to traumatic events in the workplace.

**Confidentiality/ Protecting your Health Information**

The information you provide us during the interview will have no adverse consequences on your employment or the benefits you receive at the TTC. Nor will it affect the services that you are entitled to at St. Michael’s Hospital.

All audiotape recordings will be transcribed word for word and destroyed after transcripts are verified for accuracy. Any names mentioned in the recordings will not be transcribed.
The Research Team will keep all of your answers confidential to the extent permitted by law. No one but the study personnel will listen to your tapes. The electronic files (i.e. audio tape recordings and transcripts) will be assigned identification numbers (ID #’s). We will keep all paper forms in a locked filing cabinet. All your answers that are stored on the computer will be password protected. The only people who may see your name are the study investigators and the St. Michael's Hospital Research Ethics Board who may look at study records (such as the consent form), for the purpose of monitoring the study. The investigators will dispose of your paper and computer-based records after the research obligations for the study have been met.

Confidentiality will be respected and no information that discloses your identity will be released or published without your consent, unless required by law.

Please be advised that if the researcher or study personnel judges you to be at an acute risk to your safety or the safety of others, based upon your responses, then steps will be taken to ensure your safety or the safety of others including dissolving confidentiality, and enlisting appropriate medical assistance, such as Dr. Links, your family doctor, or appropriate mental healthcare staff.

If, at any time during the study, you wish to speak with a doctor, nurse, or counsellor, the Researcher has a list of people you can call and/or the researcher will arrange for you to speak with someone, as soon as necessary.

After the interview has been transcribed, you may ask the study team to send you a copy of the typed transcript to review. The transcript will be sent to you by registered mail. The team will contact you after sending the transcript and you can ask to have information removed or corrected. The team will send you a corrected version. After 30 days from the date the transcript is mailed, if you have not responded, the team will use the mailed version in the study.

Study Results

The data obtained during the interview will be reported in professional and scientific publications and conferences. The study team will not report any information that will reflect your identity. Direct quotes made by you during the interview will not be used in any of the reports or publications if the quotes have the potential of revealing your identity. If we use a quote said by you, we will refer to it as the perspective of a driver, operator, or TTC employee. Your identity will not be revealed and a pseudonym will be used.

Compensation/Reimbursement

The TTC will provide you with either 4 hours of paid time off work during your shift or 4 hours of pay if you participate on your off-day. In addition, any reasonable parking expenses that you may have as a result of participating in this study will be reimbursed.
Participation and Withdrawal

Participation in any research study is voluntary. If you choose not to participate, you and your family will continue to have access to customary care at St. Michael’s Hospital. If you choose to participate in this study, you can withdraw from the study at any time without any effect on the care you will receive at St. Michael’s Hospital or your employment at the Toronto Transit Commission or how your Workplace Safety and Insurance Board (WSIB) claim will be adjudicated.

New Findings or Information

We may learn new things during the study that you may need to know. We can also learn about things that might make you want to stop participating in the study. If so, you will be notified about any new information in a timely manner. You may also be asked to sign a new consent form discussing these new findings if you decide to continue in the research study.

Research Ethics Board Contact

If you would like to speak with someone about your rights as a research participant, you may contact Dr. Julie Spence, Chair of the Research Ethics Board at St. Michael’s Hospital at (416)864-6060 extension 2557 during business hours.

Study Contact

If you have any questions or concerns about the study, please call Jesmin Antony at (416) 864-6060 ext. 6774.
Title: Psychological Debriefing of Workplace Trauma: A Case Study of the Toronto Transit Commission (TTC)

I acknowledge that the research study described above has been explained to me and that any questions that I have asked have been answered to my satisfaction. I have been informed of the alternatives to participation in this study, including the right not to participate and the right to withdraw without compromising the quality of medical care at St. Michael’s Hospital for me and for other members of my family, or without affecting my current and future employment at the TTC. As well, the potential risks, harms and discomforts have been explained to me and I also understand the benefits of participating in this study.

I understand that I have not waived my legal rights nor released the investigators, sponsors, or involved institutions from their legal and professional duties. I know that I may ask now, or in the future, any questions that I may have about the study or the research procedures. I have been assured that records relating to my care and to me will be kept confidential and that no information will be released or printed that would disclose my identity without my permission, unless required by law. I have been given sufficient time to read and understand the above information.

I consent to participate. I have been told I will be given a signed copy of this consent form.

_______________________________               ________________________________
Name of Participant        Signature of Participant

________________________________
Date

_______________________________               ________________________________
Name of Individual Obtaining Consent Consent  Signature of Individual Obtaining

_________  ___________________________________
Date

I, Paul S. Links, am the study doctor responsible for the conduct of this study at St. Michael’s Hospital, and I have delegated the explanation of this study to this participant to Jesmin Antony.

_______________________________
Signature